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——在充满挑战的世界中发展精神医学——

论文汇编

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Novel insights into genetic associations and drug targets of mitochondria-associated proteins with major depressive disorder

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Background: A growing number of observational studies have found that mitochondrial pathomechanisms are associated with major depressive disorder (MDD), but little is known about the causal direction of this association. Methods: This study aimed to explore the potential causal relationship between mitochondria-associated proteins and the risk of MDD. We used summary data from a genome-wide association study (GWAS) of 66 mitochondria-associated proteins in 3,301 individuals of European descent, as well as a large GWAS on MDD, which involved 294,322 cases and 741,438 controls. We performed a two-sample bidirectional Mendelian randomization (MR) analysis using inverse variance weighting (IVW) as the primary method, supplemented by two additional approaches (MR-Egger and weighted median methods) as sensitivity analyses to detect and adjust for pleiotropy. Moreover, to identify and evaluate potential drug targets, we conducted searches in both the GWAS catalog and the Drug-Gene Interaction Database (DGIdb).

Results: According to MR analysis, gene-determined significant causal associations were found between TruA (OR: 0.98), HINT2 (OR: 0.98), MUL1 (OR: 0.98), C1QBP (OR: 1.02), and MDD. The reverse MR analysis indicated causal associations between MDD and RNMT (OR: 0.79), C1QBP (OR: 0.75), and ATPβ (OR: 0.77). Thus, we observed a clear bidirectional causal relationship between C1QBP and MDD. Following gene-drug analysis, CHF, BCHE, and KNG1 emerged as potential therapeutic targets.

Conclusions: Our findings revealed a causal link between mitochondria-associated proteins and MDD, offering significantly new insights to augment the understanding of MDD pathomechanisms to identify potential therapeutic targets for drug development.

Key Words Major depressive disorder; Mitochondria-associated proteins; GWAS; Bi-directional; Mendelian randomization; Gene-Drug analysis

Effects of modifying the pulse width on cognitive side effects with electroconvulsive therapy for schizophrenia

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Background: The majority of studies have shown substantially reduced cognitive impairment when an ultra-brief pulse (UBP) electroconvulsive therapy (ECT) compared with a brief pulse (BP) ECT, but the results are still inconclusive.

Methods: This study employed a randomized, double-blind, control trial design. A total of 114 patients with schizophrenia (SCZ) enrolled and received BP ECT (63 participants) or UBP ECT (51 participants). Cognitive function of the participants was assessed before and after treatment, and peripheral blood biomarkers as well as hippocampal magnetic resonance spectroscopy (MRS) data were collected.

Results: No significant differences were detected in demographic and clinical data at baseline between the two groups. After the end of ECT sessions, the UBP group and BP group respectively showed advantages in the Trail Making Test (TMT) and Hopkins Verbal Learning Test, while no significant differences were observed in other cognitive test. The homocysteine, prolactin, inducible nitric oxide synthase and left hippocampal myoinositol (MI) levels were significant higher in UBP group than BP group. Multiple linear regression analysis indicated that right hippocampal MI levels were positively correlated with TMT scores.

Conclusion: UBP ECT shows the same efficacy as BP ECT, but no cognitive advantages of UBP ECT have been found.

Clinical trial registration: https://www.chictr.org.cn/showproj.html?proj=243964, registration number: ChiCTR2400091601.

Key Words Schizophrenia; Modified Electroconvulsive Therapy; Cognitive impairment; Magnetic Resonance Spectroscopy; Autobiographical Memory.

Rethinking functional connectivity: neural circuits in major depressive disorder revealed by a novel gray–white–gray communication framework

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Background: Traditional studies on brain functional connectivity (FC) in major depressive disorder (MDD) predominantly focused on gray matter (GM), often overlooking the critical role of white matter (WM). Conventional FC models treat GM–GM connectivity as a set of intangible edges reflecting synchronized neuronal activity, leaving the medium underlying these edges and the traffic hubs embedded in the communication process unresolved. Since WM has long been recognized as the key conduit for information transfer in the brain, its intrinsic functional signals are posited to serve as a bridge that influences GM–GM connectivity. The integrative gray–white–gray (G–W–G) communication connectivity framework highlighted WM as a key bridge influencing whole–brain communication.

Aims: Through a triple–path connectivity analysis, this framework regards GM regions as nodes and G–W–G connections as edges, thereby capturing a more holistic representation of brain communication pathways. By applying this approach to MDD patients, our study aims to illuminate whether G–W–G connectivity can help explain specific depressive symptomatology and, furthermore, whether it holds potential for predicting treatment efficacy.

Methods: G–W–G communication framework were constructed using signals of GM and WM from resting–state functional magnetic resonance imaging data of 325 MDD patients and 177 healthy controls.Specifically, 20 GM regions of interest were defined as nodes, forming 190 unique GM pairs. Each GM pair communicated via 48 functional routes corresponding to distinct WM bundles, yielding 48 2D matrices that together formed a 3D connectivity map. In each 2D matrix, an edge represented signal transmission through a specific WM pathway for all GM pairs.Synchronization among GM – WM – GM triplets was quantified by first computing a covariance matrix from their functional time series and then performing principal component analysis to derive eigenvalues. A linear index (LI) was calculated as the difference between the two largest eigenvalues divided by the sum of all three eigenvalues. LI values ranged from 0 to 1, with higher values indicating stronger synchronization among triplets. To minimize common patterns and local signal contributions, the 2D matrices were normalized. A normalized 20×20

connectivity matrix—representing 190 G–W–G connectivity values across 48 WM bundles—was then analyzed using analysis of covariance (ANCOVA) with age, sex, and education as covariates (site effects were removed after preprocessing). False discovery rate (FDR) correction was applied to control for multiple comparisons. Pearson correlation analyses assessed the relationships between 114 significantly altered G–W–G connectivity values and both the HAMD–24 total scores and individual factor scores, with FDR correction ensuring robustness. Additionally, a predictive model for treatment efficacy was established based on G–W–G connectivity.

Results: The results revealed G–W–G connections altered in MDD, primarily mediated by functional disruptions in WM, including the anterior limb of the internal capsule, sagittal stratum, cingulum, splenium of the corpus callosum, fornix, and superior longitudinal fasciculus. Notably, dorsolateral prefrontal cortex–anterior limb of internal capsule–dorsal anterior cingulate cortex communication connectivity is positively correlated with suicide behavior, indicating that the left anterior limb of the internal capsule as a potential neural bridge linking disrupted connectivity to suicidal symptoms ($r = 0.251$, $Pfdr = 0.038$; $r = 0.282$, $Pfdr = 0.006$). In addition, several G–W–G connections showed potential for distinguishing treatment responders from non–responders. 18 variables with non–zero coefficients were identified, including 3 general demographic features (sex, age, and education level) and 15 G–W–G communication connectivity metrics. For each individual G–W–G communication connectivity metric, ROC analysis was performed, and the AUC values were approximately 0.5, indicating low diagnostic validity. When the 15 communication connectivity metrics were combined for ROC analysis, predictive accuracy improved but remained low (AUC [95% CI] = 0.683 [0.618 – 0.748], sensitivity = 0.598, specificity = 0.696). Combining all 18 variables for ROC analysis resulted in a model with moderate predictive accuracy (AUC [95% CI] = 0.756 [0.697 – 0.815], sensitivity = 0.783, specificity = 0.618).

Conclusions: In summary, this study systematically investigated the altered G–W–G communication connectivity in MDD patients, providing a tangible pathway framework for understanding the classic GM–GM FC abnormalities observed in previous MDD research. These alterations were primarily associated with specific WM bundles. Importantly, the G–W–G framework identifies the left anterior limb of internal capsule as a potential neural bridge linking disrupted connectivity to the manifestation of suicidal symptoms, shedding light on the intricate interaction of the whole brain in suicide pathophysiology. Several G–W–G connections were also found to significantly predict short–term antidepressant treatment response, underscoring their potential utility as biomarkers for distinguishing responders from non–responders. These findings highlight the integrative role of WM pathways in facilitating GM–GM communication, offering a novel and comprehensive perspective on the neural mechanisms underlying MDD. By advancing the G–W–G framework, this study establishes a robust foundation for future research aimed at refining neurobiological models of MDD and developing more precise, individualized, and effective treatment strategies.

Key Words major depressive disorder, functional connectivity, rs–fMRI, white matter, suicide, treatment response

线粒体自噬相关指标对于抑郁障碍患者的影响研究

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目的：研究线粒体自噬相关指标对于抑郁障碍患者的影响。

方法：将抑郁障碍患者进行分组，包括具有应激事件的抑郁障碍患者22名，不具有应激事件的抑郁障碍患者22名，及健康对照组22名，采集晨间空腹血浆，应用ELISA测定法测定血浆中Beclin-1，LC3B，ATG5，SQSTM1指标，比较三组中相关指标含量是否存在差异。

结果：1、三组中线粒体自噬相关指标Beclin-1，LC3B，ATG5，SQSTM1均存在统计学差异，其F值分别为5.237、7.450、4.095、4.952，P值分别为0.008、0.001、0.021、0.010。2、事后检验结果示Beclin-1在正常对照组与抑郁障碍应激组存在显著差异（P=0.002）；LC3B在正常对照组与抑郁障碍应激组存在显著差异（P=0.000），LC3B在抑郁障碍应激组与抑郁障碍无应激组之间存在显著差异（P=0.014）；ATG5在正常对照组与抑郁障碍应激组存在显著差异（P=0.006）；SQSTM1在正常对照组与抑郁障碍应激组存在显著差异（P=0.003）。3、线粒体自噬相关指标Beclin-1，LC3B，ATG5，SQSTM1在正常组与抑郁之间比较差异存在统计学意义（t=-2.740、-2.802、-2.431、-2.481，P=0.008、0.007、0.018、0.016）。

结论：1、线粒体自噬可在抑郁障碍发挥作用；2、应激可能通过LC3B途径在抑郁障碍中发挥作用

关键词 抑郁、线粒体自噬、应激

Altered serum glutathione disulfide levels in acute relapsed schizophrenia are associated with clinical symptoms and response to electroconvulsive therapy

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Background: The pathophysiological mechanisms of schizophrenia are complex and not fully elucidated. This study aimed to investigate changes to total glutathione (T-GSH), glutathione disulfide (GSSG), reduced glutathione

(GSH), and the GSH/GSSG ratio before and after electroconvulsive therapy (ECT) for patients with acute relapse of schizophrenia and associations with clinical symptoms.

Methods: The study cohort included 110 patients with acute relapse of schizophrenia and 55 healthy controls. All patients received 8 – 10 sessions of ECT. Clinical symptoms were assessed using the Positive and Negative Syndrome Scale (PANSS).

Results: As compared to the healthy controls, schizophrenia patients had decreased baseline GSSG levels ($t = -2.115$, $p = 0.036$) and elevated GSH/GSSG ratios ($t = 2.141$, $p = 0.034$). Baseline GSSG levels were negatively correlated with both PANSS total scores (beta = −0.369, $t = -4.108$, $p < 0.001$) and positive symptom scores (beta = −0.332, $t = -3.730$, $p < 0.001$), while changes to GSSG levels were positively correlated with improvements in PANSS total scores ($r = 0.392$, $p < 0.001$) and positive symptom scores ($r = 0.293$, $p = 0.005$) after ECT treatment. In treatment responders, GSSG levels were significantly increased ($t = -2.817$, $p = 0.006$) and GSH/GSSG ratios were decreased ($t = 4.474$, $p < 0.001$), as compared to before ECT, with baseline T-GSH (B=0.734, OR=2.083, 95%CI:1.287–3.372, p=0.003), GSSG (B=–2.720, OR=0.066, 95%CI:0.011–0.390, p=0.003), and GSH/GSSG ratio (B=–1.013, OR=0.363, 95%CI:0.142–0.930, p=0.035) predictive of clinical improvement.

Conclusion: Patients with schizophrenia exhibit significant redox imbalance, and GSSG levels may serve as a potential biomarker to evaluate and predict ECT outcomes.

Key Words schizophrenia, electroconvulsive therapy, glutathione disulfide, redox state, oxidative stress

男性吸烟者内感功能障碍的神经电生理学证据：2小时尼古丁戒断对其心跳诱发电位的影响

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目的：尼古丁依赖（Nicotine dependence，ND）是一种以对尼古丁的生理和心理依赖为特征的成瘾性障碍。尼古丁戒断是一个涉及多方面的生理与心理过程，常引发一系列情绪失调，如抑郁、焦虑情绪。内感受功能在调节情绪和行为方面发挥着重要作用，其功能异常可能影响吸烟者的戒烟动机和行为。深入理解吸烟者是否存在内感功能障碍，以及2小时尼古丁戒断对这一功能的影响，可能为优化戒烟干预措施提供重要依据。本研究借助心跳诱发电位（heartbeat-evoked potentials，HEPs）技术，对男性吸烟者的内感功能及其在2小时尼古丁戒断后的变化进行了系统探究。

方法：本研究共纳入32名尼古丁依赖患者和32名健康对照者，并要求所有参与者完成《心跳注意任务》范式。在任务过程中，参与者均佩戴由德国EasyCap公司生产的64导脑电帽，并使用BioSemi ActiveTwo系统放大器同步采集脑电活动数据。任务结束后，借助MATLAB软件对采集到的脑电数据进行离线处理，精准分离出HEP成分。数据分析则采用IBM SPSS Statistics Version 25.0软件完成，其中，人口学数据与行为学数据的比较采用独立样本t检验，而HEPs的平均波幅的比较则采用混合模型重复测量方差分析。

结果：尼古丁依赖患者的HEP平均波幅普遍较低，尤其是在中央叶和顶叶区域，这种差异表现得尤为显著。为了排除心脏电场伪迹的干扰，我们对两组参与者的心电图（ECG）波幅幅进行了详细比较，范围限定在心电图R波后455毫秒至595毫秒的时间段内。结果显示，HEP波幅的差异并非由心脏电场伪

迹导致，从而进一步验证了结果的可靠性。此外，我们还发现2小时尼古丁戒断对HEP波幅并无显著影响，这表明2小时尼古丁戒断未改善患者的内感受功能障碍，可能暗示内感受功能障碍是尼古丁依赖患者的一种特质性表现，而非单纯由戒断状态所引起。同时，尼古丁依赖患者在躯体意识评分和自主神经系统评分方面均表现较低，这可能与他们的内感受功能障碍有关。

讨论：来自异常心跳诱发电位特征的证据表明，尼古丁依赖患者存在内感受功能障碍。然而，2小时尼古丁戒断并未改善尼古丁依赖患者的内感受功能障碍。在戒烟项目中针对内感受功能进行干预，为解决尼古丁依赖的生理和心理问题提供了一种新的方法，也为那些努力戒烟的人群提供了一种全面改善戒烟效果的策略。

关键词 尼古丁依赖，内感受功能，心跳诱发脑电位，2小时尼古丁戒断，心跳注意任务

Gender-Specific Associations Between Remnant Cholesterol and Suicide Attempts in Untreated First-Episode Major Depressive Disorder

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Objective: Investigating gender disparities in the link between suicide attempts (SA) and remnant cholesterol (RC) levels in untreated first-episode major depressive disorder (UFE MDD) was the study's main goal.

Methods: This study included 1718 patients with UFE MDD. Demographic, clinical characteristics, and blood lipid parameters were collected. Depression, anxiety, and psychiatric symptoms were measured using the positive subscales of the 17-item Hamilton Depression Scale, the 14-item Hamilton Anxiety Scale, and the Positive and Negative Syndrome Scale, respectively. A multivariable binary logistic regression analysis was conducted to examine the association between RC levels and SA. Two-piecewise regression was used to look at threshold effects.

Results: According to the results of multivariable binary logistic regression, there was no significant correlation between RC and SA in male or female patients, with all p-values greater than 0.05. However, in males, the relationship between SA and RC demonstrates a non-linear pattern, with an RC inflection point observed at 1.99 mmol/L of SA. When the RC level is below 1.99 mmol/L, there is a significant positive correlation with SA (OR = 1.93, 95% CI: 1.23 to 3.02, P = 0.004). Conversely, when the RC level is 1.99 mmol/L or higher, there is no statistically significant correlation between RC and SA (OR=0.56, 95% CI: 0.28 to 1.11, P=0.096). But the non-linear relationship between RC and SA was not observed in females.

Conclusion: Our study on patients with UFE MDD revealed that the associations between RC levels and SA differ significantly by gender. Only male patients showed a non-linear connection between RC and SA. Notably, low RC levels were identified as a potential biomarker for increased suicide risk in males with UFE MDD.

Key Words remnant cholesterol, major depressive disorder, suicide attempts, untreated first-episode, non-linear relationship

缺陷型精神分裂症患者外周免疫及肠道菌群特征研究

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精神分裂症作为一种慢性、严重的精神障碍，往往导致精神残疾的发生，对患者日常行为产生显著影响。然而，截至目前，精神分裂症的发病机制仍不清晰，且该疾病存在高度异质性。缺陷型精神分裂症（DS）是以原发性阴性症状为主的一类疾病亚型，以此亚型为研究对象可能能够降低疾病的高异质性。本研究主要关注DS患者的肠道菌群以及外周免疫特征，这在既往的研究中鲜有报道。期待能更精准地认识精神分裂症，为精准医疗实施提供有力支撑，进而在降低精神分裂症的发病风险和复发率方面发挥重要作用。

目的：本研究旨在明确DS与非缺陷型精神分裂症（NDS）患者在淋巴细胞绝对计数、淋巴细胞相对计数、细胞因子表达以及肠道菌群组成方面的差异。

方法: 本研究采用横断面设计，共纳入182例长期住院且病情平稳、正在使用非典型抗精神病药物治疗，符合DSM-IV诊断标准的精神分裂症患者。其中，DS患者83人，NDS患者99人。对于外周免疫特征分析，我们采集患者外周血样本，运用流式细胞仪进行特异性荧光抗体标记，以此明确淋巴细胞亚群绝对计数、淋巴细胞亚群相对计数以及细胞因子水平的差异。在肠道菌群研究中共提取到其中136例患者（其中DS患者54人，NDS患者82人）的粪便样本的DNA，进行高通量测序，获取16S rRNA基因序列数据，从而鉴别肠道菌群组成。我们还对患者进行了神经认知功能评估，评估工具包括简易认知评估中的符号编码、霍普金斯词语学习测验、简易视觉记忆测验以及蒙特利认知评估等多项认知测试。

结果：通过对比DS与NDS患者的外周免疫特征和肠道菌群组成，我们发现：DS患者检测到2484种细菌，NDS患者有3804种细菌，两组共同拥有的细菌种类为1776种，DS组特有的细菌有708种。进一步分析发现，两组患者肠道菌群的α多样性无显著差异。ß多样性分析显示，DS患者肠道菌群中的部分菌属表现出不同的丰度，这些菌属包括霍尔德曼氏菌、真杆菌、梭杆菌、厚壁菌门毛螺菌科、厌氧菌、普雷沃氏菌、链杆菌、粪杆菌等。在外周免疫方面，我们发现，与NDS患者相比，DS组患者lymph、CD19+JDZ、 CD8+JDZ、 CD4+JDZ、 CD3+JDZ水平明显降低，NK、IL-2、 IL-6、 IL-17A、IFN-α、CRP水平明显升高，且差异均有统计学意义（$p<0.05$）。而CD3+、 CD4+、 CD8+、 CD19+、 IL-1、 IL-4、 IL-5、 IL-8、 IL-10、 IFN-γ、TNF-α在两组间比较无明显差异。我们还发现lymph与DS呈负相关；IFN-α与DS呈正相关。同时，我们观察DS患者的临床症状更重、认知功能明显更差。

结论：DS患者存在独特的外周免疫及肠道菌群特征，认知功能差，可能是是精神分裂症一种特殊亚型，值得进一步探讨其病理学机制。

关键词： 缺陷型精神分裂症；肠道菌群；淋巴细胞亚群绝对计数；淋巴细胞亚群相对计数；细胞因子；神经认知功能

关键词 缺陷型精神分裂症 外周免疫特征 肠道菌群

Alterations of structural–functional coupling in bipolar disorder patients with and without suicidal ideation: A multi–modal MRI study

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Bipolar disorder (BD) is associated with a high risk of suicidality. Suicidal ideation (SI) correlates with chronotype disruptions, yet their joint neuroimaging signatures remain unclear. Traditional unimodal MRI analyses lack sensitivity to detect coupled structural–functional brain abnormalities. We hypothesize that BD–SI patients will show altered structural–functional coupling compared with BD–nSI patients and healthy controls (HC), which may be moderated by chronotype.

Methods:A total of 138 BD–SI patients, 46 BD–nSI patients and 280 HC were recruited. Resting–state functional MRI (rs–fMRI) and diffusion tensor imaging (DTI) data were acquired, and chronotype was assessed by Morningness–Eveningness Questionnaire (MEQ). We investigated structural and resting–state fMRI connectivity, as well as their coupling among 3 groups. Partial correlation analyses were conducted to examine the associations between suicidal ideation, chronotype characteristics and altered structural connectivity–functional connectivity (SC–FC) coupling in BD–SI group, while controlling for education duration.

Results:We found an altered structural connectome network differences of fractional anisotropy (FA) between BD–SI, BD–nSI and HC groups, in which the most involved nodes were in the left middle temporal gyrus, bilateral Fusiform gyrus, left amygdala and left cuneus. We also found an altered functional connectome network differences of functional connectivity (FC) between 3 groups, in which the most involved nodes were in the bilateral caudate nucleus, bilateral putamen, left supplementary motor area, left postcentral gyrus, bilateral inferior temporal gyrus and bilateral fusiform gyrus. BD–SI patients showed decreased SC–FC coupling in the left angular gyrus, right paracentral lobule and right caudate nucleus compared with HC, and in the left precental gyrus, right parahippocampal gyrus and left angular gyrus compared with BD–nSI group. However, the BD–SI group showed increased SC–FC coupling in the right middle frontal gyrus when compared with BD–nSI group. In BD–SI patients, pairwise partial correlations revealed significant interrelationships among chronotype features, local SC–FC coupling indices and suicidal ideation severity scores.

Conclusion:BD–SI patients demonstrate distinct SC–FC coupling alterations, including prefrontal hypercoupling and limbic–sensory decoupling. These multi–network imbalances correlate with suicidal ideation severity, suggesting a neurobiological substrate for emotion–cognition dysregulation in suicidality. The convergence of structural and functional connectivity markers underscores SC–FC as a sensitive multimodal biomarker. Future studies should clarify circadian influences on these dynamic coupling patterns.

Key Words Bipolar disorder; SC–FC coupling; Functional connectivity; Fractional anisotropy; Chronotype

基于影像分析的机器人辅助加速经颅磁刺激治疗抑郁症自杀观念的安全性和疗效研究

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背景：自杀观念是抑郁症的常见症状，超过半数抑郁症患者存在显著自杀观念，对患者及社会造成沉重负担，成为亟待解决的重大公共卫生挑战。目前针对抑郁症自杀观念的干预手段仍缺乏快速、安全、有效的解决方案，其潜在的神经网络机制也尚未明确。重复经颅磁刺激（repetitive transcranial magnetic stimulation, rTMS）作为一种新兴神经调控技术，已被多部临床指南推荐用于抑郁症治疗。以斯坦福神经调控疗法（Stanford neuromodulation therapy, SNT）为代表的加速经颅磁刺激（accelerated TMS）方案，初步显示出缩短疗程、提升疗效的潜力，但其针对自杀观念的具体疗效及潜在神经网络机制仍需进一步验证。本研究拟通过个体化脑区功能连接确定刺激靶点，在经颅磁导航机器人辅助下实施精准刺激，系统评估SNT方案对抑郁症自杀观念的疗效及安全性。

方法：本研究为开放标签的探索性研究，纳入32名伴有显著自杀观念的抑郁症患者，基于个体fMRI数据定位左侧背外侧前额叶皮质（dorsolateral prefrontal cortex, DLPFC）与膝下前扣带回（subgenual anterior cingulate cortex, sgACC）功能连接最负相关处为刺激靶点，在90%的静息运动阈值（resting motion threshold, rMT）下以SNT为加速TMS治疗方案：50分钟为间隔、每天进行10次iTBS刺激（每次1800个脉冲）、连续治疗5天，分别在基线、5天治疗后、治疗后2周及治疗后4周采用贝克自杀意念量表中文版（Beck scale for suicide ideation–Chinese version, BSI–CV）评估自杀观念，17项汉密尔顿抑郁量表（17–item Hamilton depression scale, HAMD–17）及蒙哥马利抑郁评定量表（Montgomery–Asberg depression rating scale, MADRS）评估抑郁症状，在治疗前后以认知功能缺陷量表（perceived deficit questionnaire for depression, PDQ–D）、数字广度测试（digit span test, DST）及数字符号转换测验（digit symbol substitution test, DSST）评估认知功能，对比分析SNT对抑郁症自杀观念的疗效和安全性。

结果：重复测量方差分析显示，治疗后各时点患者的BSI–CV得分显著减少。5天治疗后BSI–CV平均得分减少了11.50分（95%CI：8.88～14.12），有效率和缓解率为65.63%和56.25%；5天治疗后HAMD–17得分减少了18.53分（95%CI：15.72～21.34），有效率和缓解率分别为81.25%和53.13%，治疗后第2周、第4周的有效率和缓解率分别为90.63%和56.25%、96.88%和81.25%。研究期间未发生严重不良事件，治疗中最常见的不良反应是刺激部位头痛和麻刺感，治疗后患者的DST（$t=-6.155$，$P<0.001$）和DSST得分（$t=-6.550$，$P<0.001$）较治疗前显著提高，PDQ评分比基线显著降低（$t=6.054$，$P<0.001$）。

结论：以左侧DLPFC与sgACC功能连接最负相关处为刺激靶点，在经颅磁导航机器人辅助下实施精准刺激，SNT可快速改善自杀观念和抑郁症状，安全性、耐受性好，无显著的神经认知功能副作用。

关键词 抑郁症；自杀观念；加速经颅磁刺激；静息态功能磁共振；机器人

Global public concern related to anxiety disorder and its influencing factors (2004–2023): Evidence from Google Search Trends

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Background: Anxiety disorder is a widespread mental health problem affecting hundreds of millions globally. As social pressure and the pace of life accelerate, the manifestations of anxiety disorders have become increasingly complex, drawing significant public attention to mental health. The widespread use of the Internet, coupled with the stigma surrounding mental illness, has led individuals to seek information and assistance through online search tools when dealing with conditions like anxiety. Despite this, there is a notable lack of research and analysis on online search trends related to anxiety disorders.

Objective: This study is to analyze global online search trends related to anxiety disorders in order to reveal changes in public concern and their relationship with environmental, socioeconomic factors, and cultural context, thereby providing insights for the development of mental health policies and interventions.

Methods: This study collected global relative search volume (RSV) data related to anxiety disorder from Google Trends, covering the period from January 2004 to July 2024, and analyzed annual trends. To predict RSV, we employed Long Short–Term Memory (LSTM) and Autoregressive Integrated Moving Average (ARIMA) models. Key turning points in the trend were identified using the Pruned Exact Linear Time (Pelt) algorithm and piecewise regression analysis. In addition, Pearson correlation analysis was used to explore the relationship between RSV for anxiety disorder and variables such as day duration and suicide rate. Cluster analysis was also performed to explore the similarity of RSV across different countries/regions, and to investigate its relationship with GDP per capita.

Results: From 2004 to 2023, the RSV related to anxiety disorder exhibited a generally upward trend. Public concern about anxiety disorder peaked in 2022 and 2023. Both LSTM and ARIMA models were utilized to predict RSV, and the results indicated high prediction accuracy for both two models. The trend of RSV varied across different countries/regions, showing distinct patterns. The relationship between day duration and suicide rates with RSV for anxiety disorders also differed among countries. Cluster analysis categorized countries and regions into two main clusters. In the first cluster, average RSV was significantly and positively correlated with GDP per capita, whereas in the second cluster, no statistically significant correlation was observed.

Conclusion: By analyzing global online search trends related to anxiety disorders, this study reveals shifts in public attention and its relationship with the natural environment, socioeconomic factors, and cultural background. These insights offer valuable references for developing mental health policies and interventions.

Key Words anxiety disorder; Google search trends; day duration; suicide rate

A healthy lifestyle is necessary for alleviating Premenstrual Dysphoric Disorder (PMDD) in nurses

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Objective: Premenstrual Dysphoric Disorder (PMDD) frequently affects women of reproductive age, significantly disrupting their daily lives. Female nurses, facing high job stress, are particularly susceptible to PMDD, which impacts both their well-being and the quality of patient care. This study explores the risk factors of PMDD among Chinese nurses, highlighting the importance of a healthy lifestyle in alleviating symptoms.

Methods: A cross-sectional study was conducted to measure 1031 Chinese clinical nurses using the Chinese version of CTDP-DSM-5 (CTDP-C), Patient Health Questionnaires-9 (PHQ-9), Generalized Anxiety Disorder-7 (GAD-7), Pittsburgh Sleep Quality Index (PSQI), and the Medical Staff Stressor Scale (MSSS). Statistical analysis was performed from June 2024 to December 2024.

Results: The results revealed several key factors associated with an increased risk of PMDD among nurses. Specifically, nurses with a Body Mass Index (BMI) of 24-28 kg/m^2 ($p = 0.011$), engaging in less than 30 minutes of exercise per week ($p = 0.014$), drinking ($p = 0.049$) and working more than two night shifts per week ($p < 0.001$) were all at a significantly higher risk of developing PMDD. Correlation analysis demonstrated significant positive associations between CTDP-C scores and the following scales: PHQ-9 ($r = 0.702$, $p < 0.01$), GAD-7 ($r = 0.680$, $p < 0.01$), PSQI ($r = 0.493$, $p < 0.01$), and MSSS ($r = 0.500$, $p < 0.01$). The multivariable regression model identified BMI, weekly exercise duration, drinking, weekly night shifts, Irritable Bowel Syndrome, Chronic Gastritis, Asthma, irregular menses, depression, sleep disorders, and neurasthenia as predictors of PMDD among the nursing population.

Conclusions: PMDD is prevalent among Chinese nurses, It is related to their life style, working environment and emotional fluctuations, severely affecting their quality of life at work. Maintaining a healthy lifestyle is crucial for alleviating premenstrual anxiety. Healthcare managers should establish and implement targeted management measures for female nurses suffering from PMDD to enhance their work-related quality of life.

Key Words Keywords: premenstrual dysphoric disorder; scale tool; Chinese nurses; healthy lifestyle

Relationship between renal function and cognitive impairment in patients with stable schizophrenia: A multicenter cross-sectional study

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Objective: Cognitive impairment and abnormal renal function are prevalent in clinically stable schizophrenia inpatients, but the link between cognitive and renal function has not been fully explored.

Methods: This multicenter cross-sectional study included 216 hospitalized individuals diagnosed with clinically stable schizophrenia. Demographic and renal function data were extracted from electronic health records. Cognitive performance was evaluated using the Chinese Brief Cognitive Test (C-BCT). Univariate Linear regression analysis and Binary logistic regression models adjusted for covariates were applied to assess associations between renal biomarkers and cognitive domains, including processing speed, attention, working memory, and executive function. ROC analysis was utilized to evaluate the predictive capacity of renal biomarkers for cognitive impairment.

Results: Significant variations in serum Cystatin C (CysC), β2-microglobulin (β2-MG), and uric acid (UA) levels were observed among hospitalized patients with clinically stable schizophrenia across different cognitive impairment severities. Serum CysC levels positively correlated with total C-BCT scores (β=0.174, 95% CI: 0.265-1.720, p=0.008). Notably, inverse associations were observed between CysC and processing speed (β=-0.200, 95% CI: -33.446 - -7.230, p=0.03) as well as executive function (β=-0.171, 95% CI: -17.277 - -2.082, p=0.013). Logistic regression confirmed CysC as an independent risk factor for severe cognitive deficits (OR=12.741, 95% CI: 1.424-114.005, p=0.023). The combined use of CysC, β2-MG, and UA demonstrated moderate predictive accuracy (AUC=0.71), with sensitivity and specificity of 79.5% and 60.5%, respectively.

Conclusion:Elevated serum CysC levels are strongly linked to the severity of cognitive impairment in stable schizophrenia patients, particularly affecting processing speed and executive function. The combined assessment of CysC, β2-microglobulin (β2-MG), and uric acid (UA) presents a practical diagnostic strategy for detecting cognitive deficits in this clinical population, thereby underscoring the potential utility of CysC as a biomarker for early identification and monitoring of cognitive impairment in schizophrenia.

Key Words Stable schizophrenia;Cognitive impairment;Cystatin C;β2-microglobulin;Uric acid;C-BCT

Childhood Maltreatment-Related Cortical Structural Differences Between Treatment-Naïve early Adults with Major Depressive Disorder and Healthy Controls

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Objective: Childhood maltreatment (CM) is a well-established risk factor for major depressive disorder (MDD) and has a profound impact on brain structure. This study aimed to investigate the differential effects of CM on cortical thickness (CT), cortical volume (CV), local gyrification index (LGI), and surface area (SA) in individuals with MDD and healthy controls (HCs), and to identify potential biomarkers of vulnerability or resilience to depression following childhood trauma.

Methods: A total of 145 unmedicated young adults with MDD and 143 age- and sex-matched HCs were enrolled. A 2 (MDD vs. HC) × 2 (CM: present vs. absent) factorial design was employed. Vertex-wise general linear models (GLMs) were used to examine the main and interaction effects of MDD diagnosis and CM on CT, CV, LGI, and SA, with diagnosis and CM status as fixed factors and age, estimated total intracranial volume (eTIV), and years of education as covariates. Multiple comparisons were corrected using Monte Carlo simulations with 10,000 iterations, a cluster-forming threshold of $p < 0.01$, and cluster-wise probability (CWP) < 0.05. For regions showing significant diagnosis × CM interactions, mean cortical values were extracted from each cluster for post hoc pairwise comparisons using least significant difference correction. Given the role of the medial prefrontal cortex in emotional stress and regulation, a region-of-interest (ROI) analysis was also conducted in this area.

Results: Whole-brain vertex-wise analysis revealed significantly reduced CT in the left cuneus (cluster size = 1950.34, CWP = 0.0012), reduced CV in the right precentral gyrus (cluster size = 759.09, CWP = 0.0328), and reduced LGI in the bilateral superior frontal gyri (left: cluster size = 3616.96, CWP = 0.0404; right: cluster size = 6025.37, CWP = 0.0168), and in the left postcentral gyrus (cluster size = 3579.18, CWP = 0.0457) in MDD patients compared to HCs. No significant main effects of CM were found on CT, CV, LGI, or SA. However, diagnosis × CM interactions were observed in bilateral precuneus volume and left precuneus thickness. Post hoc analyses indicated that among individuals with MDD, those with a history of CM showed significantly reduced bilateral precuneus volume and left precuneus thickness compared to those without CM. Conversely, in the HC group, individuals with CM exhibited increased precuneus volume and thickness. ROI analysis revealed a significant interaction effect in the cortical thickness of the caudal anterior cingulate cortex (cACC). Post hoc comparisons showed greater cACC thickness in HCs with a history of CM, but reduced cACC thickness in MDD patients with CM.

Conclusion: These findings suggest that CM contributes to cortical morphological abnormalities in individuals with MDD, whereas HCs may demonstrate neuroadaptive responses to early adversity. This study provides novel insights into potential neurobiological markers of vulnerability and resilience to depression in the context of childhood trauma.

Key Words Major depressive disorder, Childhood maltreatment, Cortical morphology, sMRI, Neurobiological resilience, Freesurfer

社区场景下心理 CT 智能筛查平台的实效性验证：针对抑郁障碍高危人群的随机对照试验

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目的：本研究旨在验证社区场景下心理CT智能筛查平台在抑郁障碍高危人群中的筛查实效性，通过与传统筛查工具对比，评估其准确性、便捷性和可接受性，为社区心理健康筛查提供科学依据和技术支持。

方法：本研究采用随机对照试验设计。研究对象为社区内抑郁障碍高危人群，包括心力衰竭患者、慢性疾病患者及老年人群，共招募 300 名受试者。受试者被随机分为两组：干预组（150 人）使用心理 CT 智能筛查平台进行抑郁障碍筛查，对照组（150 人）使用传统筛查工具（老年抑郁问卷 [GDI]、患者健康问卷 [PHQ–9] 等）。两组均以简明国际神经精神访谈为“金标准”进行诊断验证。主要评估指标包括筛查工具的灵敏度、特异度、阳性预测值、阴性预测值以及受试者的使用满意度和完成时间。

结果：干预组中，心理CT智能筛查平台的ROC曲线下面积为 0.97（95%CI：0.95 – 0.99），灵敏度为 95.0%，特异度为 92.0%，阳性预测值为 93.5%，阴性预测值为 96.0%。对照组中，GDI的最佳划界分为 5 分，灵敏度和特异度均为 93.3%；PHQ–9的灵敏度为 90.0%，特异度为 88.0%。心理CT智能筛查平台的完成时间为 5 – 8 分钟，显著短于传统量表（GDI：10 – 15 分钟；PHQ–9：8 – 12 分钟）。受试者对心理CT智能筛查平台的满意度为 94.7%，高于传统量表（GDI：85.3%，PHQ–9：87.9%）。此外，心理CT智能筛查平台在识别轻度抑郁和焦虑症状方面表现出更高的敏感性，能够更早发现潜在的心理健康问题。

讨论： 心理CT智能筛查平台在社区场景下对抑郁障碍高危人群的筛查中表现出较高的准确性、便捷性和可接受性。与传统筛查工具相比，该平台不仅具有更高的灵敏度和特异度，还能够显著缩短筛查时间，提高受试者的使用体验。其在识别轻度抑郁和焦虑症状方面的优势使其能够更早地发现潜在的心理健康问题，为早期干预提供可能。此外，心理 CT 智能筛查平台的智能化和自动化特点使其更易于在社区环境中推广和应用，能够有效提高社区心理健康筛查的效率和覆盖率。然而，该平台仍需进一步优化和验证，以提高其在不同人群中的适用性和稳定性。未来的研究可以进一步探索心理 CT 智能筛查平台在其他心理健康问题筛查中的应用潜力，并结合多模态数据（如生理指标、行为数据等）进一步提高筛查的准确性。

关键词 心理CT；智能筛查；抑郁障碍；心身疾病

Hippocampal Subfield Volume Alterations in Schizophrenia: Evidence of Regional Atrophy and Asymmetry

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Background:Schizophrenia (SCZ) is associated with hippocampal abnormalities, particularly in subfield–

specific atrophy, which may contribute to cognitive deficits and symptom severity. While previous studies have examined total hippocampal volume reductions in SCZ, the differential involvement of hippocampal subregions remains less understood. This study investigates hippocampal subfield alterations in schizophrenia patients compared to healthy controls (HCs).

Methods:Structural MRI data were obtained from schizophrenia patients (SCZ, n=48) and healthy controls (HC, n=24). Hippocampal subfield segmentation was performed using vol2brain, extracting volumes for CA1, CA2/3, CA4/dentate gyrus (CA4DG), subiculum, and total hippocampus. Group differences were analyzed using independent t-tests or Mann-Whitney U tests, with correction for multiple comparisons. Correlations between hippocampal subfields and clinical symptoms were assessed using Pearson's correlation.

Results:Compared to healthy controls, schizophrenia patients exhibited significant reductions in hippocampal volumes after controlling for multiple comparisons . Specifically, volume decreases were observed in the right CA1 ($t = -2.995$, $p = 0.004$), right CA4/DG ($t = -3.743$, $p < 0.001$), as well as the total hippocampal volumes bilaterally (right hippocampus: $t = -3.707$, $p < 0.001$; left hippocampus: $t = -5.601$, $p < 0.001$).

Lateral asymmetry analyses revealed significant leftward volume reductions in the schizophrenia (SCZ) group. After FDR correction, the SCZ group exhibited greater left-right asymmetry in total hippocampal volume ($t = -2.99$, $p = 0.004$) and CA1 subfield volume ($t = -2.96$, $p = 0.004$).

Moreover, highly significant asymmetry was observed in the CA2/CA3 subfield in both groups, but the effect was more pronounced in the SCZ group (SCZ: $t = -5.35$, $p < 0.001$; HC: $t = -3.13$, $p = 0.0031$). In the CA4/DG subfield, significant asymmetry was found exclusively in the SCZ group ($t = -3.32$, $p = 0.0013$), while no asymmetry was observed in healthy controls ($p = 0.1069$).

Conclusion:These findings suggest that hippocampal subfield atrophy in schizophrenia is region-specific, with prominent reductions in CA1, CA2/3, and subiculum, supporting their involvement in the pathophysiology of the disorder. The observed asymmetry further underscores potential neurodevelopme

Key Words Schizophrenia; Hippocampal Subfields; Structural Asymmetry; Gray Matter Volume; Structural MRI

5q31.3区域中的调控变异rs4151680通过调节smc3结合和pcdha8的表达而赋予重度抑郁症风险

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背景及目的：重度抑郁症（MDD）的发病机制尚不清楚，一些全基因组关联研究（GWAS）发现5q31.3区域与MDD之间存在关联。在这里，我们发现了一个影响转录因子（TF）在5q31.3位点结合的变体（rs4151680）。表达数量性状位点分析显示其与PCDHA8在人脑中的表达最显著相关。本研究旨在阐明rs4151680调控PCDHA8表达的分子机制及PCDHA8参与MDD的病理机制。

方法：我们首先进行了一系列实验来验证rs4151680的调控作用，包括报告基因实验、电泳迁移转移实验、Crispr－cas9介导的基因组编辑和TF敲低。然后，我们通过在大鼠mPFC中注射AAV病毒，通过敲低PCDHA8，验证了该基因参与抑郁症的致病风险。为了探讨PCDHA8在MDD中的作用机制，我们在大

鼠原代神经元中敲除PCDHA8，研究其对树突棘密度、树突分支和转录组的影响。

结果：报告基因实验rs4151680不同等位基因转录活性存在差异。Crispr -cas9介导的基因组编辑证实了rs4151680对PCDHA8表达的调控作用。电泳迁移转移实验表明rs4151680的不同等位基因与TF SMC3的结合能力上存在差异。SMC3参与调控PCDHA8的表达。PCDHA8敲低大鼠表现出抑郁行为。敲低PCDHA8可减少树突分支和树突棘密度。转录组分析显示突触组织和离子运输失调。

结论：这些结果表明rs4151680通过改变SMC3结合和调节PCDHA8的表达而导致MDD风险，PCDHA8的表达失调通过突触形态发生影响MDD风险。

关键词 抑郁症，遗传学

Causal effects of single-carbon metabolism and vitamin levels on autism spectrum disorder risk: a bidirectional Mendelian randomized study

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Background: Observational epidemiology studies suggested a relationship between single-carbon metabolism and vitamin levels with autism spectrum disorder (ASD) risk. We aimed to explore the causal relationship between them at the genetic level.

Methods: We performed a two-sample bidirectional Mendelian randomization (MR) analysis using genome-wide association studies summary statistics. The inverse-variance weighted (IVW) method was used as the primary analysis. We applied other complementary methods, including weighted median, weighted mode, and MR Egger regression. MR Egger and MR pleiotropy residual sum and outlier (MR-PRESSO) are used to detect and correct the effects of horizontal pleiotropy.

Results: There were no causal associations between genetically predicted single-carbon metabolism and vitamin levels with ASD risk in IVW analysis (Homocysteine: 95% CI: 0.952 - 1.082, P = 0.652; Folate in Serum or Plasma: 95% CI: 0.968 - 1.249, P = 0.143; VB12: 95% CI: 0.989 - 2.133, P = 0.057; VB6: 95% CI: 0.647 - 1.247, P = 0.522; VC: 95% CI: 0.794 - 1.881, P = 0.362; VD: 95% CI: 0.825 - 1.551, P = 0.443; and VE: 95% CI: 0.87 - 1.711, P = 0.249). Reversely, we did not find significant causal effects of ASD on single-carbon metabolism and vitamin levels in MR analysis (all P > 0.05). Based on sensitivity analyses, heterogeneity and horizontal pleiotropy are unlikely to distort causal estimates.

Conclusions: The MR study suggests that there is no significant association between single-carbon metabolism and vitamin levels with ASD risk. Further studies are needed to validate these conclusions.

Key Words two-sample Mendelian randomization; vitamin; autism spectrum disorder; genome-wide association study

长期用药的慢性精神分裂症患者心脏血管受损的影响因素分析

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目的：精神分裂症是一种严重的精神疾病，发生心血管死亡和心源性猝死（SCD）的风险高出一般人群5倍。数据显示相较于健康人群，精神分裂症患者的心血管疾病发生率增加了近一倍。精神分裂症患者代谢综合征患病率为一般人群的2–3倍，且缺血性心脏病与代谢综合征密切相关，加之精神分裂症患者行冠状动脉造影术的实施难度大。因此，本文旨在通过对慢性精神分裂症患者有无代谢综合征来评价患者心脏的代谢和血管情况，从而帮助临床上的早期识别和干预，最终实现改善精神分裂症患者的心脏疾病方面的预后。

方法：本研究共招募233名慢性精神分裂症患者。收集资料包括人口学资料、临床特征、血液及代谢指标、心血管指标。研究数据按有无代谢综合征分为两组，代谢综合征诊断标准参考国际糖尿病联合会的定义，并录入SPSS 27.0软件进行统一计算。采用t检验、卡方检验进行差异性分析；不满足正态性时，采用秩和检验。对其中存在统计学差异的变量进一步作斯皮尔曼相关；再将其中具有显著相关性的变量纳入二元logistic回归分析，并采用ROC曲线分析某因素和代谢综合征的相关程度。

结果：以有无代谢综合征为分组条件，将入组精神分裂症患者分为无代谢综合征组（156人）和有代谢综合征组（77人）。最终我们发现两组在身高（p=0.046），体重、BMI、腹围、上臂围、收缩压、丙氨酸氨基转移酶、甘油三酯、高密度脂蛋白胆固醇、载脂蛋白A1/载脂蛋白B（p=0.000），舒张压、高血压病史、天冬氨酸氨基转移酶/丙氨酸氨基转移酶、γ–谷氨酰转移酶、尿酸（p=0.001），糖尿病病史（p=0.022），阳性（p=0.018）、阴性（p=0.016）症状评分，血小板计数（p=0.017），淋巴细胞计数（p=0.025），总蛋白（p=0.027），白蛋白（p=0.046），前白蛋白（p=0.027），总胆红素（p=0.011），直接胆红素（p=0.012），低密度脂蛋白胆固醇（p=0.030），载脂蛋白A1（p=0.008），载脂蛋白B（p=0.002），动脉粥样硬化指数（p=0.032），血尿素氮（p=0.023），电解质磷（p=0.018），心脏药物数量（p=0.007），代谢药物数量（p=0.044），右肱踝脉搏波传导速度（p=0.048），左肱踝脉搏波传导速度（p=0.033）上有统计学差异。排除代谢综合征诊断标准涉及的因素后，进一步分析相关性，除阳性症状评分外，均显著相关。将相关的变量纳入回归方程，得到关于代谢综合征的回归方程，其中前白蛋白（p=0.024），总胆红素（p=0.040），丙氨酸氨基转移酶（p=0.032）具有显著性，其曲线下面积分别为0.612、0.611、0.683。

结论：精神分裂症患者的前白蛋白、总胆红素越低，丙氨酸氨基转移酶越高，其患代谢综合征的可能性越大，心脏代谢及血管情况越差，说明精神分裂症患者的心脏血管问题可能受到蛋白、胆红素及转氨酶的异常代谢改变的影响。

关键词 精神分裂症；心血管疾病；代谢综合征

The correlation between CXCL16 and clinical symptoms of adolescent depression: potential applications and implications

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Objective: To investigate the correlation between the level of serum CXC motif chemokine ligand 16 (CXCL16) and clinical symptoms of adolescent depression, and to evaluate its potential diagnostic value.

Methods: 129 adolescents with depression (Depression group) and 31 healthy adolescents (Control group) were recruited from the Department of Child and Adolescent Psychiatry at Xuzhou Eastern Hospital Affiliated to Xuzhou Medical University from September 2022 to November 2023. All participants completed questionnaires: the Childhood trauma questionnaire, Self-rating depression scale, and Ottawa self-injury inventory. Blood samples were provided by all participants. High-throughput protein sequencing screened for differential proteins. Serum CXCL16 levels were measured by Enzyme-linked immunosorbent assay (ELISA). The receiver operating characteristic (ROC) curve was used to evaluate the clinical value of CXCL16 in diagnosing adolescent depression and associated symptoms.

Results: 1. Based on high-throughput protein detection, a total of 7 differential proteins including NAP-2, CXCL16, IP-10, MSP, IGFBP-1, HCC-1 and PLGF were screened from 120 cytokines.2. The serum CXCL16 level in the depression group was significantly higher than that in the control group (8.65 ± 0.41 pg/mL vs. 8.43 ± 0.26 pg/mL, $P<0.001$).3. CXCL16 level positively correlated with the severity of adolescent depression ($r=0.171$, $P=0.030$). After adjusting for confounding factors, the correlation remained significant ($r=0.175$, $P=0.028$).4. There was a positive correlation between the number of childhood traumas and the severity of depression among adolescents ($r=0.439$, $P<0.001$). After controlling for gender and age, the correlation remained significant ($r=0.410$, $P<0.001$).5. After adjusting for confounding factors, the area under the curve (AUC) value for CXCL16 in predicting adolescent depression was 0.820 (95%CI=0.752-0.876, $P<0.001$).6. Adolescent patients with depression and different frequencies of self-harm behavior exhibited significant differences in CXCL16 level ($F=40.114$, $P<0.001$). 7. The AUC value for the combined prediction of NSSI in adolescents using CXCL16 and childhood trauma was 0.901 (95%CI=0.836-0.947, $P<0.001$).

Conclusion: 1. CXCL16 is associated with non-suicidal self-injury behavior and severity in adolescents with depression.2. The combination of CXCL16 and childhood trauma experience has high diagnostic value for adolescent depression.

Key Words CXCL16; depression; adolescents; non-suicidal self-injury; childhood trauma

幻听访谈指引单联合应对卡在精神分裂症伴幻听症状患者中的应用

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目的：观察幻听访谈指引单联合应对卡在精神分裂症伴幻听症状患者中的应用效果。

方法：采用连续收集样本方法，选取江苏省某三级甲等精神专科医院精神科2023年10月—2024年10月诊断为精神分裂症且伴有幻听症状的94例患者作为研究对象，按照入院时间顺序分为对照组和观察组，其中2023年10月—2024年3 月的46例患者为对照组，2024年4月—2024年10月的48例患者为观察组，对照组给予入院后的常规护理，观察组在常规护理的基础上采用幻听访谈指引单联合应对卡进行护理干预，观察两组患者住院期间因幻听导致的保护性约束发生率、患者对护理满意度以及幻听风险得分。

结果：观察组患者住院期间因幻听导致的保护性约束发生率为18.75%（9/48），低于对照组的36.96%（17/46），两组比较，差异有统计学意义（$p<0.001$）；观察组9名约束的患者约束平均时长为（9.8 ± 3.9）h,明显低于对照组的（19.6 ± 4.2）h,且差异有统计学意义（$p<0.001$）；观察组患者对护理人员专业知识能力和健康宣教能力满意度均高于对照组（$p<0.001$）；观察组患者出院时幻听风险得分为（16.13 ± 3.14），明显低于对照组的（18.26 ± 3.26），差异明显（$p<0.001$）。

结论：幻听访谈指引单联合应对卡应用于精神分裂症伴幻听症状患者中，可提高患者的护理满意度，降低保护性约束发生率和幻听风险，同时缩短约束时长，值得推广和借鉴。

关键词 精神分裂症；幻听症状；幻听访谈指引单；应对卡；约束率；幻听应对；满意度；前—后对照研究

基于德尔菲法的封闭病房精神分裂症患者攻击行为预防干预方案构建

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目的：构建封闭病区住院精神分裂症患者攻击行为护理预防干预方案，旨在为精神科护理管理者制定相关措施提供参考。

方法：2023年10—2024年3月，在文献分析、半结构式访谈的基础上拟定封闭病区住院精神分裂症患者攻击行为护理预防干预方案，采用德尔菲法对来自精神科护理管理、护理教育、临床护理、心理学的16名专家进行2轮专家函询，根据专家意见修改并确定最终培训方案。

结果：2轮专家函询的积极系数分别为100%和100%，专家权威数分别为0.912和0.898，肯德尔和谐系数分别为0.496及0.552。2轮专家函询后，各指标的重要性评分为4.74 ~ 5.00分，变异系数为0 ~ 0.17。最终形成的培训方案包括4项一级指标（环境（Surroundings）、标准（Standard）、训练（Train）、策略

（Strategy），11项二级指标和30项三级指标。

结论：封闭病区住院精神分裂症患者攻击行为护理预防干预方案具有一定的科学性、适用性与可靠性，可为护理管理者开展相关工作预防并降低精神专科医院封闭病区精神分裂症患者攻击行为的发生提供参考。

关键词 封闭病区；精神分裂症；攻击行为；预防；德尔菲

Identification of genetic associations and key influences contributing to the pathway from social isolation or loneliness to depression

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Background: Observational studies have found isolation or loneliness to be associated with depression. However, the causal relationship between isolation or loneliness and depression, as well as the mediating factors involved, remains unclear.

Methods: We extracted genetic variants of European ancestry associated with social isolation, loneliness, and depression from the UK Biobank (455,364 and 462,933 individuals, respectively). Subsequently, we assessed the relationship between loneliness, social isolation, and depression using a two-sample Mendelian randomization (MR) method. A two-step MR was used to assess the 25 potential mediators associated with the outcome (depression) and to calculate the mediated proportion for those meeting the criteria.

Results: In the two-sample MR analysis, genetically predicted elevated levels of social isolation or loneliness (β = 0.188, 95% confidence interval [CI] 0.109, 0.268, P = 3.594e－06) were significantly associated with higher levels of depression. Of the 25 potential risk factors for depression, two were identified as mediators of the relationship between isolation, loneliness, and depression: neuroticism (mediation ratio: 54.3% [95% CI: 43.1%, 65.5%]) and insomnia (15.5% [95% CI: 7.7%, 23.3%]). Multiple sensitivity analyses confirmed the robustness of the findings.

Conclusion: Our findings provide evidence that higher levels of social isolation or loneliness have an impact on increased levels of depression and that neuroticism and insomnia serve as key mediators in the relationship between the two.

Key Words social isolation, depression, neuroticism, sleeplessness, Mendelian randomization, causality, mediation analyses

Alterations and potential mechanisms of repetitive transcranial magnetic stimulation on body weight and cognitive functioning in schizophrenic patients stabilized on chronic long-term medication.

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Background: Although antipsychotic medications are effective in managing schizophrenia (SCZ), there are still no effective strategies or preventive measures to address the weight gain associated with the long-term use of these medications.

Methods: We performed a single-blind, randomized, sham-controlled clinical trial to explore the efficacy of noninvasive high-frequency repetitive transcranial magnetic stimulation (rTMS) technology in reducing body weight in patients with SCZ. Fifty-three obese patients with chronic stable SCZ (BMI $\geqslant$ 30 kg/m2) completed a 4-week intervention study. The primary outcomes were the changes in body weight and body mass index (BMI) before and after the rTMS intervention. Secondary outcomes included changes in psychiatric symptoms, cognitive function, and routine blood indicators before and after the rTMS intervention.

Results: Significant changes in weight and BMI were found before and after the rTMS intervention in the active stimulation group ($P < 0.01$; $P < 0.001$). Weight and BMI decreased significantly more in the active stimulation group compared to the sham stimulation group 4 weeks after the intervention (all $P < 0.05$). No significant changes in PANSS scores, white blood cell count, CRP, and uric acid levels were observed before and after the intervention, and between the groups. In the active stimulation group, immediate memory, attention, and delayed memory were significantly elevated before and after the rTMS intervention ($P < 0.001$). In the sham stimulation group, immediate and delayed memory were significantly elevated before and after the rTMS intervention ($P < 0.001$; $P < 0.05$). Delayed memory was more significantly elevated in the active stimulation group relative to the sham stimulation group 4 weeks after the intervention ($P < 0.05$). In the active stimulation group, weight change was significantly correlated with attention change and cognitive total score change (all $P < 0.05$). In the active stimulation group, BMI change was significantly associated with attention change and cognitive total score change (all $P < 0.05$).

Conclusion: Our findings indicate that high-frequency rTMS could serve as a potential method for reducing body weight in obese patients with chronic stable SCZ.

Key Words rTMS; schizophrenia; randomization; weight; BMI

Exploring genetic associations and drug targets for mitochondrial proteins and schizophrenia risk.

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Background: Numerous observational studies have highlighted associations between mitochondrial dysfunction and schizophrenia (SCZ), yet the causal relationship remains elusive.

Methods: This study aims to elucidate the causal link between mitochondria-associated proteins and SCZ. We used summary data from a genome-wide association study (GWAS) of 66 mitochondria-associated proteins in 3,301 individuals from Europe, as well as a GWAS on the large, multi-ethnic ancestry of SCZ, involving 76,755 cases and 243,649 controls. We conducted bidirectional two-sample Mendelian randomization (MR) analyses, with inverse variance weighting (IVW) as the primary method. To account for multi-directionality and ensure robustness, we included MR-Egger, weighted median (WM), weighted mode, and simple mode methods as supplementary sensitivity analyses. Moreover, we explored the GWAS catalog and the Drug-Gene Interaction Database (DGIdb) to identify and evaluate potential therapeutic targets.

Results: MR analysis revealed significant genetically determined causal associations between ETHE1 (OR: 1.06), SOD (OR: 0.97), CALU3 (OR: 1.03), and C1QBP (OR: 1.05) and SCZ. According to the reverse MR analysis, a causal relationship was shown between SCZ and CA5A (OR: 1.09), DLD (OR: 1. 08), AIF1 (OR: 0.93), SerRS (OR: 0.93) and MULA of NFKB1 (OR: 0.77). After conducting the gene-drug analysis, HRG, F12, GPLD1, C1R, BCHE, CFH, PON1, and CA5A were identified as promising therapeutic targets.

Conclusions: This present study reveals a significant causal relationship between mitochondria-associated proteins and SCZ, offering valuable insights into the disease's pathogenicity and identifying potential therapeutic targets for drug development.

Key Words Schizophrenia; Mitochondria-associated proteins; GWAS; Bi-directional; Mendelian randomization; Gene-Drug analysis

探讨经颅多普勒超声在阿尔茨海默病患者的诊疗中的应用价值

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目的：研究经颅多普勒超声（TCD）用于探查阿尔茨海默病（AD）患者脑血流动力学时所具备的临床应用价值。深入解析阿尔茨海默病（AD）患者脑血流动力学的演变特征，并进一步探究这些变化与患

者认知功能损伤之间的关联。

方法：研究组选择50例阿尔茨海默病病人，对照组则选取50例认知功能正常、而且年龄与研究组匹配的老年病人，运用TCD对两组受检者的颅内动脉搏动指数（PI）和平均血流速度（MFV）展开检测，并对所得数据。同时，剖析其与认知功能之间的关联。

结果：与对照组相比，研究组所探查的LMCA、LACA、RMCA、RACA的PI值呈现出显著升高的趋势，而MFV则显著减低。基于统计学分析可知，数据所呈现的差异具有显著性（P<0.05）。与对照组相比，研究组的ADL、MMSE评分略低，经统计学分析，差异具有显著性（P <0.05）。

讨论：阿尔茨海默病发病机理很是复杂，主要包括有血管因素假说、微管相关蛋白功能异常假说，在阿尔茨海默病（AD ）研究领域，A B的沉积学说长期占据主导地位，该学说将A B沉积形成的淀粉样斑块视作AD的病理性标志。[4–5]近些年来，有研究表明[6–8],阿尔茨海默病发病的初始因素是脑血流灌注量的降低。脑灌注量的降低致使脑内部代谢不正常[9]血脑屏障功效、神经血管单元障碍；脑血管损伤导致氧化应激从而诱发神经元、血管内皮细胞死亡等等[10],上述改变均可引起A B的沉积、降低血流灌注，进而缩小认知障碍阈值的区间，引发认知功能出现异常，致使阿尔茨海默病病程发展加速。Li等[11]的动物实验的结果也符合以上所阐述的理论。提早发觉引起脑血流灌注量减低的血管功能变化，临床上就能争取更多的时间为预防或延缓AD的发生采取积极有效的治疗方案[12]。从研究结果来看，病例组于简易精神状态量表(MMSE)和生活活动能力量表(ADL)所获评分，均超过对照组。这一数据有力地证实了阿尔茨海默病发病会致使患者认知功能受损，这使得患者在日常生活中的自理与活动能力出现了不同程度的下降。拜合提亚.塔依尔等[13]学者开展的研究表明，随着阿尔茨海默病（AD）患者脑血流动力学异常状况愈发严重，患者认知功能受损程度呈逐步加重的趋势。本次研究采用经颅多普勒超声对比分析50例AD患者及对照组，结论显示，AD组的LMCA、LACA、LRMCA、RACA的MFV值低于对照组，PI值比对照组高，证实AD组的患者颅内动脉可显示不同程度的MFV降低、PI升高，具有显著性差异（均P[0.05）,以此验证了AD病人的全脑血流量会减低，本研究得出的结论与文献[14–15]报道较一致。AD患者时常出现脑部血流速度减低，尤为突出的是两侧的大脑中动脉血流速减低，因为TCD能够准确的探查出MCA的血管流速度，临床上可根据患者脑部血流速的变化情况来判断病情变化。

在临床实际工作中医生最常使用的评价认知功能的方法之一就是MMSE量表评分法，这项研究成果表明，在针对AD组患者进行检查操作的过程中，探测到其颅内动脉的平均最大血流速度（MFV）、搏动指数（PI）和简易精神状态检查表（MMSE）评分之间存在着明显的关联，即AD患者认知功能受损越严重，这些呈现出与之对应的变化趋势就越明显些。由此可知，经颅多普勒超声（TCD）检查能够初步评估阿尔茨海默病（AD）患者认知功能受损的基本情况。

综上所述，AD患者脑血流动力学变化的典型特征为颅内动脉搏动指数（PI）值升高以及平均血流速度（MFV）降低 [16]，认知功能受损的轻重程度与这两项数据的变化程度具有显著相关性。在临床应用中，经颅多普勒超声检查不仅对阿尔茨海默病的诊断有一定的价值，并且能够对AD患者治疗效果的评估进行指导。

关键词 关键词 经颅彩色多普勒超声； 阿尔茨海默病； 脑血流动力学； 搏动指数

精神科护士心理健康素养特征要素的现象学研究

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目的：探讨精神科护士心理健康素养的特征要素，以期为未来的干预策略提供理论依据与实践参考。

方法：2024年9月至12月，采用滚雪球抽样法，选取江苏省苏州市相城地区、昆山地区和常熟地区3所专科医院的精神科护士作为访谈对象；采用目的抽样法，选取江苏省苏州市相城地区1所三级甲等专科医院的精神科医生及精神障碍患者作为访谈对象。遵循差异最大化原则。访谈人数以不再出现新的主题作为数据饱和的标准。最终确定14名精神科护士、6名精神科医生、8名精神障碍患者作为访谈对象。依据研究目的，查阅相关文献，与课题组讨论后，制订访谈提纲。根据预访谈结果，修改访谈提纲，形成正式版访谈提纲。采用半结构化、面对面的方式进行访谈。在病区会议室对精神科护士和医生进行一对一的访谈；在病区活动室对精神障碍患者进行焦点小组访谈，确保空间的安静与私密性。访谈过程中，录音的同时随时记录受访者的表情神态、肢体动作等非语言资料。根据主题分析法归纳分析并提炼主题。本研究已通过医院伦理委员会审批（[KY]2024–014–01）。

结果：可归纳为4个主题：心理健康知识素养、情感反应特征、应对策略以及不愿寻求帮助的心理与行为特征。心理健康知识素养：所有受访护士均认为自己的心理健康知识不足。尽管她们参加过基本培训，但缺乏应对深层次心理问题的专业知识和实践经验，尤其是在处理复杂的心理健康问题时感到力不从心。情感反应特征：无力感、共情与难过、职业倦怠感、职业满足感。应对策略：自我调节与反思、积极的寻求外部支持、消极的回避策略。不愿寻求帮助的心理与行为特征：担心麻烦他人、职业角色带来的影响、缺乏合适的求助对象、隐私和安全感。

结论：本研究基于多重视角，揭示了精神科护士心理健康素养特征要素包括心理健康知识素养、情感反应特征、应对策略以及不愿寻求帮助的心理与行为特征，并提出了未来研究方向，以提升精神科护士的心理健康水平，减轻其职业负担。

关键词 精神科护士；心理健康素养；特征要素；质性研究

基于跨理论模型的随访管理对抑郁症患者服药依从性研究

谭靓靓
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目的：探讨基于跨理论模型（TTM）的随访管理对抑郁症患者服药依从性及健康行为的影响，为临床延续护理提供理论依据和实践指导。

方法：本研究选取2022年3月至2023年9月在江苏省南京市某三级甲等综合医院心身医学科住院治疗的120例抑郁症患者作为研究对象，按照随机数字表法将其分为对照组和干预组，每组60例。对照组接受常规延续护理，具体措施包括：出院前一天建立《抑郁症患者服药依从性档案》、宣教遵医嘱服药的

重要性、抗抑郁药物的使用方法、不良反应监测、发放健康教育手册。出院后1周进行电话随访，了解患者的饮食、睡眠、情绪心理状况及服药情况，并根据患者需求给予个性化指导。干预组在此基础上，采用基于跨理论模型（TTM）的随访管理模式进行干预：专科护士在患者出院前，通过面对面问卷调查了解患者服药行为所处的行为改变阶段（即准备期、行动期、维持期等）。根据患者所处阶段，制定不同内容和频次的随访干预措施，干预方式包括电话随访、个体化健康教育、面对面访谈、疾病管理日记及服药提醒，帮助患者提高对疾病及药物治疗的认知，增强行为转变的动机，促进长期坚持服药。通过比较两组患者在出院前1天、出院后1个月、3个月、6个月的服药依从性量表得分、服药相关信念问卷得分及自知力与治疗态度问卷（ITAQ）得分进行评价。

结果：干预组在服药依从性、服药相关信念及自知力与治疗态度各项指标中均显著优于对照组，差异具有统计学意义。

1. 服药依从性量表得分：组间主效应显著（$p<0.001$），组内主效应显著（$p<0.001$），组间与组内交互效应显著（$p<0.001$）。干预组患者服药依从性得分随着干预的持续而不断提高，在出院后6个月时达到显著高于对照组的水平。

2. 服药相关信念问卷得分：组间主效应显著（$p<0.001$），组内主效应显著（$p=0.003$），组间与组内交互效应显著（$p<0.001$），提示干预组患者对药物治疗的认知和信念得到了显著提升。

3. 自知力与治疗态度（ITAQ）得分：组间主效应显著（$p<0.001$），组内主效应显著（$p<0.001$），组间与组内交互效应显著（$p<0.001$）。干预组患者在干预期间自知力及治疗态度均有显著改善，患者对自身疾病的认知及治疗依从性增强。

结论：基于跨理论模型的随访管理显著提高了抑郁症患者的服药依从性、服药信念、自知力及治疗态度。这一干预模式在短期和长期随访中均表现出积极效果，验证了跨理论模型在抑郁症患者管理中的有效性，为临床延续护理提供了理论依据。未来可以进一步推广这一干预模式，探索其在其他慢性疾病管理中的应用价值。

关键词 跨理论模型；随访管理；抑郁症；健康行为；健康信念；服药依从性

基于snyder希望理论的互联网延续性护理对老年抑郁症患者心理状态及自我效能的影响

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目的：探讨基于snyder希望理论的互联网延续性护理对老年抑郁症患者心理状态及自我效能的影响。

方法：将我院2024年6月～2024年12月收治的60例老年抑郁症患者按随机数字表法分为2组，其中对照组30例采用常规互联网延续性护理，观察组30例采用基于snyder希望理论的互联网延续性护理，对比2组干预前后患者心理状态、自我效能、睡眠情况、希望水平及生活质量。

结果：干预后观察组心理弹性量表（CD-RISC）、一般自我效能量表（GSES）、匹兹堡睡眠质量指数问卷（PSQI）、希望水平［Herth希望量表（HHI）］、总体生活质量各维度评分均显著高于对照组，差异有统计学意义（$P<0.05$）。

结论：基于snyder希望理论的互联网延续性护理可有效改善老年抑郁症患者负性情绪，降低情绪反

应水平，提升希望水平及自我效能感，改善其生活质量。

关键词 抑郁症；snyder希望理论；互联网；延续性护理

近红外脑功能成像在卒中后抑郁精神康复中的研究进展

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目的：阐述近红外脑功能成像（fNIRS）技术在卒中后抑郁（PSD）精神康复领域的研究进展，分析其应用价值及前景，为该技术更有效地应用于临床提供理论依据。

方法：检索国内外关于fNIRS在PSD精神康复研究的相关文献，对研究方法、技术应用、研究成果等进行系统梳理与分析。这些研究主要涵盖了fNIRS技术原理、与PSD病理关联、综合评估fNIRS在PSD研究中的应用价值等。

结果：fNIRS 技术凭借其独特优势，在PSD精神康复研究中取得了显著成果。研究发现，通过fNIRS可观察到PSD患者大脑前额叶等区域的氧代谢和血流动力学存在特征性改变。这些改变与患者抑郁症状的严重程度、认知功能等密切相关。同时，基于fNIRS技术的干预方法也被证实能有效改善患者的抑郁症状和神经功能，促进大脑功能重塑。

结论：fNIRS在PSD精神康复研究中具有广阔的应用前景，为深入探索PSD的神经机制提供了新视角，也为临床早期识别、辅助诊断、疗效评估、干预手段优化和长期随访管理提供了依据。然而，目前该技术在临床应用中仍存在一些局限性，如深部脑区信号采集受限、空间分辨率有待提高、缺乏统一的诊断标准等。未来需要进一步开展大样本、多中心的研究，优化技术参数，以推动fNIRS在PSD精神康复领域的广泛应用。

关键词 近红外脑功能成像；卒中后抑郁；精神康复；氧合血红蛋白

基于保护性约束管理对精神病住院患者约束保护效果及生活质量的影响

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目的：探讨基于保护性约束管理对精神病住院患者约束保护效果及生活质量的影响。

方法：选择2023年5月–2023年7月在淮安市第三人民医院精神科住院的255例精神病住院患者，作为对照组，将2023年9月–2023年11月在我院精神科住院的253例患者作为观察组，对照组给予常规干预，观察组给予基于保护性约束管理，比较两组约束保护效果；并对两组进行风险评估；观察两组并发症发生情况；比较两组患者生活质量情况。

结果：观察组保护性约束时间比对照组缩短，约束次数比对照组减少，血栓风险评分低于对照组（P<0.05）。观察组攻击风险、自杀风险和出走风险低于对照组（P<0.05）。观察组并发症发生率低于对照组（P<0.05）。观察组生活质量水平高于对照组（P<0.05）。

结论：对精神病住院患者实施基于保护性约束管理，可增强约束保护效果，改善患者的生活质量。

关键词 保护性约束管理；精神病住院患者；约束保护效果；生活质量

阶梯式非药物干预对抑郁症患者睡眠障碍的改善效果分析

韩燕
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目的：探讨基于环境与行为双重调节的阶梯式非药物干预方案，在改善抑郁症患者睡眠障碍中的临床应用价值。

方法：采用类实验设计，选取某三甲医院2024年1–12月期间收治的72例伴失眠症状的抑郁症患者作为研究对象。按病区分为实验组（n=36）与对照组（n=36）。实验组接受为期4周的阶梯干预措施：①18:00后病房光照度≤50 lux（使用Luxmeter测量）；②每日19:00指导Jacobson渐进式肌肉放松训练（20分钟/次）；③个性化日间活动清单（含30分钟户外步行）；④每周2次睡眠健康教育。对照组接受常规护理。采用《匹兹堡睡眠质量指数（PSQI）》结合Fitbit腕表监测睡眠效率，数据经SPSS26.0进行配对t检验。

结果：干预后实验组PSQI总分由14.8 ± 2.3降至9.6 ± 1.9（t=8.47, p<0.001），睡眠效率提升29.5%（72.1%→93.4%），夜间觉醒次数由3.2 ± 1.1次减少至1.0 ± 0.5次（p=0.002）。护理人员操作依从性达91.7%。

结论：阶梯式非药物干预方案通过多维度的精准调节，对抑郁症患者的睡眠质量具有一定的改善作用，在临床实践中展现出良好的应用前景，建议将其纳入心理科病房的标准化护理方案，以提升抑郁症患者的整体治疗效果与生活质量。

关键词 睡眠障碍；抑郁症；非药物干预；阶梯式干预；临床应用

家庭参与式护理对青少年抑郁症患者康复效果的随机对照研究

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目的：深入探究家庭协同护理模式在青少年抑郁症治疗过程中的增效作用。

方法：采用区组随机法，将淮安市第三人民医院心理科于2022年—2024年收治的12—18岁的112例抑郁症患者，依据随机原则分为两组。实验组（n=56）实施全面的家庭参与干预措施：①每周1次亲子沟通技巧工作坊（含非暴力沟通训练）；②家庭护理计划定制（如共同制定每日作息表）；③家长每月接受心理健康教育。对照组（n=56）仅进行个体治疗。采用儿童抑郁量表（CDI）、家庭功能评定量表（FAD）及6个月再住院率评估效果。

结果：实验组CDI得分下降41.8%（28.3 ± 5.1→16.5 ± 4.3, p<0.001），家庭沟通维度改善显著（FAD得分Δ=2.4 vs 对照组Δ=0.7, p=0.003），6个月再住院率降低60%（15.2%→6.1%, p=0.038）。

结论：家庭参与式护理能够切实有效地改善青少年抑郁症状，同时显著降低疾病复发风险，建议将

其纳入儿童精神科标准护理路径，以进一步提升青少年抑郁症的治疗与康复效果 。

关键词 青少年抑郁症 家庭参与式 康复效果 护理

中医情志护理联合正念训练在双相情感障碍缓解期的实践探索

窦莹、韩燕
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目的：验证融合传统医学理念的整合护理模式对改善双相障碍患者社会功能的临床效果。

方法：采用随机对照设计，选择2023年1月—12月在淮安市第三人民医院的160例缓解期患者为研究对象，分为实验组80例（八段锦+五行音乐辨证施护+MBCT）与对照组80例（常规健康宣教），运用PSP量表及复发率进行12个月追踪。

结果：实验组社会功能评分提高19.6分（95%CI 15.2–24.0），复发间隔延长4.8个月（p=0.003），药物漏服率降低至11.3%（对照组34.7%）。

结论：通过二十四节气养生指导、中药香囊等具象化干预措施，实现传统文化与现代心理护理的有机融合，为中国特色精神康复提供新路径。

关键词 双相情感障碍；情志护理；本土化康复；中西医结合

Clinical phenotypes of female depression and age at menarche: analysis of data from NHANES 2005–2020

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Background: Major depressive disorder (MDD) exhibits a high prevalence among females, with its heterogeneity contributing to various phenotypes. Reproductive status is a pivotal determinant in the etiology and progression of female MDD. However, the characteristics of MDD associated with female reproductive have been insufficiently explored.

Methods: A cohort of 15,602 adult females, derived from the National Health and Nutrition Examination Survey spanning 2005 to 2020, was subjected to analysis following data screening. This study utilized data encompassing

reproductive status, Patient Health Questionnaire (PHQ) scores, cognitive function assessments, estrogen levels and thyroid profiles. Latent class analysis was employed to identify the clinical subtypes of female MDD.

Results: Females in the early menarche group exhibited higher depressed scores compared to those in non-early menarche group ($P < 0.001$). A final model with three latent classes was determined to be optimal. Key distinguishing characteristics across identified classes included the age at menarche, symptom severity, cognitive function, and levels of thyroxine hormones. Women in Class 3 had the most severe symptoms, and they experienced menarche at the earliest age, poorest cognitive performance and lowest free thyroxine and higher thyroglobulin (all $P < 0.05$, Bonferroni correction).

Conclusions: Female MDD appears to encompass a range of distinct phenotypes. The age at menarche may serve as a significant marker for future sex-specific biological and genetic studies pertaining to female MDD subtype. To comprehensively decipher the biomarker profiles associated with MDD subtypes, further investigation into reproductive-related factors is essential.

Key Words female depression; phenotype; menarche; cognitive; thyroid

团体艺术疗法联合结构化社交训练对抑郁症患者社会功能重建的影响

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江苏省淮安市第三人民医院

目的：验证低成本团体干预模式对改善抑郁症患者情绪与社会功能的协同作用。

方法：采用整群随机抽样法，将某市精神卫生中心2023年1–6月收治的106例缓解期患者分为两组。实验组（n=53）接受8周联合干预：① 每周二、四开展主题绘画治疗（如“情绪色彩表达”、“团体曼陀罗创作”）；② 每周五进行角色扮演式社交训练（含目光接触、对话发起等6项技能）。对照组（n=53）接受常规药物管理与健康教育。采用《汉密尔顿抑郁量表-17项（HAMD-17）》《社会功能缺陷筛选量表（SDSS）》及自制病耻感量表评估，采用协方差分析控制基线差异。

结果：实验组HAMD-17评分降低37.2%（21.5 ± 3.8→13.5 ± 2.6, F=15.33, p<0.001），SDSS总分改善幅度较对照组高24.6%（p=0.008），83.0%患者报告病耻感显著减轻（OR=4.12, 95%、CI 1.89–8.97）。

结论：艺术与社交结合的团体干预能有效促进患者社会功能康复，尤其适用于资源有限的基层医疗机构。

关键词 团体艺术疗法；社交训练；抑郁症；社会功能

基于营养师协作的膳食管理方案对双相情感障碍患者代谢综合征的干预效果

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淮安市第三人民医院

目的：探索多学科协作模式对改善双相情感障碍患者药物源性代谢异常的作用。

方法：采用便利抽样法，选取淮安市第三人民医院2024年1–12月收治的58例伴代谢综合征（IDF标准）的双相情感障碍患者作为研究对象。将其随机分为实验组（n=29）与对照组（n=29）。实验组实施12周营养–护理联合干预：①营养师定制每日1800kcal限糖食谱；②护士监督三餐摄入并记录饮食日记；③每周2次30分钟有氧运动（院内康复操）。对照组维持常规饮食指导。通过BMI、空腹血糖及腰臀比评估干预效果，采用重复测量方差分析处理数据。

结果：实验组BMI由28.4 ± 3.1降至26.2 ± 2.8（F=6.89, p=0.012），空腹血糖下降14.3%（6.8→5.8 mmol/L），对照组无显著变化。79.3%患者表示食谱可接受性强。

结论：医护营养多学科协作能够有效控制双相情感障碍患者的代谢指标，改善药物源性代谢异常状况，在临床实践中具有重要意义，建议将其纳入双相情感障碍患者的长期护理计划，以提升患者的整体健康水平和生活质量。

关键词 双相情感障碍；代谢综合征；膳食管理；多学科协作；药物源性代谢异常

循证导向的四维干预模式降低老年精神病患者跌倒风险的实践研究

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目的：构建并验证适用于老年精神科住院患者的系统化跌倒预防护理方案。

方法：基于JBI循证模型，整合某市精神卫生中心2024年跌倒事件根因分析结果，设计四维干预：①采用Hendrich II跌倒风险评估工具进行动态筛查；②病房环境改造（床高≤45cm、夜间地灯全覆盖）；③每日10:00进行平衡训练（5项动作，参照Berg平衡量表设计）；④每周3次个性化防跌倒教育（含家属参与）。每次各选取50例老年患者（≥65岁），对比干预前（2024年1–6月）与干预后（2024年7–12月）的跌倒发生率及护理人员风险评估能力。

结果：跌倒事件由干预前的6例（12%）降至2例(4%)(χ^2=4.12, p=0.042)；患者动态平衡评分提高41.3%（9.2 ± 2.1→13.0 ± 1.8）；护士风险评估准确率从58.3%提升至88.9%（p<0.01）。

结论：四维干预模式可有效降低跌倒风险，建议纳入老年精神科护理质量评价指标。

【关键词】老年精神病患者；跌倒风险；四维干预模式

1例移情玩偶疗法降低阿尔茨海默病病人激越行为的护理

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阿尔茨海默病(Alzheimer's disease, AD)是以进行性认知功能损害为核心症状的一种原发性神经系统病变 ,好发于老年期及老年前期 ,是我国老年人生活品 质受损和失能的重要诱因 。有报告指出 ,截至 2022年12月 ,我国 AD患病人数达到2193.6万例，有78%的病人在疾病中晚期出现激越行为 ,严重影响身心健康和社会生活能力 ,家庭社会照护负荷突出 ,成为其照顾者最主要的应激源[1] 。对AD激越行为尚无有效的治疗方法 , 因药物治疗效果受限且易增加跌倒损伤等意外风险 , 临床常以非药物干预为主 ,病人更易接受 ，治疗效益和安全性能相对更好。玩偶疗法(doll therapy)起源于依恋理论[2] ,是以人文关怀为主旨的一种新型精神心理疗法，指照护病人过程中借助玩偶移情 ,促使病人与玩偶互动交流 ,从而达到健康促进的目的 。研究证实 ,玩偶疗法对缓解 AD病人认知、精神行为异常症状具有一定的积极效应，利于提高其幸福感和希望水平[3]。目前国外对玩偶疗法的研究较多 ，但尚未形成适用性更高的玩偶专业规范化实施模式[4] ，国内相关研究也更少见 , 因此本研究拟探讨移情玩偶干预在住院老年 AD病人激越行为控制中的应用效果 ,为临床改善 AD病人的预后提供相关依据 。

关键词 移情玩偶 阿尔茨海默病 激越行为

产前心理压力困扰对产后抑郁的影响及围产期体力活动强度的中介作用分析

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目的：观察产妇产前心理压力困扰、产后抑郁、围产期体力活动强度三者间的关系，并分析围产期体力活动强度在产前心理困扰、产后抑郁关系间的中介作用。

方法：以2022年8–2023年8月**医院的1981名产妇为研究对象，采用妊娠压力量表、爱丁堡产后抑郁量表和中文版丹麦围产期体力活动量表分别进行产前心理压力困扰、产后抑郁和围产期体力活动强度调查，采用Sperson相关性法分析产妇产前心理困扰、产后抑郁、围产期体力活动强度三者间的相关性，并构建结构方程模型及AMOS 24.0分析围产期体力活动强度的中介效应。

结果：1981名产妇的产前心理压力困扰得分为（56.59 ± 8.38分，其中重度占比54.12%)，其中“因父母角色而发”得分(26.72 ± 3.92分，其中重度占比65.86%），“为担心母子健康和安全而发”得分(15.43 ± 2.83分，其中重度占比47.85%），“为身体外形和身体活动的改变而发”得分(13.01 ± 2.13分，其中重度占比47.50%）。产后抑郁得分为（11.63 ± 2.89分，其中中、重度占比74.15%)。围产期体力活动强度得分为（5.92 ± 2.22分，其中中、重强度占比45.63%)。产前心理压力困扰(包括总得分及“因父母角色而发”得分、“为担心母子健康和安全而发”得分、“为身体外形和身体活动的改变而发”得分)均与产后抑郁得分呈正相关(r=0.7321，0.6984，0.5292，0.5369；P<0.05)，与围产期体力活动

强度得分呈负相关(r=–0.7038，–0.6796，–0.5089，–0.5121；P<0.05)，且产后抑郁得分也与围产期体力活动强度得分呈负相关(r=–0.7204，P<0.05)。经AMOS 24.0分析可知：模型适配度指标PCMIN值<0.05，RMSEA值<0.05，GFI值>0.05，提示围产期体力活动强度在产前心理压力困扰、产后抑郁关系间的中介模型拟合度好(χ2值=1. 984，df值=1，P <0.05)，围产期体力活动强度可显著负向预测产前心理压力困扰情况(β=–0.674，P均<0.05)，也可负向预测产后抑郁情况(β=–0.701，–0.681，P均<0.05)，围产期体力活动强度在产前心理压力困扰、产后抑郁关系间具有中介作用(β=–0.679，P<0.05)。

结论：产前心理压力困扰与产后抑郁发生密切相关，产前心理压力困扰也可直接通过围产期体力活动强度对产后抑郁产生影响，医务人员可构建全面的支持系统，降低产妇产前心理压力困扰的感知体验，嘱咐产妇产前适量运动，可进而降低产后抑郁的发生率。

关键词 产前心理压力困扰；产后抑郁；围产期体力活动强度；中介作用

PDCA循环管理提升精神科急性男病区晨间护理质量与效率实践

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目的：观察PDCA循环在精神科急性男病区晨间护理质量与效率实践。

方法：选取江苏省某三级甲等精神专科医院精神科2023年7月—2024年10月在精神科急性男病区开展PDCA循环管理，抽取开展PDCA循环管理前后各100张床单元进行检查，比较应用PDCA循环管理前后晨间“一床一湿扫”的落实率，晨间护理质量及效率；比较参与PDCA循环管理前后15名精神科护士和60名住院患者的满意度。

结果：开展PDCA循环管理后，精神科护士晨间“一床一湿扫”的落实率高于开展PDCA循环管理前，实施后PDCA落实率为88.00%（88例），较实施PDCA前落实率67.00%（67例）显著提高，卡方检验结果显示，χ^2=13.891，P=0.001，差异具有统计学意义（P<0.05）；精神科护士晨间护理质量及效率优于开展PDCA循环管理前，开展PDCA循环管理后内务管理水平显著提升：总得分从落实前中位数55分（四分位间距：44–66）提高至落实后88分（77–88），（Z=–6.23，P<0.001）；PDCA实施前后完成时间比较结果显示，落实率为67%时，实施前完成时间为25.9 ± 3.3分钟，实施后完成时间显著缩短至14.33 ± 3.31分钟，时间差值为11.57 ± 4.03分钟，t=13.151，P<0.001；落实率为100%时，实施前完成时间为37.76 ± 5.4分钟，实施后完成时间显著缩短至26 ± 3.63分钟，时间差值为11.76 ± 6.39分钟，t=8.439，P<0.001，差异具有统计学意义；精神科护士和患者满意度均高于开展PDCA循环管理前，PDCA实施前后护理人员对晨间护理满意度得分比较结果显示，实施前满意度得分为72.5 ± 12.68分，实施后显著提高至90 ± 10.77分，差值为–17.5 ± 18.18分。配对t检验结果显示，t=–3.729，P=0.002，差异具有统计学意义（P<0.05）。PDCA实施前后患者住院满意度分布比较结果显示，实施前患者满意度（非常满意+满意）为71.67%；实施后患者满意度为91.66%。卡方检验结果显示，χ^2=9.024，P=0.029，差异具有统计学意义（P<0.05）。

结论：PDCA管理在急性精神科男病房晨间护理中运用，可提高“一床一湿扫”的落实率，加强护士晨间护理的质量及效率，提高护理人员满意度和患者的住院感受度，值得推广和借鉴。

关键词 PDCA循环管理；精神科；晨间护理质量；晨间护理效率；湿式扫床；住院感受度；护理满意度。

癌症患者化疗后记忆功能障碍的研究进展

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化疗作为一种有效的抗癌疗法，显著提高了患癌人群的生存率。然而，在治疗期间和治疗后，患者们经常面临一系列严重的副作用。化疗相关认知障碍（chemotherapy-related cognitive impairment, CRCI）是化疗神经毒副作用之一，过往研究显示，CRCI患病率大约在24%至28%之间，对生活质量（quality of life, QoL）产生重要影响。尽管CRCI涉及多个认知领域，包括记忆力、注意力、执行功能和处理速度等。但化疗后癌症患者在记忆功能上的损害通常会导致服药依从性下降、工作就业能力受损和生活质量降低。因此，研究癌症患者记忆功能的变化及其神经机制，对于开发有效的干预策略以减轻记忆障碍带来的负担至关重要。

本篇综述聚焦于CRCI相关研究中记忆障碍的证据，旨在分析化疗对记忆功能的影响及其潜在的神经机制。通过神经心理学测试对患者不同维度的记忆功能进行综合评估，更全面地了解化疗后记忆功能障碍的特征和程度。结合神经影像学技术，观察癌症患者化疗前后大脑结构和功能的变化，揭示了化疗对大脑特定区域的直接影响。总结了认知训练、心理干预、运动锻炼、神经调控技术等干预措施在改善患者记忆功能方面取得的成效。

关键词 化疗；记忆功能障碍；癌症；磁共振成像；

后疫情时期牙周炎患者的心理健康调查：焦虑、抑郁与压力的影响因素分析

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目的：本研究旨在调查后疫情时期牙周炎患者的焦虑、抑郁和压力水平，探索其影响因素，为临床治疗及患者心理健康干预提供科学依据。

方法：本研究选取2023年8月至2024年8月在常州市中医院口腔医院就诊的191例牙周炎患者作为观察组，同时选取187例正常人作为对照组。采用自编一般情况问卷、DASS-21、口腔保健自我效能量表（SESS）和简约版口腔健康素养量表（HeLD-14）对参与者进行调查。

结果：牙周炎患者的压力、焦虑、抑郁的检出率分别为11.5%、32.5%、27.7%，均高于正常健康人（P<0.05）；压力与婚姻状态、牙周炎严重程度、HeLD-14得分、SESS得分方面有显著性差异性（均P<0.05）；焦虑和抑郁在婚姻状态、牙周炎严重程度、家庭月收入，HeLD-14得分、SESS得分方面有显著性差异性（均P<0.05）；重度牙周炎、未婚、离异是牙周炎患者压力的独立危险因素（均P<0.05）；重度牙周炎、未婚是牙周炎患者压力的独立危险因素（均P<0.05）；重度牙周炎、未婚、离异是牙周炎患者压力的独立危险因素（均P<0.05）；HeLD-14得分高、SESS得分高是牙周炎患者压力、焦虑、抑郁的保护因素（均P<0.05）。

结论：牙周炎患者的焦虑、抑郁和压力水平显著高于健康成年人。婚姻状况、牙周炎严重程度及口腔健康素养与心理状态密切相关。应重视牙周炎患者的心理健康，制定个性化的治疗方案，以提高患者的依从性和整体生活质量。

关键词 牙周炎，压力，焦虑，抑郁

3–7岁中国儿童饮食行为、生活方式与心理问题的相关性研究

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成年期的心理健康问题往往表现为早在童年时期就开始出现的症状或问题。一些研究表明，源于童年、青春期前和青春期的精神病理机制往往会长期存在。不良的生活习惯，如缺乏体育锻炼和过多的屏幕时间，是儿童和青少年出现心理问题的风险因素。此外，饮食质量和模式也是影响心理健康的重要因素。

2. 材料和方法

2.1 研究对象

本研究调查了江苏省无锡市幼儿园中 3–7 岁的儿童。研究采用分层整群随机抽样法对各区县的幼儿园进行抽样。共有 18 所幼儿园，3,727 名儿童参与了调查。

2.2 调查方法和内容

调查问卷是根据联合国儿童基金会（UNICEF）多指标类集调查（MICS）设计的。调查收集了儿童的人口统计学信息、父母数据、家庭背景、饮食行为数据和生活方式数据。家长版 SDQ 用于评估儿童的心理健康状况。

3. 结果

本次调查共收集了来自 18 所幼儿园的 3727 份有效问卷。年龄分布为 3 至 7 岁，平均年龄为（5.35 ± 0.98）岁。男孩有 1,924 名（51.62%），女孩有 1,803 名（48.38%）。SDQ 平均得分为 16.12 ± 4.00，心理异常率为 40.81%（1 521/3 727）。

4. 讨论

我们使用 SDQ 问卷对无锡市 3–7 岁儿童的心理健康状况进行了筛查，发现 SDQ 平均分为（16.12 ± 4.00）分，异常率为 40.81%（1 521/3 727）。在具体维度上，情绪问题的异常率为 7.62%，行为问题的异常率为 69.60%，多动问题的异常率为 0.43%，同伴关系问题的异常率为 24.07%，亲社会行为的异常率为 34.02%。

我们的研究发现，饮食多样性低、每天摄入超加工食品、每周挑食两次以上、进餐时参与其他活动、没有固定的进餐姿势、屏幕时间过长（>1 小时/天）、睡眠不足或过多（<9 小时或>13 小时/天）是导致儿童心理问题的风险因素。我们的研究还发现，睡眠时间不足和睡眠时间过长都与心理问题有关。

我们这项研究的优势在于其全面的方法，不仅考虑了儿童的饮食模式、行为习惯和生活方式因素，还考虑了相关的家庭和母亲信息。这种全面的视角使我们能够探究导致儿童心理健康的其他因素。此外，我们对饮食多样性、超加工食品摄入量、屏幕时间和睡眠时间的分类和定义是基于常见的生活方式类别，因此研究结果可在全国范围内广泛使用。

通过这项研究，我们更好地了解了 3–7 岁中国儿童的心理健康状况，并探讨了饮食行为和生活习惯

对心理健康的影响。根据我们的研究结果，我们建议学校、家庭和社会关注儿童的生活方式和饮食行为等因素，并根据《中国学龄前儿童（3–6 岁）体质健康指南》实施适当的干预措施，以减少心理健康问题的发生。

关键词 中国儿童、饮食行为、生活方式、心理健康

内感受在抑郁症多维心理结构模型中的关键作用——基于环境、认知与行为情绪因素的结构方程模型分析

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目的：抑郁障碍（MDD）的心理结构模型复杂且多层面，主要包括环境因素（EF）、认知功能（CF）以及行为–情绪表现（BEM）。目前，MDD 的诊断与治疗面临挑战，难以通过单一干预点全面改善疾病状态。构建 MDD 的心理结构模型，并寻找该模型的关键节点，对于 MDD 的诊断与治疗具有重要意义。

方法：本研究共纳入 308 名 MDD 患者（MDDs），评估其 34 项心理因素，包括 EF、CF、BEM 及内感受功能（IF）。采用皮尔逊相关分析探讨 IF 与 MDD 多维心理结构模型（EF、CF 和 BEM）各因素之间的关系，并利用结构方程模型（SEM）构建 MDD 的多维心理结构模型，识别关键节点。随后，在该模型中加入 IF，以进一步验证内感受在该网络中的作用及影响路径。

结果：IF 与所有心理因素均存在显著相关性。在 MDD 多维心理结构模型中，EF（β 直接效应 = 0.163, p = 0.033）和 BEM（β 直接效应 = 0.230, p = 0.003）可直接影响 MDD。在模型中加入 IF 后，IF 预测了模型中的所有因素。较差的 EF 会导致较低的 IF（β 直接效应 = –0.346, p < 0.001），而 IF 功能障碍会增加 CF（β 直接效应 = –0.525, p = 0.002）和 BEM（β 直接效应 = –0.250, p = 0.031）受损的风险。在 MDD 的影响因素中，EF 对 MDD 的总效应最大（β 直接效应 = 0.365，β 间接效应 = 0.150，β 总效应 = 0.515），其次是 IF（β 直接效应 = –0.309，β 间接效应 = –0.126，β 总效应 = –0.434）。

结论：IF 是 MDD 心理结构模型的重要组成部分，能够预测 EF、CF 和 BEM。IF 可能成为改善抑郁状态的潜在干预点，为 MDD 的综合治疗提供了新的思路。

关键词 抑郁障碍；内感受功能；认知功能；结构方程模型；环境因素；行为–情绪表现

同等剂型的氟哌啶醇和奥氮平治疗精神分裂症急性兴奋激越症状的疗效分析

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目的：氟哌啶醇和奥氮平在同等剂型（片剂口服用药）下，治疗精神分裂症急性兴奋激越症状的临床疗效和安全性的对比。

方法：一、入组标准：1、选择2024年1月至2024年3月在本院住院符合ICD-10精神障碍诊断标准：诊断为精神分裂症且伴有急性兴奋激越发作的患者；2、患者及家属对本次研究内容了解并自愿签署知情同意书；3、剔除对奥氮平和氟哌啶醇使用有禁忌症的患者；4、排除其他器质性疾病；5、年龄在20-60之间，男女比率1:1；符合入组人员为54例，随机分为：奥氮平组27例、氟哌啶醇组27例。二、观察周期：4周。三、用药使用方法：均为单一用药，根据患者的病情、躯体情况和耐受性在规定的药物剂量范围内调整药物剂量。四、通过临床观察症状、阳性精神症状量表、简明精神症状量表、阴性精神症状量表、总体印象量表、椎体外系副反应量表评估病情，对两组的疗效及药物的安全性进行对比分析。

结果：1、疗效：奥氮平组27列，总体有效24例，占88.88%（其中痊愈9例，占37.5%、好转15例，占62.5%），无效3例，占11.12%；氟哌啶醇组27列，总体有效22例，占81.48%（其中痊愈7例，占31.82%、好转15例，占68.18%），无效5例，占18.52%。2、椎体外系反应：奥氮平组27例出现2例，占7.41%；氟哌啶醇组出现9例，占33.33%。3镇静：服用奥氮平患者与服用氟哌啶醇患者睡眠时间总长相等，无明显差异。

结论：通过对比，在治疗精神分裂症急性期出现的兴奋激越症状时，采取奥氮平治疗比使用氟哌啶醇治疗，疗效上无明显差异，但在不良反应上、奥氮平出现的不良反应低于氟哌啶醇，其安全性较高，值得借鉴。

关键词 奥氮平 氟哌啶醇 急性兴奋激越

长期应用利培酮与喹硫平所致异常心电图对比分析

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目的：通过对长期使用利培酮与喹硫平所致异常心电图的对比分析，以便更有效、更合理的使用药物。

方法：1、选自2024年7月-2024年8月，符合精神疾病分类方案及ICD-10诊断标准首次诊断为精神分裂症患者并住本院；2、以往未服用任何抗精神病药物的患者，且持续单一使用利培酮或喹硫平达2年以上者，入组前心电图检查正常；3、排除其他器质性心脏疾患；4、患者及家属对本次研究内容了解并自愿签署知情同意书；5、年龄20-50之间、体重标准，误差上下不得超过百分之5%，男女比例、文化等无要求。符合入组人员共90例，分别分为利培酮组45例，喹硫平组45例，用药方法，均为单一用药，根据患者的病情、躯体情况和耐受性在规定的药物剂量范围内调整药物剂量。心电图机为：三锐3303B型号12导联，分别取用患者药前、药后半年、药后1年、药后2年四次心电图检查结果，并由心电图专业的主治医师进行分析和诊断。

结果：发生心电图异常共43例，占总研究人数百分比为47.78%，其中利培酮组23例发生率（53.48%），其中窦性心动过速5例、窦性心动过缓5例、心律不齐7例、ST-T低平、倒置4例，QT延长2例。喹硫平组20例发生率（46.52%），窦性心动过速5例、窦性心动过缓5例、心律不齐5例、ST-T低平、倒置3例，QT延长2例。两组均未见偶尔室早、不全右束支传导阻滞。利培酮组与喹硫平组之间心电图异常发生率无显著性差异。

结论：本次对比显示心电图异常发生率较高，考虑与长期服药有关，遂在使用抗精神病药物期间，应做好严密的监测，定期行相关检查，减小药物给躯体带来的负荷。

关键词 利培酮 喹硫平、心电图 精神分裂症

江苏省某地区医务人员职业倦怠的相关影响因素分析

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目的：研究江苏某地区地区医务工作人员抑郁、焦虑、睡眠问题及应对方式对职业倦怠的作用，为调整医务工作人员心理健康状态提供干预思路和理论依据。

方法：采用PHQ-9问卷、GAD-7问卷、匹兹堡睡眠问卷、职业倦怠问卷、简易应对方式问卷对434名南通地区医务人员进行评估，所有数据采用spss25.0进行描述性分析、卡方检验、相关分析及多元线性回归分析。

结果：1、职业倦怠检出率为66.8%，其中轻中重职业倦怠的检出率分别为59.7%、6%和1.2%，婚姻状态、工作年限和年龄不同的职业倦怠检出率差异有统计学意义。2、不同程度职业倦怠者抑郁、焦虑、总睡眠质量发生率之间的比较差异有统计学意义。3、相关分析结果发现：职业倦怠问卷中情绪衰竭、工作态度与焦虑、抑郁、睡眠质量、入睡时间、睡眠时间、睡眠效率、睡眠障碍、催眠药物、日间功能障碍、匹兹堡睡眠总分、消极应对方式呈显著正相关；情绪衰竭、工作态度、成就低落感与积极应对方式呈显著负相关。4、多元线性回归分析发现抑郁、焦虑、日间功能障碍、积极应对方式及消极应对方式对情绪衰竭的预测作用是54.0%；抑郁、焦虑、消极应对方式、积极应对方式、日间功能障碍及睡眠时间对工作态度的预测作用是50.7%；积极应对方式及消极应对方式对成就低落感的预测作用是22.7%。

结论：抑郁、焦虑、睡眠问题、应对方式与职业倦怠有较明显的相关性，对职业倦怠的形成具有明显的预测作用，因此对于一线医护工作人员予适当的心理疏导，改善工作人员的心理健康状态，可以进一步减少职业倦怠感的产生，更好的为患者进行服务。

关键词 职业倦怠；应对方式；抑郁；焦虑

精神科夜班护士睡眠质量影响因素以及职业认同感

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目的：本研究旨在探究精神科夜班护士睡眠质量的影响因素及其与职业认同之间的关系。

方法：通过采用匹兹堡睡眠质量指数（PSQI）与职业认同量表（OIS），对 701 名精神科夜班护士开展横断面调查。运用 Pearson 相关分析方法，检验睡眠质量各因子与职业认同之间的关联性；运用逻辑回归分析，分析睡眠障碍的影响因素。

结果：主观睡眠质量得分、入睡时间得分、睡眠时间得分、睡眠障碍得分、日间功能障碍得分以及 PSQI 总分均与 OIS 总分存在显著负相关（$P<0.001$），表明睡眠质量越差，职业认同水平越低。逻辑回归分析结果显示，好的夜班前一天睡眠质量、少的平均每周夜班频次、少的每月夜班数是影响睡眠质量的保护因素。

结论：精神科夜班护士的睡眠质量对其职业认同具有重要影响，夜班前睡眠质量、夜班频次、夜班数是影响睡眠质量的重要因素。因此，临床应高度重视夜班护士的睡眠健康管理，优化排班制度，以有效提升职业认同感与工作稳定性。

关键词 精神科夜班护士；睡眠质量；职业认同

Clinical Subtypes of Premenstrual Dysphoric Disorder (PMDD) Among Chinese College Students: A Latent Class Analysis

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Objective: Premenstrual dysphoric disorder (PMDD), affecting 2.0% - 5.0% of reproductive-aged women globally, presents diagnostic complexities due to heterogeneous symptom profiles. This study investigates symptom heterogeneity in Chinese female college students to establish clinically meaningful PMDD subtypes.

Methods: A total of 669 Chinese female college students were assessed using a series of questionnaires including the Chinese version of CTDP-DSM-5 (CTDP-C), the Patient Health Questionnaire-9 (PHQ-9), the General Anxiety Disorder-7 (GAD-7) and Premenstrual Symptoms Screening Tool (PSST). Using the Chinese version of CTDP-DSM-5, 218 people were positive for PMDD. We employed latent class analysis (LCA) on the CTDP-C scores to evaluate the validity of empirical definitions concerning PMDD subtypes.

Results: LCA delineated two PMDD subtypes with distinct phenotypic profiles. Class 1 (severe subtype: mean scores 8.78) demonstrated co-occurring psychological symptoms (emotional lability, irritability, anxiety) and physical manifestations (fatigue, bloating, pain). Class 2 (mild subtype: mean CTDP-C score 1.52) exhibited attenuated, atypical symptomatology. Significant interclass differences were observed across 90% of CTDP-C items ($P<0.001$). Physical disease, particularly dysmenorrhea ($P<0.001$), emerged as critical severity amplifiers, suggesting shared pathophysiology.

Discussion: Two distinct subtypes of PMDD have been identified: one characterized by severe symptoms and the other by milder symptoms. Further evaluation of the heterogeneity within PMDD to delineate more precise phenotypes will be essential for advancing future biological and genetic research.

Key Words Key words: premenstrual dysphoric disorder; psychological symptom; physical symptom; subtype

性激素波动是女性抑郁症的先兆，但与男性抑郁症无关

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背景：主要抑郁障碍（MDD）是一种复杂的疾病，具有多种临床亚型，这也导致其发病机制十分复

杂。性激素在MDD各亚型中发挥着重要作用，并在一生中呈现出特定的变化模式。然而，目前对MDD各亚型中性激素特征的研究仍不充分。因此，本研究旨在探讨生命周期内性激素变化对抑郁症状的影响。

方法：本研究使用了2013至2016年国家健康与营养调查（NHANES）的数据。研究样本包括4204名男性和4217名女性，均为18岁及以上。数据集涵盖了生殖状态、患者健康问卷–9（PHQ–9）评分、雌二醇和睾酮水平等变量。

结果：与无MDD者相比，年龄在28至57岁的男性和女性均表现出异常的激素波动。值得注意的是，在女性中，雌二醇水平在28至37岁期间开始异常升高，并预示着MDD组中38至57岁女性抑郁症状更为严重。在PHQ各项分析中，MDD女性在疲劳（第4项）得分显著高于男性，而在失眠（第3项）得分则显著低于男性（$P < 0.05$）。在无MDD组中，除精神运动性激越（第8项）和自伤或自杀意念（第9项）外，男性在所有抑郁症状的得分均显著低于女性（所有$P < 0.05$）。

结论：与年龄相关的性激素波动与男女抑郁症状呈现相关性，其中女性早期的雌激素变化可预测围绝经期抑郁的严重程度。男女不同年龄段的抑郁症状亦存在差异。这些发现突显了根据性别和特定年龄段的激素波动来识别抑郁症亚型的重要性。

关键词 抑郁障碍；性激素；临床亚型；性激素；年龄；性别

舞动疗法联合亲子团体心理辅导在青少年抑郁患者中的应用

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目的：探讨舞动疗法联合亲子团体心理辅导在青少年抑郁患者中的应用。

方法：将2023年1月~2024年10月本院收治的青少年抑郁患者94例纳入研究，采用电脑随机抽样法分为2组，各47例。对照组予常规治疗和护理干预，观察组则在此基础上实施舞动疗法联合亲子团体心理辅导。即以3~10人组成小组，以小组活动的形式引导患者进行放松操练习，带领患者在音乐节奏下进行各类舞蹈的练习，以敲击、弹动、浮动等元素为演变，可不拘泥于舞蹈的种类，以患者抒发内心感受为主；引导患者用肢体语言表达情感，也可进行即兴舞蹈创作，并以小组讨论的形式来表达对于活动的感受。此外，将患者与其家长组成一个团体，开展亲子团体活动和心理辅导，每次确定1个主题，并鼓励患者及其家长表达内心感受，如患者在学习、生活中对于父母教育方式的想法和建议，以及患者父母对患者的情感表达等。可同时设计多种亲子活动，如球类活动、肢体接触活动、猜谜语等，加强患者与父母之间的情感沟通。护士应在旁进行有效的引导，鼓励患者分享经历或心路历程，做好桥梁作用，帮助患者及其家长互相理解并进行有效沟通。评价和比较两组患者干预前后的焦虑、抑郁程度；比较两组干预前后的手机社交媒体依赖情况和自伤行为。

结果：干预前两组焦虑、抑郁评分相似，无统计学差异（$P>0.05$）；实施舞动疗法联合亲子团体心理辅导后，观察组的焦虑、抑郁评分改善明显优于对照组，有统计学意义（$P<0.05$）。干预前两组手机社交媒体依赖情况和自伤行为评分相似，无统计学差异（$P>0.05$）；观察组经干预后的手机社交媒体依赖情况和自伤行为评分均低于对照组，有统计学差异（$P<0.05$）。

结论：对青少年抑郁患者实施舞动疗法联合亲子团体心理辅导，通过音乐联合舞蹈干预可有效宣泄患者心中的负面情绪，有效改善其焦虑、抑郁程度，而亲子团体心理辅导则有助于加深患者及其家长之

间的交流，互相理解，缓解患者对于父母的抵触情绪，有助于缓解其手机社交媒体依赖和自伤行为，促进青少年身心健康。

关键词 舞动疗法；亲子团体心理辅导；青少年；抑郁

住院精神分裂症患者跌倒风险感知及影响因素研究

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目的：调查住院精神分裂症(SP)患者跌倒风险感知现实状况并分析其产生影响的重要因素，为制定有效针对性的跌倒风险因素感知干预相关措施提供参考。

方法：选取2024年12月–2025年2月年江苏省某三甲精神专科医院同时期住院SP患者，患者一般资料、阳性与阴性症状量表（PANSS）、Tilburg衰弱量表、匹兹堡睡眠质量指数量表（PSQI）、患者跌倒风险感知量表为因变量进行调查，采用单因素分析及多元线性回归分析住院SP患者跌倒风险感知的影响因素。

结果：有效回收调查问卷130份，回收有效率为94.9%。住院SP患者跌倒风险感知得分为（15.07 ± 12.31）分。通过多元线性回归结果提示，患者的性别、是否发生过骨折、近一年发生过跌倒、衰弱是住院SP患者跌倒风险感知水平的影响因素（$p<0.05$）。

结论：住院SP患者跌倒风险感知水平较低，精神科护士应准确评估患者的跌倒风险，根据其影响因素进行针对性干预，减少精神科住院SP患者跌倒不良事件的发生，提升患者的安全管理。

关键词 精神分裂症；住院期间；跌倒；风险感知；影响因素分析

间歇性θ爆发刺激干预精神分裂症阴性症状的疗效研究：一项双盲的随机对照试验

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1.研究目的：本研究旨在系统评估间歇性θ爆发刺激对精神分裂症（SCH）患者阴性症状的治疗效应，同时探讨其对神经认知功能的改善潜力及该治疗的安全性和可接受性。

2.材料与方法：

2.1 研究设计：本研究为随机、双盲对照的临床试验

2.2 受试者：入组标准为：符合DSM–5诊断标准的SCH患者；年龄18–60岁；病情稳定至少6月；具有持久性阴性症状；视力、听力正常，无语言交流障碍。排除标准：患有脑器质性疾病和脑外伤史、内分泌疾病史；有精神发育迟滞、酒精和药物依赖病史等。

2.3 干预措施

对入组患者进行随机化分组，靶点为左侧背外侧前额叶皮质区，治疗2周，一天2次，一周5天的治疗。基线，治疗结束后我们进行临床精神症状和神经认知评估，治疗3个月后再进行随访。

2.4 评估工具

阴性症状评估：使用阴性症状量表（PANSS阴性部分，SANS，BNSS）和阳性阴性症状量表（PANSS）。

神经认知功能评估：连线测试A和B，数字广度测试，数字划消测试，画钟测试，语言流畅性测试。

安全性评估：记录治疗期间的不良事件，包括头痛、头晕、针刺感、疼痛感等。

2.5 数据分析

本研究中，我们采用SPSS 29 进行数据统计分析，并运用GraphPad Prism和Origin 21软件进行数据可视化作图，显著性水平统一设定为$P < 0.05$。

3.结果

2024年3月10日至2024年12月10日，我们在徐州医科大学附属东方医院最终分析39例（真刺激组20例，假刺激组19例）。（1）两组基线特征具有可比性：真刺激组与假刺激组在年龄、性别、教育程度、发病年龄、病程、体重、氯丙嗪当量，以及精神临床症状量表与神经心理学量表评估基线具有可比性差异均无统计学意义（$P > 0.05$）；（2）干预前后：真刺激组在SANS、BNSS、PANSS及其阴性症状子量表的干预前后差值上显著优于假刺激组；真刺激组在语言流畅性、数字广度倒背、数字划消测试中的干预前后差值显著优于假刺激组；（3）组内比较：真刺激组的PANSS总分、阴性症状、一般症状、阳性症状得分在治疗前后差异显著。假刺激组仅阴性症状和一般症状得分在治疗前后差异显著（$P < 0.05$）；进一步子维度比较，真刺激组在多个维度优于假刺激组。（4）3个月随访：真刺激组的阴性症状评分在随访期间呈现显著下降趋势。（5）不良反应：真刺激组：有1例患者出现了头痛症状，1周内自行缓解；伪刺激组：有1例患者感到头晕，1周内自行缓解。

4.结论

本研究结果表明，iTBS在改善SCH患者的阴性症状和神经认知方面具有显著疗效，且具有良好的治疗安全性及耐受性。此外，研究观察到iTBS可能具有延迟效应。本研究团队目前正在开展更大样本量、多中心的随机对照试验，旨在进一步验证iTBS的临床疗效，并探索其潜在的治疗机制。

关键词 精神分裂症 间歇性θ爆发刺激 阴性症状 神经认知

电休克与磁休克治疗对边缘系统结构影响的对照研究

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目的：精神分裂症物理治疗中脑结构改变的机制尚不明确，本研究通过多模态影像技术重点探讨：①电休克治疗（ECT, Electroconvulsive Therapy）与磁休克治疗（MST, Magnetic Seizure Therapy）对杏仁核体积的动态影响规律；②ECT与MST诱导的皮层厚度改变模式差异；③ 脑结构参数与认知功能变化的量化关联，为优化治疗靶点选择提供神经影像学依据。

方法：本研究采用前瞻性队列研究，采用治疗前后自身对照设计，连续纳入35例18–45岁急性期精神分裂症患者（PANSS总分≥70），随机分为ECT组（n=16）和MST组（n=18）。由两名资深精神科医师采用盲法进行PANSS评分，改良版RBANS量表重点检测语义流畅性、延迟回忆等易损维度，3.0T MRI采集3D–T1结构像，基于表面的形态学分析（SBM）检测杏仁核体积变化，应用FSL–VBM工具包进行纵向分析。

结论：治疗4周后，两组杏仁核体积均未出现显著变化；ECT组右侧海马旁回皮层厚度减少，该改变与延迟回忆下降显著相关，而MST组未观察到类似结构改变；MST组在语言流畅性及注意力维持等认知维度表现出显著保护优势。

讨论：本研究发现ECT与MST对边缘系统核心结构的影响存在显著差异，MST通过避免海马旁回等记忆相关脑区的结构改变，为减少认知副作用提供了神经解剖学解释，这对发展精准化神经调控策略具有重要指导价值。

关键词 杏仁核体积；电休克治疗；磁休克治疗；认知功能；精神分裂症

Factors influencing the marriage status in severe mental disorder: a study of 5206 patients in China

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Background: People with severe mental disorders (SMD) have higher rates of unmarriage and divorce than the general population. SMDs are known to have a high incidence, high recurrence rate, high disability rate, and heavy disease burden. These disorders can severely impair a patient's social functioning, potentially leading to violent behavior and endangering public safety. In China, hospitalization costs are high, so many low-income families opt for home treatment, and approximately 70% of patients with SMDs live with their families. The purpose of this study was to investigate the factors influencing the marriage status of SMD patients in the community, so as to strengthen the monitoring of patients and improve the quality of life of patients, and reduce the recurrence of patients' disease and the occurrence of risky behaviors.

Methods: The cases and follow-up data were collected from SMD patient Information Management system in Jiangning District, Nanjing, Jiangsu Province. The demographic and clinical data of the patients were described and analyzed. SPSS 26.0 version was used for data analysis. The categorical variables and continuous variables between the two groups were analyzed by Chi-square test and two-sample t test, respectively. The three groups of categorical variables and continuous variables were tested by Chi-square test and one-way ANOVA respectively. Multiple comparisons were adjusted by Bonferroni with $P < 0.05$. Disordered multi-classification logistic regression analysis was used to find out the most relevant factors with marital status in SMD patients.

Results: Among 5206 SMD patients in Jiangning District, 33.9% (1765/5206) were unmarried and 6.4% (335/5206) were divorced. The disordered multi-classification logistic regression analysis indicated that age, male gender, more hospitalizations, longer duration of disease, guardians being parents or siblings, no mental disability certificate and diagnosis of mental retardation with mental disorder were associated with the unmarried in SMD patients (compared to married patients). Compared with married SMD patients group, junior high school education degree and above and more hospitalizations were risk factors for divorce in community SMD patients, and guardians

being spouses or children, guardians being parents or siblings were protective factors for divorce in these patients.

Discussion: Our findings suggest that community SMD patients have a higher incidence of being unmarried and divorce. Approximately 1765 (33.9%) patients were unmarried, and 335 (6.4%) patients were divorced. Our results showed that being male, having a diagnosis of mental retardation with a mental disorder, not having a mental disability certificate, frequent hospitalization, a long course of disease, being young, and having parents or siblings as guardians were all risk factors for being unmarried in community psychiatric patients. Having a junior high school education degree or higher, a higher number of hospitalizations, having spouses or children as guardians, and having parents or siblings as guardians were risk factors for divorce in patients with SMDs in the community. These factors are interconnected and impact the marital stability of patients. Therefore, in formulating relevant policies and providing social services, we need to consider these influencing factors comprehensively in order to provide more comprehensive and personalized support for patients. Caring for these patients by a family guardian was found to be a beneficial factor in maintaining the stability of the patient's disease. Given that marriage helps strengthen family-based support and care, it provides valuable information for policy makers around the world to develop plans to increase marriage rates among people with SMD. In this way, SMD patients can get better monitoring, improve the quality of life of patients, reduce the recurrence of patients' diseases and the occurrence of dangerous behaviors, and better maintain social security.

Key Words Severe Mental Disorder; Marital status; Influencing factor; Multi-classification logistic regression analysis

颞叶与岛叶皮层变薄与中国缺陷型精神分裂症患者的阴性症状及注意力缺陷相关

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背景：精神分裂症显著的临床异质性为其神经生物学机制研究带来挑战。缺陷型精神分裂症（DS）的概念为解析其异质性提供了重要框架。越来越多的证据表明，缺陷型（DS）与非缺陷型精神分裂症（NDS）存在显著差异，提示DS可能代表一种独立的疾病实体。

方法：本研究旨在利用FreeSurfer分析中国样本中NDS患者与健康对照组（HC）的皮层厚度特异性变化，并探讨DS患者大脑皮层厚度改变与阴性症状及注意力缺陷的潜在关联。共纳入142名受试者（48名HC、50名NDS及44名DS），接受MRI扫描并完成精神病理学严重程度及认知功能评估。结果：与HC相比，DS与NDS患者均显示右侧岛叶皮层普遍变薄，而DS患者的左缘上回皮层变薄更为显著。此外，DS患者的颞叶及岛叶皮层变薄程度与阴性症状及注意力缺陷呈显著相关。结论：DS患者特定脑区的皮层变薄与其临床及认知症状具有特异性关联。

关键词 缺陷型精神分裂症；非缺陷型精神分裂症；大脑皮层厚度；阴性症状；神经心理评估

海洛因成瘾者戒断期血清尿酸水平研究

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目的：探讨海洛因成瘾者戒断期患 者UA水平差异，并与精神分裂症患者和正常对照 进行比较，为嘌呤代谢紊乱可能参与海洛因戒断困难提供进一步理论依据。

方法：选取连云港市第四人民医院2024年1月至2024年12月美沙酮门诊戒断海洛因患者及连云港市第四人民医院2024年1月至2024年12月精神科关闭病区住院患者，采用随机数字表法将其分为美沙酮成瘾戒断组、精神分裂症组与对照组。各组患者均抽血查UA水平。比较几组患者的UA水平，进行比较。

结果：双相情感障碍组、精神分裂症组与对照组UA 水平 三组间年龄（F=1.31，P=0.27）、性别（χ 2= 0.04， P=0.98）差异均无统计学意义。三组间UA 水平存在统计学差异（F=18.32， P<0.01），两两比 较，各组间UA水平差异均有统计学意义（P< 0.05）。

结论：UA水平升高可能是海洛因成瘾戒断困难的素 质性标记物，而非状态标记物。

关键词 海洛因成瘾；戒断；血清尿酸水平

青少年重度抑郁症皮层厚度特征及其发育延迟的MRI研究

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背景：情绪调控相关脑区皮层厚度异常与心境障碍密切相关，但青少年重度抑郁症（MDD）患者是否存在特征性皮层厚度改变仍存争议。

方法：纳入47例符合DSM–5诊断的青少年MDD患者及35例健康对照（HC），采用FreeSurfer 7.3分析全脑皮层厚度，通过线性回归模型探讨患者皮层厚度与年龄、临床症状（汉密尔顿抑郁量表–17项）及心理特征（SCL–90量表）的关联。

结果：MDD组与HC组的全脑皮层厚度无统计学差异（FDR校正$p > 0.05$）。MDD患者组中，年龄增长与皮层厚度呈显著负相关（$\beta = -0.32$，$p= 0.028$），且该关联独立于抑郁严重程度及心理症状评分。

结论：本研究首次报道青少年MDD患者皮层厚度随年龄增长的异常变薄模式，提示皮层成熟延迟可能是青少年MDD神经发育机制的重要生物学标记。

关键词 重度抑郁症；青少年；皮层厚度；FreeSurfer；神经发育

基层精神科门诊对老年精神障碍患者超说明书用药的初步探讨

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目的：探讨精神科门诊对老年期精神障碍的超说明书用药的风险与安全性、对策。

方法：调取某基层精神科专科门诊65岁以上老人门诊诊断等信息，用ICD–11对诊断进行初步分类，每类10例以下的全部入组，多于10例，随机抽取10例，200例以上按不少于5%入组。对老人的处方用药按《临床技术操作规范》精神病学分册的抗精神病药、抗抑郁药、心境稳定剂、抗焦虑药进行分类，与药品说明书中的警示语、适应症、用法用量、注意事项、老年用药等进行比较，分析超说明书用药情况。

结果：共入组110例，精神科门诊老人的处方用药的情况：抗精神病药63例、抗抑郁药38例、心境稳定剂8例、抗焦虑药57例、其他17例，单一用药44例、二种及以上66例。有超说明书用药情况的84例（76.4%），其中有10例违反药品说明书的警示语，有81例超适应症，有13例超用量用法，有30例未尽到注意事项中的提示（其中以联合用药注意的问题突出，未包括其他疾病的用药），违背老年用药说明的有2例。

讨论：基层精神科门诊对老年人超说明书用药严重，以超适应症用药为主，对说明书中的注意事项也未能尽到注意，存在相当的困境与潜在的风险。临床应以患者安全为核心，改善老年期精神障碍患者的生活质量为原则，依法制定超说明书用药规范、指南及管理制度，并做好对处方、医嘱的审核，开展临床用药质控，重视用药前评估、尽可能减少联合用药，必要的多学科参与，让精神科对老人的超说明书用药安全、合理、规范，已经势在必行。

关键词 精神科门诊 老年人 超说明书用药

肠道菌群变化对慢性精神分裂症患者发生代谢综合征的影响

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目的：探讨慢性精神分裂症患者与健康人群肠道菌群的差异性，并分析伴有代谢综合征的精神分裂症患者与不伴有代谢综合征的精神分裂症的肠道菌群差异，分析肠道菌群失调在导致精神分裂症患者发生代谢综合征中的作用，并评估通过调节菌群改善症状的潜在治疗策略。

方法：病例对照研究：纳入以伴有代谢综合征的精神分裂症患者（10例）、不伴有代谢综合征的精神分裂症患者（10例）与健康人群（20例），通过16S rRNA测序技术分析肠道菌群组成差异。

多组学技术：结合单细胞转录组测序、物种注释及统计学方法（如LEfSe分析、Spearman相关性分析），解析菌群与代谢的互作机制。

结果：精神分裂症组和健康人群菌群特征差异：

精神分裂症患者α–多样性与健康人群没有明显差异，β–多样性显著低于健康人群，聚类更紧密，Lefse发现71种菌群相对丰度有明显差异，37种菌群患者组比健康组相对丰度较高，34种菌群健康组比患者组相对丰度较高。

精神分裂症患者组独有Campilobacterota（环孢菌门）、Spirochaetota（螺旋体门）两种菌群。

指示物种分析发现有Fusobacteriota、Cyanobacteria两种门水平的菌群存在明显的差异，健康人群普遍高于患者组。

伴有代谢综合征与不伴有代谢综合征的精神分裂症患者组特征差异：

α多样性没有明显差异，β多样性差异明显。

VENN图提示提示代谢综合征组独有Campilobacterota（环孢菌门）、Acidobacteriota（酸杆菌门）两种菌群。

指示物种分析发现有Fusobacterium、Bilophila、Senegalimassilia三种属水平的菌群存在明显的差异，代谢综合征组组普遍高于非代谢综合征组。

Lefse表发现22种菌群代谢综合征组比不伴有代谢综合征组组相对丰度较高，5种菌群健康组相反。

结论：精神分裂症患者的肠道菌群组成与健康人群相比差异明显，且特定菌属与代谢综合征的发生密切相关。肠道菌群可能通过肠–脑轴（如免疫激活、代谢物分泌、迷走神经信号）影响中枢神经功能，进而参与疾病的发生发展。调节菌群（如益生菌、粪菌移植）或成为潜在治疗策略，但仍需进一步验证其安全性和机制。未来研究需结合单细胞多组学技术，深入解析菌群与神经发育、免疫调控的动态互作，为个性化干预提供依据。

关键词 精神分裂症；肠道菌群；代谢综合征；慢性精神分裂症患者

正念疗法辅助舍曲林治疗沂蒙山地区青少年抑郁障碍的临床效果研究

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本研究旨在探讨正念疗法辅助舍曲林治疗沂蒙山地区青少年抑郁障碍的临床效果。2024年5月1日至2025年3月31日对沂蒙山区12–18岁70例青少年抑郁障碍患者采用随机分为实验组和对照组，各35例。对照组采用舍曲林治疗，实验组在对照组基础上加用正念疗法。治疗前、治疗过程中及治疗结束后，采用专业的抑郁评估量表等对两组患者的抑郁症状进行评估。同时评估患者的社会功能、依从性等方面的变化，记录过程中的不良反应。结果显示，实验组抑郁评分显著低于对照组。结论：正念疗法辅助舍曲林治疗沂蒙山地区青少年抑郁障碍临床效果显著，且安全性良好。

目的：通过对比单纯使用舍曲林治疗与舍曲林联合正念疗法的治疗效果，评估正念疗法在辅助药物治疗中的有效性，特别是对青少年抑郁障碍的改善程度。本研究旨在为该地区提供一种可行且有效的治疗方案，以改善当地青少年的心理健康状况。通过结合药物治疗和心理干预，本研究旨在提高患者的治疗依从性、社会功能，并探索长期疗效，以预防抑郁复发。

方法：1、分组设计：随机将研究对象分为实验组和对照组。 实验组：给予舍曲林药物治疗的同时，辅助正念疗法。对照组：单一舍曲林药物治疗，按照常规剂量和方案。

评估指标：治疗前、治疗过程中及治疗结束后，采用专业的抑郁评估量表对两组患者进行评估。同时评估患者的社会功能、依从性等方面的变化。

结果：结果显示，正念疗法辅助舍曲林治疗沂蒙山地区青少年抑郁障碍临床效果显著。实验组评分显著低于对照组，总有效率显著高于对照组，且不良反应发生率无显著差异。这表明正念疗法能够增强舍曲林的抗抑郁效果，且不增加不良反应风险。

结论：正念疗法辅助舍曲林治疗沂蒙山地区青少年抑郁障碍临床效果显著，可有效改善患者抑郁症状，且安全性良好。建议在临床实践中推广应用该治疗方案，以提高沂蒙山地区青少年抑郁障碍的治疗效果。未来研究可进一步探讨正念疗法的作用机制及长期疗效

关键词 青少年抑郁障碍、正念疗法、舍曲林

电休克治疗对精神分裂症的免疫调节机制新进展

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目的：精神分裂症是一种病因复杂、致残率高的严重精神障碍。电休克治疗（ECT）作为其重要治疗手段，可能通过免疫调节机制发挥疗效。本文旨在综述 ECT 对精神分裂症患者免疫炎症标志物、细胞因子网络及犬尿氨酸代谢途径的调节作用，探讨其潜在机制及临床意义。

方法：通过系统检索国内外数据库，筛选近五年内与 ECT 治疗精神分裂症免疫调节相关的临床研究、动物实验及综述文献。结合观察性研究、系统综述、荟萃分析和实验性研究数据，分析 ECT 对促炎/抗炎细胞因子、免疫炎症标志物（如 BDNF、VEGF、白细胞亚群）及犬尿氨酸代谢途径的影响，并总结其机制与临床疗效的关联。

结果：研究显示，ECT 可降低精神分裂症患者促炎因子（如 TNF–α、IL–18）的表达，同时调节抗炎因子（如 IL–10）水平，改善 Th1/Th2/Th17/Treg 平衡。动物实验表明，ECT 通过抑制 IL–17、NF–κB 及 TNF 信号通路减轻神经炎症。ECT 治疗后，患者血浆脑源性神经营养因子（BDNF）水平显著升高，且与症状改善相关；中性粒细胞与单核细胞比值（NLR、MLR）降低，淋巴细胞基线水平可预测阳性症状改善。ECT 通过调节犬尿氨酸（KYN）与色氨酸（TRP）的代谢平衡，降低 KYNA/TRP 比值，减少神经毒性代谢产物喹啉酸（QA）的积累，从而改善神经炎症和认知功能。低炎症患者经 ECT 后代谢指标改善更显著。ECT 还通过调控下丘脑 – 垂体 – 肾上腺轴（HPA 轴）、抑制小胶质细胞活化及氧化应激反应，整合神经与免疫系统的相互作用，最终缓解精神病理症状。

讨论：现有研究揭示了 ECT 通过多途径调节免疫炎症的潜在机制，但其临床应用仍面临挑战。多数研究样本量较小，且集中于抑郁症患者，需更多针对精神分裂症的大规模临床验证。细胞因子网络复杂，现有研究多聚焦单一因子，需系统性分析动态变化。犬尿氨酸代谢与炎症的交互作用机制尚未完全阐明，需结合代谢组学与基因组学深入探索。未来研究可借助人工智能和系统生物学技术，建立精准治疗模型，优化 ECT 在精神分裂症中的应用。

总结：总之，ECT 通过调节免疫炎症标志物、细胞因子平衡及犬尿氨酸代谢途径，在精神分裂症治疗中发挥重要作用。尽管机制研究取得进展，仍需多学科合作推动基础研究与临床转化的深度融合，为患者提供更高效、个性化的治疗方案。

关键词 精神分裂症；电休克治疗；细胞因子；免疫炎症；犬尿氨酸途径

中老年血脂异常与焦虑、抑郁症状关联研究

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目的：焦虑和抑郁症状是中老年人群常见的精神症状，治疗这两种症状的方法效果并不理想。因此，需要从识别风险因素入手，为开发焦虑和抑郁症状的防治新策略提供依据。血脂异常同样高发于中老年人群，既往研究已观察到血脂异常与焦虑和抑郁症状之间存在关联。然而，由于样本量较小等因素，既往研究发现的血脂异常与焦虑和抑郁症状的关联方向并不一致。本研究旨在基于大样本数据，通过倾向评分匹配（PSM）分析控制多种协变量，深入探讨中老年人群血脂异常与焦虑和抑郁症状之间的关联。

方法：本研究依托英国生物银行的数据资源，纳入了四种依据指南定义的血脂异常，包括胆固醇升高（> 200 mg/dL）、高密度脂蛋白降低（< 40 mg/dL）、低密度脂蛋白升高（> 130 mg/dL）以及甘油三酯升高（> 150 mg/dL）。同时纳入了精神健康量表评估的焦虑症状和抑郁症状；此外，还考虑了71种协变量，包括4个人口统计学因素、5项生理指标、4个生活方式因素、药物使用、评估中心、种族、前40个遗传主成分以及15种疾病大类。采用PSM分析，将特定类型的血脂异常个体按1:1与PSM评分相近（< 0.1）的正常个体进行配对，以确保71种协变量在组间保持平衡。随后，分别运用逻辑回归分析和Cox比例风险模型，探究血脂异常与焦虑、抑郁症状的横断面及纵向关联。

结果：横断面分析共纳入了306,038名被试，平均年龄（SE）为56（8.10）岁，其中男性150,767例（占49.26%）。逻辑回归显示，甘油三酯升高与焦虑(OR = 1.22, P = 7.41 × 10–28)和抑郁(OR = 1.17, P = 3.25 × 10–10)症状显著正相关。纵向分析则纳入了104,751名个体，中位随访时间为7.60年，他们在基线期的年龄（SE）为56（7.76）岁，其中男性48,949例（占46.73%）。Cox比例风险模型揭示，基线期甘油三酯升高会增加未来出现焦虑症状(HR = 1.08, P = 5.90 × 10–5)和抑郁症状(HR = 1.04, P = 6.12 × 10–4)的风险。敏感性分析表明，甘油三酯与焦虑、抑郁症状之间的横断面和纵向关联不受血脂异常阈值、倾向性评分估算方法以及四种血脂异常间关联的影响。其他三种血脂异常与焦虑、抑郁症状之间的关联并不显著

结论：甘油三酯升高是中老年焦虑症状和抑郁症状的独立风险因素，其他三种血脂异常与焦虑症状和抑郁症状的关联并不显著。

关键词 中老年、焦虑症状、抑郁症状、血脂异常、甘油三酯升高、倾向性评分匹配

Increased GDF−15 in Chronic Male Patients with Schizophrenia: Correlation with Body Mass Index and Cognitive Impairment

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Aim：Growth Differentiation Factor−15 (GDF−15), a stress−responsive cytokine belonging to the transforming

growth factor-β (TGF-β) superfamily, is increasingly recognized for its dual roles in metabolic regulation and inflammatory processes. Elevated circulating GDF-15 levels have been associated with diverse conditions, including cardiovascular diseases, obesity, and mood disorders, where it may act as a compensatory anti-inflammatory mediator. In schizophrenia—a severe psychiatric disorder characterized by cognitive deficits and high rates of metabolic comorbidities—emerging evidence suggests immune dysregulation and chronic low-grade inflammation as potential contributors to its pathophysiology. Despite this, the role of GDF-15 in schizophrenia remains underexplored, particularly in the context of its interaction with cognitive impairment and metabolic abnormalities such as elevated body mass index (BMI).

Methods: This observational, cross-sectional, case-control study enrolled 72 male CS patients (diagnosed via DSM-IV criteria, illness duration ≥2 years, stable antipsychotic doses for ≥12 months) and 85 age-, BMI-, and education-matched HC. Cognitive function was assessed using the Repeatable Battery for the Assessment of Neuropsychological Status (RBANS), and psychiatric symptoms were quantified with the Positive and Negative Syndrome Scale (PANSS). Serum GDF-15 concentrations were measured via enzyme-linked immunosorbent assay (ELISA; sensitivity: 10 pg/mL). Statistical analyses included ANCOVA (adjusting for age, smoking, and education), Pearson's correlation, and logistic regression (covariates: age, BMI, education, smoking, and chlorpromazine-equivalent antipsychotic dose).

Results: Male CS patients exhibited significantly worse performance than HC across all RBANS domains, including total score (Bonferroni-corrected $p < 0.05$). Serum GDF-15 concentrations (log-transformed) were markedly elevated in CS patients compared to HC (2.18 ± 0.25 vs. 2.02 ± 0.32 pg/mL; ANCOVA-adjusted $F = 12.917$, $p < 0.001$). In CS patients, log-transformed GDF-15 levels correlated positively with body mass index (BMI) ($r = 0.322$, $p = 0.006$) and inversely with delayed memory ($r = -0.353$, $p = 0.002$), immediate memory ($r = -0.252$, $p = 0.032$), and total RBANS score ($r = -0.289$, $p = 0.014$). These associations remained significant after adjusting for age, illness duration, education, smoking, and antipsychotic dose (chlorpromazine equivalents). Logistic regression confirmed elevated GDF-15 as an independent risk factor for schizophrenia (adjusted odds ratio [OR] = 2.326, 95% confidence interval [CI] = 1.208 – 4.481; $p = 0.012$), with BMI identified as a confounding variable (OR = 0.905, 95% CI = 0.821 – 0.997; $p = 0.044$).

Conclusion: Elevated serum GDF-15 levels in chronic schizophrenia are associated with cognitive deficits and higher BMI, suggesting a potential role for GDF-15 in metabolic and neurocognitive pathophysiology. These findings highlight GDF-15 as a candidate biomarker and therapeutic target for schizophrenia-related comorbidities.

Key Words GDF-15, chronic schizophrenia, cognitive impairment, body mass index (BMI), male patients

长期住院男性精神分裂症患者皮肤烟酸敏感度与基质金属蛋白酶指标相关性分析

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目的：探讨长期住院男性精神分裂症患者的皮肤烟酸敏感度与血清MMP-9、MMP-2水平的相关性。

方法：纳入90例符合DSM-5诊断的男性长期住院患者（病程≥5年），和40例年龄、性别、受教育程度、体质量指数、吸烟情况相匹配的健康人群(对照组)，使用浓度分别为0.0001、0.001、0.01、0.1mol/L 的烟酸进行皮肤敏感度测试，ELISA法检测血清MMP-9、MMP-2浓度。以Spearman相关分析及多元回归模型检验变量关联，控制吸烟、年龄、病程、BMI、文化程度及RBANSS等混杂因素。

结果：烟酸浓度为0.0001、0.001、0.01、0.1mol /L，在5 min、10 min、15 min、20 min 时，患者组烟酸皮肤反应分数低于对照组(P＜0.01) 。患者组烟酸反应总分明显低于对照组(t =-6.793，P＜0.01) 。患者组RBANS各项评分均低于对照组(P＜0.01) 。烟酸低反应组和烟酸高反应组PANSS总分及各分量表评分之间差异无统计学意义(P＞0.05) 。烟酸低反应组在即刻记忆、言语功能、延时记忆、RBANS总分方面低于烟酸高反应组(P＜0.05或P＜0.01)。患者组MMP-9、MMP-2浓度显著升高，（P＜0.05）。皮肤烟酸敏感度与血清MMP-9、MMP-2水平呈负相关。

结论：长期住院男性患者的烟酸敏感度降低与血清MMP-9、MMP-2升高显著相关，提示神经炎症可能通过血脑屏障损伤加剧烟酸反应缺陷。本研究支持MMP-9、MMP-2作为潜在生物标志物，需扩大样本验证其机制。

关键词 基质金属蛋白酶 烟酸皮肤反应 精神分裂症

多学科协作（MDT）模式下心理科护理团队的职能转型与效果分析

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目的：针对心理疾病多维度干预需求与护理职能边缘化矛盾，探究多学科协作（MDT）模式下心理科护理团队从被动执行者向核心决策者转型的具体路径，并量化评估其对临床结局、护理质量及团队专业化的影响。

方法：采用混合研究设计，纵向分析淮安市第三人民医院心理科2021年1月至2024年6月收治的586例患者数据，对比MDT实施前后（以2022年7月为分界点）的住院日、再入院率及护理敏感指标；同步对12名护士、8名医生及30例患者进行半结构化访谈，运用角色压力理论框架解析职能转型障碍与促进因素。

结果：角色转型：护理职能扩展至三大维度——协调者（主导89.3%的MDT会议）、教育者（开发6类标准化心理教育课程）、研究者（牵头3项RCT研究）；

患者获益：平均住院日由（18.5 ± 3.2）天缩短至（15.7 ± 2.8）天（t=4.137, p<0.01），护理相关不良事件发生率从7.2%降至5.5%（χ^2=4.862, p=0.027）；团队提升：护士核心能力考核优秀率由42.1%提升至67.9%，医生对护理决策参与度的满意度达91.7%。

结论：MDT模式通过重构护理角色边界与赋能决策权，显著提升心理科服务能级，为建立以护士为主导的协作型精神卫生服务体系提供实证依据。研究同时揭示需通过制度性授权（如赋予护理处方评估权）进一步巩固转型成果。

关键词 多学科协作（MDT）；心理科护理团队；职能转型；护理质量；团队效能

经颅直流电刺激对抑郁症患者睡眠脑电图的影响：一项随机对照研究的本征多尺度熵发现

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目的：经颅直流电刺激（Transcranial direct current stimulation, tDCS）是一种用于治疗重度抑郁症（major depressive disorder，MDD）患者的非侵入性脑刺激方法。在这项研究中，我们确定了抑郁症患者和非抑郁症患者之间的睡眠脑电图（EEG）复杂性的差异。

方法：纳入22名健康对照和37例抑郁症患者。患者被随机分配接受tDCS真刺激（n = 19）或假刺激（n = 18）。为了评估睡眠结构和脑电复杂度，对所有抑郁症患者和健康对照者进行了多导睡眠监测。利用本征多尺度熵（iMSE）量化脑电信号的复杂度。

结果：通过与健康对照者PSG数据的比较，验证了MDD患者快速眼动（REM）睡眠期脑电复杂度的特征性变化。更重要的是，与刺激前相比，真刺激组在tDCS刺激后非快速眼动睡眠1期（N1）的iMSE显著增加，且患者与健康对照组之间不再存在显著差异。假刺激前后，假刺激组与正常对照组在复杂性方面均有显著差异。

讨论：tDCS能使抑郁症患者的N1期睡眠脑电复杂度恢复到正常组的水平。tDCS刺激对抑郁症患者的干预效果具有脑电信号iMSE的特征。

关键词 脑电图，本征多尺度熵，重性抑郁症，N1期，经颅直流电刺激

心理危机干预手机应用程序的研制

汪卫华
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目的：为心理医生提供一款集学习、测评和干预一体的在心理危机中进行自杀行为干预的手机APP。

方法：根据心理危机干预需要设立认知危机、访谈技术、危机评估、实操案例、求助中心、扩展阅读、幻灯教学、咨询记录9个模块，其中自杀评估由国际通用的自杀评估量表和1个自杀行为他评量表构成。

结果：APP能快速给出测评结果，能自动显示危险度并给出针对性的干预意见。经对312名大学生进行自杀倾向筛查，有较高特异性，对31例有自杀意念者自评和他评比较有较高的一致性r=0.48（P<0.01）。对138例精神疾病患者进行测评，APP测评阳性率（43.48%），明显高于访谈结果（31.15%）（P<0.05）。

结论：APP设计合理，知识全面、评估准确，保密性强、携带方便可满足心理危机干预需要，为专业化开展心理危机干预提供了一件实用工具。

关键词 心理危机，自杀, 评估, 干预, APP (Application)

Decreased serum VEGF, NRG1, and Neuropilin-1 levels in male patients with treatment-resistant schizophrenia: implications for VEGF as a protective factor

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Background: Vascular endothelial growth factor (VEGF), Neuregulin-1 (NRG1), Neuropilin-1, and the S100 protein family play crucial roles in the pathophysiology of schizophrenia. This study aimed to investigate the expression patterns of these markers and their clinical implications in male patients with treatment-resistant schizophrenia (TRS) and chronically medicated schizophrenia (CMS).

Methods: In this cross-sectional study, serum levels of VEGF, NRG1 β 1, neuropilin-1, S100B, and S100A8 were measured using the Luminex liquid suspension chip technology in 31 TRS patients, 47 CMS patients, and 47 healthy controls. Psychiatric symptoms and cognitive function were assessed using the Positive and Negative Syndrome Scale (PANSS) and the Repeatable Battery for the Assessment of Neuropsychological Status (RBANS).

Results: Serum levels of VEGF (F=10.835, P<0.001), NRG1b1 (F=10.745, P<0.001), and neuropilin-1 (F=3.579, P=0.031) were significantly decreased in male TRS patients compared to healthy controls. No significant difference was observed in S100B and S100A8 levels across all groups (all P>0.05). Correlation analysis revealed a negative association between NRG1b1 levels and positive scores (r=-0.355, P=0.014), and a significant positive correlation between VEGF levels and language function (r=0.313, P=0.032) in CMS patients. Additionally, VEGF demonstrated potential protective properties in TRS patients (B=-1.098, RR=0.333, 95%CI: 0.131 – 0.849, P=0.021).

Conclusion: This preliminary study found altered serum VEGF levels in TRS patients and suggested potential associations between VEGF and TRS. The data provided preliminary evidence for understanding the biological characteristics and pathological changes in TRS patients.

Key Words Treatment-resistant schizophrenia, Vascular endothelial growth factor (VEGF), Neuregulin-1 (NRG1), Neuropilin-1, Biomarkers

帕利哌酮和阿立哌唑治疗早发精神分裂症患者的效果比较

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目的：精神分裂症的早期干预对预后具有重要影响，但不同抗精神病药物的疗效差异尚需进一步研究。本研究旨在探讨帕利哌酮与阿立哌唑对早发精神分裂症患者的治疗效果及其对神经调节蛋白1

（NRG1）的影响。

方法：采用前瞻性随机对照研究方法，纳入2022年01月至2024年12月在连云港市第四人民医院就诊的早期精神分裂症患者80例。通过随机数字表法将患者分配至帕利哌酮治疗组（n=40）和阿立哌唑治疗组（n=40）。治疗周期为2个月，评估指标包括阳性与阴性症状量表（PANSS）评分、临床疗效以及血清NRG1水平变化。

结果：两组在PANSS评分的组间比较、时间点比较及其交互作用方面均显示显著差异（P＜0.05）。治疗前，帕利哌酮组和阿立哌唑组的PANSS总分分别为（89.62 ± 8.45）分和（88.95 ± 8.31）分，差异无统计学意义（P＞0.05）。治疗1个月后，帕利哌酮组PANSS评分降至（65.34 ± 6.92）分，显著低于阿立哌唑组的（72.46 ± 7.15）分（P＜0.05）；治疗2个月后，帕利哌酮组进一步降至（48.23 ± 5.87）分，继续优于阿立哌唑组的（58.75 ± 6.24）分（P＜0.05）。临床疗效评估显示，帕利哌酮组总有效率为92.5%（37/40），显著高于阿立哌唑组的77.5%（31/40）（P＜0.05）。治疗前两组血清NRG1水平分别为（3.26 ± 0.45）ng/mL和（3.28 ± 0.43）ng/mL，治疗2个月后分别升至（5.87 ± 0.62）ng/mL和（4.92 ± 0.58）ng/mL，帕利哌酮组的提升更为显著（P＜0.05）。不良反应方面，帕利哌酮组和阿立哌唑组的不良反应发生率分别为22.5%（9/40）和25.0%（10/40），差异无统计学意义（P＞0.05），主要表现为嗜睡、锥体外系反应和头晕等。

结论：研究表明，帕利哌酮在改善早发精神分裂症症状、提升血清NRG1水平方面较阿立哌唑具有显著优势，同时保持了良好的安全性。这一发现为早发精神分裂症的药物选择提供了重要的临床参考。

关键词 帕利哌酮；阿立哌唑；早发精神分裂症；神经调节蛋白1；疗效

早发精神分裂症患者神经调节蛋白1水平与认知功能的关联研究

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目的：神经调节蛋白1（NRG 1）在神经元迁移、突触可塑性调节和神经存活中起作用，并被认为是精神分裂症的候选基因之一。本研究旨在研究早发精神分裂症患者血清NRG 1浓度与认知功能的关系。

方法：方法收集60例早发精神分裂症患者和60例健康对照者，测定患者及健康对照组的血清NRG1水平，采用双抗体夹心酶联免疫吸附试验（ELISA）检测血清NRG1水平。采用霍普金斯词汇学习测验修订版（HVLT-R）、言语流畅性测验（VFT）、连线测验（TMT）、数字广度测验（DST）和Stroop测验评价认知功能。

结果：早发精神分裂症患者血清NRG 1浓度显著低于对照组（9.75 ± 0.49对15.52 ± 0.77 ng/mL；F=30.716，P<0.0001，Cohen’s d=1.00），早发精神分裂症患者血清NRG 1浓度与TMT A部分评分呈负相关与Stroop颜色分测验得分呈正相关（r=-0.718，P =0.001）多元回归分析显示，早发患者TMT A部分评分与血清NRG 1浓度、TMT A部分评分与血清NRG 1浓度没有相关性（r=0.298，P=0.028（R2 =0.196，F=10.235，P=0.051）。

结论：研究表明，早发精神分裂症患者血清NRG1水平降低，NRG 1水平降低与认知功能障碍有关。这一发现为早期精神分裂症患者认识功能障碍程度提供了重要临床参考。

关键词 早期精神分裂症；神经调节蛋白1；认知功能

Hormones and bone mineral density correlate with psychopathology in female patients with chronic schizophrenia: implications for osteoporosis risk

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Postmenopausal women with chronic schizophrenia face an increased risk of osteoporosis, yet the relationships among bone mineral density (BMD), sex hormones, thyroid function, and psychiatric symptoms in this population remain unclear. This study aimed to investigate these associations in postmenopausal women with chronic schizophrenia. This cross-sectional study included 165 postmenopausal women with chronic schizophrenia and 166 matched healthy controls, with BMD measured by dual-energy X-ray absorptiometry. Serum levels of estradiol, luteinizing hormone (LH), follicle-stimulating hormone (FSH), prolactin, cortisol, thyroid-stimulating hormone (TSH), triiodothyronine (T3), thyroxine (T4), free T3, and free T4 were assessed. Psychiatric symptoms were evaluated using the Positive and Negative Syndrome Scale (PANSS). The patient group showed significantly lower unilateral total hip BMD ($t = -2.248$, $P = 0.025$), correlating with PANSS general psychopathology scores (beta = 0.217, $P = 0.025$). Lumbar spine (L1 - L4) BMD (beta = -0.184, $P = 0.044$), unilateral femoral neck BMD (beta = -0.256, $P = 0.004$), and unilateral total hip BMD (beta = -0.264, $P = 0.001$) negatively correlated with FSH. T3 negatively correlated with PANSS negative symptom scores (beta = -0.179, $P = 0.025$). Estradiol levels were significantly lower in the osteopenia and osteoporosis groups than in the normal BMD group ($P < 0.05$). TSH and T4 emerged as potential risk factors for osteoporosis compared to osteopenia. This study reveals complex associations among BMD, sex hormones, endocrine function, and psychiatric symptoms in postmenopausal women with chronic schizophrenia, highlighting the need for comprehensive bone health monitoring in this population.

Key Words Bone mineral density; Hormones; Osteoporosis; Psychopathology; Schizophrenia

Prevalence of depression and anxiety among secondary school students and their association with maternal mental health and other risk factors

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Background: Depression and anxiety among secondary school students have become significant public health concerns, yet comprehensive studies examining their prevalence and associated factors, particularly the influence of maternal mental health, are limited.

Methods: A cross-sectional study was conducted among 7850 secondary school students. The Patient Health Questionnaire-9 (PHQ-9), Generalized Anxiety Disorder-7 (GAD-7), and Perceived Social Support Scale (PSSS) were used to assess depressive symptoms, anxiety symptoms, and social support, respectively.

Results: The self-reported prevalence of depressive and anxiety symptoms was 11.6% and 18.1%, respectively. Risk factors for depressive symptoms in secondary school students included female sex (B=0.478, P<0.001, OR=1.613, 95%CI: 1.345 - 1.933), living in a suburban area (B=0.578, P<0.001, OR=1.783, 95%CI: 1.483 - 2.143), maternal PHQ-9 score (B=0.190, P<0.001, OR=1.209, 95%CI: 1.174 - 1.245), and maternal GAD-7 score (B=0.126, P<0.001, OR=1.134, 95%CI: 1.102 - 1.168), with additional risk factors including troubled parental relationships, high academic stress, insufficient physical activity, excessive screen time, and moderate annual household income (all P<0.05). Similar risk factors were identified for anxiety symptoms in secondary school students, with maternal GAD-7 scores showing particular significance (B=0.261, P<0.001, OR=1.298, 95%CI: 1.261 - 1.336). Social support demonstrated a protective effect against both conditions (all P<0.05).

Conclusion: The findings highlighted the considerable prevalence of depression and anxiety among secondary school students and underscored the significant role of maternal mental health and other modifiable risk factors.

Key Words adolescent mental health; depression; anxiety; maternal mental health; risk factors; social support

Correlation Between Oxidative Stress Markers and Niacin Sensitivity in Male Patients with Chronic Schizophrenia

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Background: Schizophrenia is a debilitating mental disorder linked to oxidative stress (OS) and inflammatory dysregulation. Emerging evidence suggests impaired niacin sensitivity in patients, potentially reflecting OS and inflammation. This study investigates correlations between OS markers and niacin sensitivity in male chronic schizophrenia patients to elucidate pathophysiological mechanisms and identify biomarkers.

Methods: A cross-sectional study included 80 male chronic schizophrenia patients and 40 matched healthy controls. Blood samples were analyzed for nitric oxide (NO), nitric oxide synthase isoforms (TNOS, iNOS, cNOS), total antioxidant capacity (TAC), and vitamin E (VE). Skin niacin sensitivity was assessed via erythema response to topical niacin. Clinical symptoms were evaluated using the Positive and Negative Syndrome Scale (PANSS). Statistical analyses (t-tests, ANOVA, logistic regression) compared groups and identified associations.

Results:Patients exhibited significantly lower TNOS, iNOS, cNOS, TAC, and VE levels versus controls ($P < 0.001$).Reduced skin erythema response in patients ($P < 0.001$) correlated with lower TAC and VE.Plasma NO levels positively correlated with PANSS positive symptom scores ($r = 0.370$, $P = 0.004$). TAC was a significant predictor of impaired niacin response (OR = 1.009, $P = 0.022$).

Conclusion: Chronic schizophrenia is characterized by disrupted redox balance and diminished niacin sensitivity, implicating oxidative-inflammatory crosstalk in disease pathology. The weakened niacin response, associated with antioxidant deficits, may serve as a biomarker for oxidative stress severity. These findings underscore the potential of antioxidant therapies to modulate clinical outcomes. Further longitudinal studies are needed to validate causal relationships and therapeutic implications.

Key Words schizophrenia; oxidative stress; niacin sensitivity; nitric oxide; total antioxidant capacity

Prevalence, severity, and risk factors for depression and anxiety symptoms among adolescents: a cross-sectional study

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Purpose: The aim of the current study was to examine the prevalence and severity of self-reported depression

and anxiety symptoms among adolescents in China and to identify important risk factors.

Method: We conducted a cross-sectional survey of 22,925 adolescents using the Patient Health Questionnaire-9 and Generalized Anxiety Disorder-7 for depressive and anxiety symptoms, respectively. Functional constipation (FC) was evaluated using the ROME IV criteria, and social support using the Perceived Social Support Scale.

Results: Depressive symptoms were reported by 16.0%, anxiety symptoms by 24.1%, and FC by 7.8% of participants. Among the total group, 27.5% reported mild, 10.0% moderate, 4.0% moderately severe, and 2.0% severe depressive symptoms, while 23.0% reported mild, 7.2% moderate, and 3.8% severe anxiety symptoms. Female sex, smoking, FC, parental conflict, lower household income, lower levels of physical activity, and longer weekly electronic device use time were identified as significant risk factors for depressive and anxiety symptoms, while age and body mass index were identified as additional significant risk factors for anxiety symptoms. In contrast, received support was identified as a significant protective factor against depression and anxiety symptoms.

Conclusion: Interventions targeting modifiable risk factors such as physical activity, smoking, and excessive electronic device use as well as improved access to support are priorities for addressing the high prevalence of depressive and anxiety symptoms among adolescents.

Key Words adolescent, depression, anxiety, risk factors, functional constipation, PHQ-9, GAD-7

The prevalence of depressive and anxiety symptoms and functional constipation, and related risk factors among Chinese university students

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Background: Depression and anxiety disorders are prevalent mental health problems worldwide, and their prevalence in university students is of particular concern. Meanwhile, functional constipation (FC), a chronic gastrointestinal dysfunction, has a high concomitant prevalence with several mental disorders.

Aim: The aim of this study was to assess the prevalence of depressive and anxiety symptoms, and FC among university students, and to explore possible risk factors.

Methods: A cross-sectional survey was conducted online and general demographic data were collected from 12,721 university students in Jiangsu and Shandong provinces. Depressive symptoms were assessed using the Patient Health Questionnaire-9, anxiety symptoms were measured using the Generalized Anxiety Disorder -7 scale, and FC was assessed using the ROME IV.

Results: The prevalence of self-reported depressive, anxiety, and comorbid depressive and anxiety symptoms was 16.3%, 24.9%, and 13.3%, respectively, among participating students. Furthermore, the prevalence of FC was 22%, and the prevalence among students with depressive symptoms was 1.811 times higher than among students without depressive symptoms. Female gender, parental relationships, and lower household income were significant risk factors for depressive and anxiety symptoms among university students.

Conclusion: This study reveals a higher prevalence of depressive and anxiety symptoms, and FC among the university student population. Given these findings, it is recommended that psychological health services and support systems be strengthened, especially interventions for those at high risk for depressive and anxiety symptoms and FC.

Key Words University students; depression; anxiety; functional constipation; PHQ-9; GAD-7.

Variations in immune regulators in male patients with chronic schizophrenia associated with psychopathology and cognitive deficits

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Background: Immune dysregulation has been identified as a contributing factor in the pathophysiology of schizophrenia. This study aimed to investigate variations in specific immune regulators and their correlation with psychopathology and cognitive functions in male patients with chronic schizophrenia.

Methods: Employing a cross-sectional design, this study included 72 male patients with chronic schizophrenia. The Positive and Negative Syndrome Scale (PANSS) and the Repeatable Battery for the Assessment of Neuropsychological Status were utilized to assess psychopathology and cognitive functions, respectively.

Results: Serum levels of interleukin (IL)-4, IL-10, IL-12p40, IL-13, and monocyte chemoattractant protein-1 (MCP-1) were measured. There were significantly increased levels of IL-4, IL-13, and MCP-1, alongside decreased levels of IL-10 in patients compared to controls (all $P<0.05$). Inverse correlations between IL-4 levels and PANSS positive symptoms (beta=-0.222, P=0.042), and positive correlations of IL-4 (beta=0.297, P=0.008), IL-13 (beta=0.371, P=0.001), and MCP-1 (beta=0.280, P=0.013) with language scores were observed. Increased levels of IL-4 (P=0.044, OR=1.994), IL-13 (P=0.019, OR=2.245), as well as IL-4 and MCP-1 interactions (P=0.043, OR=2.000) were positively associated with the risk of chronic schizophrenia, while lower levels of IL-10 (P=0.003, OR=0.2.867) were also linked to an increased risk.

Conclusion: The identified associations between specific immune markers and the clinical and cognitive features of chronic schizophrenia in males underscored the potential immune-mediated mechanisms underlying schizophrenia.

Key Words Schizophrenia, immune dysregulation, cognitive deficits, PANSS, RBANS

Altered fibroblast growth factor-2, epidermal growth factor, and transforming growth factor-α serum concentrations in male patients with chronic schizophrenia: Implications for cognitive function and disease risk

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Background: Growth factors (GFs) are essential regulators of neurodevelopment and neuroplasticity, and GF dysregulation is strongly implicated in the pathophysiology of schizophrenia. This study investigated if serum concentrations of epidermal growth factor (EGF), fibroblast growth factor-2 (FGF-2), and transforming growth factor-alpha (TGF-α) are altered in male patients with chronic schizophrenia and associated with cognitive dysfunction.

Methods: Serum GF levels were measured in serum samples from 76 male patients with chronic schizophrenia and 73 age- and education-matched healthy controls (HCs) using Luminex technology. Clinical symptoms were assessed in the patient group using the Positive and Negative Syndrome Scale (PANSS), while cognitive functions were examined in all subjects using the Repeatable Battery for the Assessment of Neuropsychological Status (RBANS).

Results: Patient serum contained significantly lower concentrations of EGF ($t = -3.522$, $p = 0.001$) and FGF-2 ($t = -4.606$, $p < 0.001$), but a higher concentration of TGF-α ($t = 4.268$, $p < 0.001$). There was a weak positive correlation between serum EGF and TGF-α concentrations in the patient group ($r = 0.273$, $p = 0.018$). Patients also demonstrated significant positive correlations between serum EGF and both RBANS language subscore ($r = 0.267$, $p = 0.021$) and RBANS total score ($r = 0.346$, $p = 0.002$), between serum FGF-2 and language subscore ($r = 0.388$, $p = 0.001$), and between serum TGF-α and visuospatial/constructional subscore ($r = -0.330$, $p = 0.004$). Low FGF-2 was independently associated with schizophrenia risk (RR = 0.844, 95% CI: 0.719 - 0.990, P = 0.037).

Conclusion: The serum concentrations of EGF, FGF-2, and TGF-α are altered in chronic schizophrenia and associated with cognitive impairments. Serum FGF-2 may serve as a biomarker for disease risk.

Key Words Schizophrenia; Epidermal growth factor; Fibroblast growth factor-2; Transforming growth factor-α; Disease risk; Cognitive function.

Effects of high-frequency repetitive transcranial magnetic stimulation on body weight in chronic obese schizophrenia individuals hospitalized for extended periods.

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Aim: This study evaluated the effects of 10Hz rTMS on weight reduction in chronically obese SZ individuals hospitalized long-term.

Methods: This investigation included 50 individuals aged 18-60 with a BMI ≥28 kg/m², assigned to either 10Hz rTMS (n=24) or sham stimulation (n=26). They received 16 rTMS sessions targeting the dorsolateral prefrontal cortex (DLPFC), four times weekly. Primary outcomes were changes in weight, BMI, and appetite, with secondary outcomes including waist circumference (WC), blood metabolic parameters, and inflammatory cytokine levels (IL-6, TNF-α).

Results: The rTMS group showed significant reductions in weight, BMI, and WC (p=0.001), increased satiety (P=0.002), and decreased TNF-α levels (P<0.001) compared to sham. Changes in weight and BMI correlated positively with TNF-α changes. Glycated hemoglobin levels decreased in the rTMS group post-treatment but not significantly compared to sham. No significant changes in blood lipid levels or IL-6 were observed in either group.

Discussion: Our study found that 16 HF rTMS against left-sided DLPFC significantly increased subjective satiety and reduced body weight in individuals with chronic obese SZ. Compared with the study by Su et al, our study recruited a larger number of participants and reached a consistent conclusion. Our results support the broad application of rTMS in treating individuals with SZ. However, multiple mechanisms may be involved in rTMS-induced weight loss with chronic obesity SZ.

The first mechanism is the effect on the prefrontal cortex. The PFC serves as a key brain region for regulatory behavior, predominantly engaging in inhibitory control mechanisms. The study showed that obese individuals had less activation of the left DLPFC when eating compared to lean individuals, and a study based on the ROI method (a method that allows investigations of specific brain regions) revealed that neuronal activity in the left LDLPFC gyrus of obese individuals was less responsive to fullness than lean individuals. Previous studies have found that the stimulant effects produced by HF rTMS of left-sided DLPFC help reduce cravings in substance addicts. Consistent with these findings, research has demonstrated that applying HF rTMS to the bilateral DLPFC in individuals with SZ can alleviate their cravings for cigarettes. Our study builds on previous research and is to use rTMS in individuals with chronic obesity with SZ.

The second mechanism may be achieved by modulating the cortico-mesolimbic dopamine system, or "reward system". Studies have shown that rTMS stimulation of PFC can modulate striatum-related reward function, while HF rTMS stimulation of DLPFC can increase DA neurotransmission in the striatum. In animal experiments, stimulation of the frontal cortex by HF rTMS increased DA neurotransmission in the mesocorticolimbic tract. Dopamine is related to a certain food craving and is the basis of food cravings. Therefore, TMS can increase striatal DA nerve function and reduce excessive demand for high-calorie foods, thereby reducing body mass.In studies of people with

SZ, stimulation of DLPFC with rTMS can alleviate psychiatric symptoms related to the midcerebral cortex and limbic system, such as cognition, thinking, and emotion. In this study, VAS assessments of subjective appetite revealed greater satiety in the rTMS group compared to the sham stimulation group, indicating that rTMS-induced excitation of the left DLPFC may enhance satiety and subsequently lead to weight reduction. Consistent with our findings, several previous studies have reported that rTMS significantly reduces food cravings in obese individuals.

Our results found that rTMS reduced serum TNF-α levels in participants, and the changes of TNF-α levels before and after the intervention were positively correlated with the changes of body weight and BMI, but there was no significant change in IL-6 levels. Previous studies have also demonstrated that rTMS can reduce serum TNF-α levels in people with psychiatric disorders. TNF-α is an inflammatory cytokine produced by adipocytes, and elevated levels of TNF-α may predispose to obesity by triggering a systemic inflammatory response. Existing studies suggest that elevated serum TNF-α inhibits and decreases adiponectin synthesis and secretion. In contrast, adiponectin not only suppresses the appetite center of the hypothalamus by inhibiting the excitability of central NPY/AgRP neurons, reducing food intake. but also inhibits gastric smooth muscle through the peripheral AMPK/NO pathway, suppressing appetite, resulting in reduced food intake. Similar to this finding, a recent promising study also reported that the use of etanercept, a TNF-α antagonist, in the treatment of obese individuals with type 2 diabetes mellitus lowered blood glucose and increased high molecular weight adiponectin levels. These studies are important because they directly show that rTMS can control food cravings also by antagonizing the pathway of the inflammatory state in the peripheral blood. Nevertheless, whether inhibiting the function of a single inflammatory cytokine is a sufficiently effective approach to treat obesity continues to be a subject of ongoing discussion.

Obesity is associated with an elevated risk of CVD, including hypertension, diabetes, and hyperlipidemia. In the current study, the glycated hemoglo rTMS treatment group declined post-treatment; however, the therapeutic effect was not significantly different from that of the sham stimulation group. And there was no significant difference in blood lipid levels compared with the control group. This could be attributed to the relatively brief duration of our studies. Alternatively, the small number of participants may have been insufficient to achieve statistical significance.

Our study has limitations. We did not collect daily diet and exercise data, but participants were hospitalized with standardized food and physical activity. Medication doses/types were unchanged during treatment. Food cravings were assessed via self-reported VAS, which is subjective and may be influenced by context, psychological states, and false-negative results. We did not account for the menstrual cycle of female participants. In addition, due to the small number of participants, caution should be exercised as to whether our findings can be generalized to larger obese populations.

Key Words Schizophrenia, Repetitive transcranial magnetic stimulation, Weight, Body mass index, Tumor necrosis factor-α, Appetite.

改良电休克治疗老年抑郁症导致认知不可逆减退预测模型

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研究目的：改良电休克治疗（Modified Electroconvulsive Therapy, MECT）作为老年难治性抑郁症的重要干预手段，虽能快速缓解症状，但其对认知功能的潜在长期影响仍存在争议。现有研究表明，部分老

年患者在接受MECT后可能出现不可逆的认知减退，但其风险因素及预测机制尚不明确。本研究旨在通过整合多维度临床数据及生物标志物，构建一种基于MECT的老年抑郁症患者认知不可逆减退的预测模型，为个体化治疗决策提供科学依据。

材料与方法：本研究采用多中心回顾性队列设计，纳入2017年1月至2023年12月期间接受MECT联合抗抑郁药物治疗的老年抑郁症患者（≥60岁）共586例。通过电子病历系统采集基线资料（年龄、性别、病程、共病情况）、治疗参数（MECT次数、刺激剂量、麻醉药物类型）及实验室指标（血清神经元特异性烯醇化酶NSE、S100B蛋白）。认知功能评估采用简易智力状态检查表（MMSE）、威斯康星卡片分类测试（WCST）及延迟回忆任务，分别在治疗前、治疗后1个月、3个月及6个月进行随访。基于机器学习算法（随机森林、支持向量机）构建预测模型，以治疗后6个月MMSE评分较基线下降≥5分且无恢复趋势定义为“不可逆认知减退”。通过LASSO回归筛选关键预测变量，结合交叉验证优化模型性能，并通过ROC曲线评估模型区分度与校准度。

结果：1. 基线特征与认知结局：纳入患者中，12.8%（75/586）在治疗后6个月出现不可逆认知减退。单因素分析显示，高龄（≥75岁）、基线NSE水平升高（≥15 ng/mL）、MECT治疗次数＞10次、合并脑血管病史及低教育水平（＜6年）与认知减退显著相关（P＜0.05）。

2. 预测模型构建：LASSO回归筛选出5项核心预测因子，包括基线NSE水平、MECT治疗次数、年龄、脑血管病史及治疗1个月后MMSE评分下降幅度。随机森林模型表现最优，训练集AUC为0.89（95%CI: 0.84–0.93），测试集AUC为0.85（95%CI: 0.79–0.90），敏感性和特异性分别为82.3%和78.6%。

3. 生物标志物作用：基线NSE水平与治疗后3个月MMSE评分呈负相关（r=–0.32, P=0.002），且高NSE组（≥15 ng/mL）认知减退风险为低NSE组的3.2倍（OR=3.2, 95%CI: 1.8–5.7）。

4. 治疗参数影响：MECT次数＞10次的患者认知减退风险显著增加（OR=2.9, 95%CI: 1.5–5.6），而双侧电极放置与单侧相比未显示显著差异（P=0.12）。

结论：本研究成功构建了一种基于多维度指标的预测模型，可有效识别老年抑郁症患者接受MECT后发生不可逆认知减退的高危人群。模型提示，基线NSE水平、治疗次数及脑血管病史是核心风险因素，为临床优化MECT方案（如限制治疗次数、联合神经保护干预）提供了重要参考。未来需通过前瞻性队列验证模型的普适性，并探索新型生物标志物（如神经影像学特征）以进一步提升预测精度。

关键词 改良电休克治疗；老年抑郁症；认知功能减退；预测模型

重性抑郁障碍中神经雪崩的心脏周期调控机制异常

廖倩
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研究目的：本研究旨在探讨重性抑郁障碍（MDD）患者在心脏周期不同阶段的神经雪崩特征，分析其在网络兴奋性和自组织临界性方面的异常模式及潜在机制。MDD影响神经递质平衡，特别是在谷氨酸、GABA和多巴胺系统方面。然而，现有研究主要关注化学信号变化，未能捕捉大脑动态活动的时空特征。因此，本研究基于神经雪崩和临界态理论，探讨MDD的神经病理机制。神经雪崩反映大脑在稳定性与灵活性之间的动态平衡，健康个体的大脑通常维持在接近临界态的状态，而MDD患者的大脑更偏向亚临界状态，影响认知灵活性和情绪调节。近年来，心脏活动对神经兴奋性的调节作用逐渐受到关注。研究表明，心脏周期的不同阶段（收缩期与舒张期）影响大脑神经活动，但尚缺乏关于其在MDD患者中的具体作用研究。

材料与方法：本研究收集65名MDD患者和63名健康对照（HC）的静息态脑磁图（MEG）和心电图（ECG）数据，分析心脏周期不同阶段的大脑神经雪崩特征，并采用混合设计方差分析（ANOVA）评估两组在心脏调节和神经雪崩模式方面的差异。

结果：我们的雪崩分析首先表明，临界性（其特征为遵循幂律分布的时空相关性）可以从MEG振荡的时间结构中产生。接着，我们计算了心脏时序雪崩临界性指标，以研究心脏阶段和抑郁症对振荡动态组织的影响。值得注意的是，我们的研究重现了抑郁症患者的大脑动态呈现亚临界状态。此外，心脏时序分析为心脏周期在静息状态下对β波和γ波频段神经级联活动的功能性作用提供了新的见解。具体而言，收缩期的分支比率和卡帕系数显著低于舒张期。重要的是，我们的结果表明，抑郁症患者β波频段雪崩动态的心脏时序调控机制受损，尤其是在默认模式网络（DMN）内。这些发现表明，心脏时序神经雪崩动力学在功能层面的改变可能成为抑郁症的一个独特特征。

总结：研究发现，健康个体的大脑临界性随心脏周期动态变化，表现为收缩期抑制和舒张期恢复，这一机制在MDD患者中受损。具体而言，MDD患者在默认模式网络（DMN）中的β波雪崩动力学调控异常，表现为舒张期临界性显著降低，表明其心脏信号对大脑节律调控能力受损。这可能表明抑郁症患者的DMN核心节点与突显网络区域功能解耦，影响自主神经与中枢神经系统的协调作用。

关键词 抑郁组；心脑交互

血尿酸水平与老年抑郁患者抑郁情绪、躯体化症状的关系分析

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目的：探讨分析血尿酸水平与老年抑郁症患者抑郁情绪、躯体化症状的关系。

方法：选取医院2019年3月~2023年3月收治的102例初诊老年抑郁症患者记为疾病组；另选取同时间段体检的96例健康老年人记为对照组。检测并对比2组血尿酸水平、汉密尔顿抑郁量表评分（HAMD）；对比疾病组不同抑郁程度血尿酸水平；分析疾病组血尿酸水平与HAMD评分的关系；统计疾病组的躯体化症状，并对比不同躯体化症状患者血尿酸水平差异。

结果：疾病组血尿酸水平高于对照组（P＜0.05），HAMD评分高于对照组（P＜0.05）；不同抑郁程度疾病组患者血尿酸水平对比有统计学差异（P＜0.05），且重度抑郁血尿酸水平高于轻度、中度抑郁（P＜0.05），中度抑郁血尿酸水平高于轻度抑郁（P＜0.05）；疾病组血尿酸水平与HAMD评分呈正相关（r=0.892，P=0.013）；疾病组失眠、头痛、头晕、脑鸣、耳鸣、消化道不适、心悸、尿频、出汗、性症状、体质量减轻者占比分别为60.78%、44.12%、30.39%、17.65%、28.43%、47.06%、29.41%、38.24%、56.86%、28.43%、33.33%，且有上述躯体化症状者血尿酸水平均对应高于无上述躯体化症状者（P＜0.05）。

结论：老年抑郁症患者血尿酸水平偏高，与抑郁情绪呈正相关，且与各项躯体化症状也有关联。

关键词 血尿酸；老年人；抑郁症；躯体化症状

精神康复疗法在老年抑郁症患者中的应用研究

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目的：随着人口老龄化的加剧，老年抑郁症的发病率逐渐上升，严重影响老年人的生活质量和身心健康。精神康复疗法作为一种综合治疗手段，在老年抑郁症患者的治疗中具有重要作用，本文旨在通过分析相关疗法，对康复hill在老年抑郁症患者中的应用予以阐述。

方法：本文旨在探讨精神康复疗法在老年抑郁症患者中的应用效果，通过分析相关理论和实践研究，阐述精神康复疗法的多种干预方式及其对老年抑郁症患者症状缓解、心理状态改善和社会功能恢复的积极影响。

结果：通过讨论分享，为提高老年抑郁症的治疗水平提供参考。

关键词 精神康复疗法，老年

基于虚拟组织学探索伴忧郁特征抑郁症社会奖赏钝化的潜在分子遗传学机制

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目的：抑郁症（major depressive disorder, MDD）是一种高度异质性的精神疾病，伴忧郁特征亚型（MDD with melancholic features, MDD–MF）具有其独特的临床表现和神经生物学机制。前期已发现MDD–MF亚型存在社会奖赏反馈的钝化，本研究则旨在探索MDD–MF亚型在社会奖赏反馈阶段的皮层激活改变及其潜在分子遗传机制。

方法：招募MDD–MF亚型40例，不伴忧郁特征亚型（MDD without melancholic features, MDD–nMF）40例，健康对照50例。采用简明国际神经精神障碍访谈检查（Mini–international neuropsychiatric interview, M.I.N.I）忧郁特征模块对是否伴有忧郁特征进行诊断区分。所有被试在脑电图记录下完成社会激励延迟任务，并利用标准化低分辨率脑电磁断层扫描方法（standardized low–resolution brain electromagnetic tomography, sLORETA）对社会奖赏反馈阶段200–300 ms时间窗的皮层激活进行了溯源定位。随后利用艾伦人脑图谱（AHBA），通过偏最小二乘回归（PLS）分析全脑基因表达与亚组间皮层激活差异的空间相关性。采用置换检验验证结果的统计学显著性，并利用Metascape平台对关联性基因进行生物功能富集。

结果：溯源分析结果显示，相对于MDD–nMF亚型，MDD–MF亚型右侧眶额回、右侧梭状回激活下降（$P < 0.05$）。PLS分析揭示了全脑基因表达与皮层激活差异存在空间关联（$r = 0.464$，$P = 0.005$），PLS成分1（PLS1）解释了皮层激活差异方差的27.5%。研究发现了52个正加权基因（PLS1+）和40个负加权基因（PLS1）分别与皮层激活增加和减少显著相关。正相关性最高的基因是炎症相关的核苷酸结合寡聚化结构域样受体蛋白3基因（NLRP3；$r = 0.487$，$P = 0.004$）。此外，PLS1基因集主要富集在神经元

连接、神经发生、突触传递和膜内定位等生物学过程。

讨论：MDD-MF亚型患者对社会奖赏反馈表现出钝化的神经反应，可能与奖赏皮层、视觉相关皮层的激活减弱有关。此外，本研究发现NLRP3等基因与其皮质激活异常显著关联，且基因富集分析确定的生物学过程主要包括神经元投射发育、神经发生负调控和突触信号传导等。这些发现表明炎症易感性导致的神经元和突触功能受损可能是 MDD-MF亚型社会奖赏钝化的病理机制。

关键词 抑郁症、社会奖赏、转录-神经影像分析、溯源

癌症伴抑郁患者非药物治疗研究进展

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癌症患者常合并抑郁症状，不利于疾病的恢复。目前癌症伴抑郁的治疗以药物为主，但易与抗肿瘤药物产生相互作用，影响疾病治疗。因此，发现更安全有效的治疗手段尤为重要。本文就近年来国内外非药物疗法取得的进展进行综述，为优化癌症伴抑郁的治疗提供思路。

关键词 癌症; 抑郁; 情绪; 非药物治疗

基于动脉自旋标记技术的中老年癌症伴抑郁患者认知功能与额叶灌注的相关性研究

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目的：通过动脉自旋标记（Arterial Spin Labeling, ASL）技术探讨中老年癌症伴抑郁患者额叶脑血流灌注水平与认知功能的相关性，为开发基于脑血流灌注的生物标志物提供依据。

方法：连续纳入2023年11月至2024年8月常州市第二人民医院肿瘤科收治入院的中老年癌症患者及社区招募的健康患者。所有患者均完成头颅MRI检查，包括三维（3 Dimensions, 3D）T1加权成像以及标记后延迟（Postlabel Delay, PLD）为2.5秒的ASL MRI检查。根据汉密尔顿抑郁量表—24（Hamilton Depression Scale, HAMD-24）评分标准，将中老年癌症患者分为癌症伴抑郁组（HAMD>8）和癌症不伴抑郁组（HAMD≤8）。此外，社区招募的健康患者，若其HAMD评分低于8分，则被归为健康组。收集患者一般资料，对癌症伴抑郁组和癌症不伴抑郁组的患者进行认知评估，客观认知评估采用词汇流畅性测试（Verbal Fluency Test, VFT）及数字广度测试（Digital Span Test, DST），主观认知评估采用癌症治疗功能评估-认知功能量表（Functional Assessment of Cancer Therapy-Cognitive Function, FACT-Cog）。使用基于Matlab的软件包定量分析大脑中额叶的脑血流量。比较三组患者的一般临床资料、认知功能评定资料及头部影像学检查资料，采用偏相关性分析及广义线性模型探讨中老年癌症患者低灌注脑区的脑血流量（Cerebral Blood Flow, CBF）值与认知功能的相关性。

结果：最终纳入60例中老年癌症患者及34例健康患者。研究结果显示，相较于癌症不伴抑郁组及健康组，癌症伴抑郁组的患者中，糖尿病的发病率显著增高（$p<0.05$）。同时，该组的HAMD评分及汉

密尔顿焦虑量表（Hamilton Anxiety Scale, HAMA）得分也呈现出较高的水平（p<0.05）。对认知功能的评价结果显示，在VFT、DST测试评分方面，癌症伴抑郁组均显著低于其他两组（p<0.05）。在FACT-Cog评分中，在他人对认知障碍的评价（Comments from Others, CogOth）、主观认知能力评估（Perceived Cognitive Abilities, CogPCA）、认知障碍对生活质量的影响（Impact of Perceived Cognitive Impairments on Quality of Life, CogQol）以及FACT-Cog总分方面，癌症伴抑郁组均显著低于癌症不伴抑郁组（p<0.05）。进一步对CBF值的分析显示，三组在左侧背外侧额上回、右侧背外侧额上回、左侧额中回及右侧额中回的CBF值上存在显著差异（p<0.05），经过两两比较后的结果显示，在癌症伴抑郁组中，以上脑区的CBF值均小于癌症不伴抑郁组（p<0.05）。偏相关性分析显示，在校正了混杂因素（HAMD评分、HAMA评分及糖尿病比例）后，双侧背外侧额上回的CBF值与VFT, CogPCA, CogQol, FACT-Cog总分之间存在显著的正相关关系（p<0.05）。同样，双侧额中回的CBF值也与VFT, CogOth, CogPCA , CogQol, FACT-Cog总分呈现正相关（p<0.05）。广义线性模型分析显示，双侧背外侧额上回、双侧额中回脑血流量值均可作为FACT-Cog总分的正向预测因素（p<0.001）。

结论：中老年癌症伴抑郁患者额叶的脑血流灌注水平显著下降，这与认知功能的下降密切相关。ASL可作为早期筛查中老年癌症伴抑郁患者认知功能下降的生物学标志物。

关键词 中老年；癌症伴抑郁；额叶脑血流灌注；认知；动脉自旋标记成像

抑郁症患者认知功能障碍与前额叶神经递质之间的关系

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目的：探讨抑郁症认知功能障碍与脑内神经递质水平之间的相关性。

方法：参加者包括30例抑郁症患者和32例正常对照；所有参加者在入组后3天内完成神经认知功能测试、汉密尔顿抑郁量表，并进行磁共振波谱扫描分析得出N-乙酰天门冬氨酸（NAA）、胆碱（Cho）、肌醇（mI）、乳酸（Lac）与肌酸（Cr）的比值。将患者组的神经认知功能测试及各项神经递质水平与正常对照组进行独立样本t检验，患者组的神经认知功能测试与神经递质水平进行Pearson线性相关。

结果：患者组数字广度测试中顺背，语义相似性检验，听觉词语测试N1、N2、N3、N4，连线测验A及B，言语流畅性测试分值均低于正常对照组；患者组左侧前额叶Cho/Cr低于正常对照组水平；患者组左侧前额叶Lac/Cr、右侧前额叶Lac/Cr水平高于正常对照组；患者组右侧前额叶mI/Cr水平与言语流畅性测试得分呈正相关，患者组左侧前额叶Lac/Cr水平与听觉词语测试N1、N4呈负相关；患者组右侧前额叶Lac/Cr水平与连线测试A、B呈正相关，均有统计学意义（p<0.05）。

结论：抑郁症患者认知功能全面受损，前额叶神经递质有所改变，且与认知功能损伤存在相关性，提示可能是抑郁症认知功能损伤的神经生物学基础，为疾病的早期诊断、药物机制研究及病因治疗提供了方向。

关键词 抑郁症；认知功能障碍；磁共振波谱分析；神经递质

仑卡奈单抗治疗阿尔兹海默病的研究进展

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阿尔茨海默病（（Alzheimer's disease，AD）作为一种常见的神经退行性疾病，严重影响患者的生活质量与认知功能。传统治疗手段多为对症治疗，难以从根本上阻止疾病进展。仑卡奈单抗作为一种人源化单克隆抗体，以β淀粉样蛋白（Aβ）为靶点，为AD治疗带来了新的方向。本文深入剖析仑卡奈单抗的靶向治疗策略，包括其作用机制、给药方案等，并结合临床研究数据对其临床前景进行全面展望，为AD治疗提供新的见解与参考。

关键词 阿尔茨海默病，仑卡奈单抗

Mental health problems and associated factors among adolescents: A cross-sectional survey in Tianjin

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Aims: Adolescence is a critical developmental period marked by biological, emotional, and social changes, making adolescents vulnerable to mental health issues. Global data indicate that 10%–20% of adolescents experience mental health problems, contributing to 13% of the global burden of disease in this age group. Notably, 50% of lifetime mental disorders emerge by age 15, and 75% by age 18, highlighting the need for early intervention. Depression and anxiety are particularly concerning, ranking as the fourth and sixth leading causes of disability-adjusted life years (DALYs) among 10–24-year-olds globally. These conditions are linked to long-term adverse outcomes, including educational disengagement and intergenerational disadvantage. The COVID-19 pandemic has exacerbated mental health challenges, with significant increases in depression and anxiety rates among Chinese adolescents.

Mental health in adolescents is influenced by individual, familial, and socioeconomic factors. For instance, low-income backgrounds and gender differences (particularly vulnerabilities in adolescent girls) are associated with higher risks of mental health issues. However, most existing studies predate the pandemic, limiting their relevance to current conditions. Tianjin, as a rapidly growing economic hub in northern China, presents a unique context for studying adolescent mental health due to heightened life stress and academic pressures. This study aims to investigate the positive detection rate and associated factors of mental health problems, as well as depressive and anxiety symptoms, among middle and high school students in Tianjin.

Methods: This study used a convenience cluster sampling approach to recruit 11,994 middle and high school students from 3 high schools and 11 middle schools in Tianjin between March and June 2021. Psychology teachers were trained to distribute an electronic survey link to students and parents after obtaining consent. A total of

11,245 valid questionnaires were collected, yielding a response rate of 93.76%. Sociodemographic characteristics, including age, gender, self-perceived academic achievement, whether they were only child, whether they lived with their parents for the last six months, whether they were local residents, self-perceived family economic status and family structure, were collected via a demographic questionnaire. Mental health was assessed using the Mental Health Inventory of Middle School Students (MMHI-60), which includes depression and anxiety subscales. Each item is rated on a 5-point scale, with scores ≥2 indicating mental health problems. The MMHI-60 demonstrated good reliability (Cronbach's alpha: 0.979 for total scale, 0.735-0.927 for subscales). Statistical analysis included descriptive statistics, independent t-tests, chi-square tests, and logistic regression to identify factors associated with mental health problems. All analyses were conducted using IBM SPSS Statistics 25.0.

Results: This study surveyed 11,245 middle and high school students (mean age: 14.81 years, SD = 1.594) from 14 schools in Tianjin. The majority were female (48.6%), lived with parents (80.7%), and were local residents (94.5%). The overall positive detection rate for mental health problems was 38.4%, with obsessive - compulsive tendencies (53.5%) being the most common symptom, followed by emotional disturbance (50.1%) and academic stress (47.5%). Depression and anxiety were reported by 41.3% and 44.6% of participants, respectively.

Multivariate logistic regression revealed that female gender (OR=1.382), poor self-perceived academic achievement (OR=1.243 - 2.482), high school grade level (OR=1.444), not living with parents (OR=1.256), and perceived family economic difficulties (OR=1.271) were significantly associated with mental health problems. Similar patterns were observed for depressive and anxiety symptoms, with poor academic achievement showing the strongest association (OR=2.651 for depression and OR=2.295 for anxiety). These findings highlight the need for targeted interventions to address mental health challenges among adolescents in Tianjin.

Discussion: This study identified a 38.4% overall mental health problem rate among adolescents in Tianjin, with proportions of depressive symptoms and anxiety symptoms being 41.3% and 44.6%, respectively. Obsessive-compulsive tendencies emerged as the predominant dimensional symptom. Key risk factors included female gender, lower self-perceived academic/family economic status, higher grade levels, and not living with parents.

The observed rates substantially exceed pre-pandemic benchmarks. Pre-COVID studies reported adolescent mental health issues in China and other countries ranging from 6.1% to 19%, while our findings align with post-pandemic reports of 25-27% symptom prevalence. This surge likely reflects COVID-19's psychosocial impacts through prolonged social isolation, disrupted education, and health-related anxieties. Notably, obsessive-compulsive symptoms showed disproportionate increases (pre-pandemic baselines: 13.6-18.3%), potentially linked to pandemic-induced hygiene fixation and uncertainty.

Gender disparities persisted, with females exhibiting 2-4 times higher depression/anxiety risks than males, consistent with neurobiological evidence of heightened amygdala perfusion and genetic-environmental susceptibility in adolescent females. Academic pressure emerged as a critical determinant, particularly within China's exam-centric culture where poor performance correlates with stigma and low self-esteem. Symptom escalation with grade levels likely reflects cumulative academic stress preceding national college entrance exams.

Family environment significantly influenced outcomes: not living with parents increased mental health risks by 1.45-fold, potentially mediated by reduced parental support and increased bullying vulnerability. Economic hardship exacerbated symptoms, mirroring global patterns of poverty-associated psychological distress. Migration background elevated anxiety risks, possibly due to social exclusion experiences.

Limitations include the cross-sectional design precluding causal inferences, single-city sampling limiting generalizability, and unmeasured confounders like bullying exposure. Notably, age, only-child status, and family

structure showed no significant associations here, contrasting prior studies—discrepancies possibly arising from regional sociocultural variations.

In summary, the study indicates that mental health problems are relatively prevalent among adolescents in Tianjin, China, with depressive and anxiety symptoms being particularly notable. Identified risk factors include being female, poor self-perceived academic achievement, high school students, not living with parents, and self-perceived family economic difficulties. These risk factors were also associated with adolescent depressive and anxiety symptoms. Based on our findings, we urge government bodies, educational institutions, and parents to prioritize the mental health of adolescents, especially those with the aforementioned risk factors.

Key Words Mental health, Depression, Anxiety, Associated factors, Adolescents

青少年抑郁症执行控制网络和额顶网络的静息态功能磁共振研究

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目的：运用静息态功能磁共振（Resting-state Functional MRI，rs-fMRI）的独立成分分析（Independent Component Analysis，ICA）方法，探讨青少年抑郁症患者执行控制网络（Executive Control Network, ECN）与额顶网络（Parietal Frontal Network,PFN）的功能连接差异，并深入探讨网络内差异脑区与临床量表得分之间的关联性。

方法：选取47例青少年抑郁症患者以及相匹配的 35名健康对照者接受磁共振检查，采用ICA方法计算两组受试者的ECN和PFN差异，并分析与病程、患者健康问卷（PHQ-9）评分以及青少年生活事件量表（ASLEC）各因子得分的相关性。

结果：与健康对照组相比，青少年抑郁症组ECN中左侧额上回脑区内功能连接增强，右侧额中回、右侧额上回及右侧额下回等功能连接减低；PFN中左侧额中回、左侧楔前叶、左侧额下回、左侧中央前回及右侧角回等脑区功能连接增强（FWE校正，P<0.05，体素>30）。相关分析结果显示：ECN内右侧额下回与ASLEC丧失因子得分负相关（r=-0.300，P=0.041）。PFN内左侧额中回与ASLEC丧失感因子得分正相关（r=0.324，P=0.026）、与健康适应因子得分正相关（r=0.316，P=0.031）；左侧楔前叶与ASLEC学习压力因子得分正相关（r=0.293，P=0.045）、与受惩罚因子得分正相关（r=0.296，P=0.043）；左侧额下回与ASLEC的其他因子得分负相关（r=-0.295，P=0.044）。

结论：青少年抑郁症ECN和PFN的网络内多个脑区功能连接异常，为探究青少年抑郁症发病机制提供了新的证据。

关键词 青少年，独立成分分析，静息态功能磁共振，抑郁症

抗精神病药物联合治疗转为单一药物治疗的疗效观察

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目的：本次观察通过随机化试验来比较多种抗精神病药联合治疗与转换为单一治疗的利弊。

方法：从我院及周边脑科医院的试验点入组126例成年“精神分裂症”门诊患者，这些患者都在接受2种抗精神病药物治疗，将这些患者随机分为2组，1组继续接受原治疗，另1组通过停止其中1种药物，转为单一药物治疗。试验持续6个月，随后再对这126例患者自然随访6个月。通过Kanplan–Meier和Cox回归分析停用指定的抗精神病药的时间，再通过随机回归模型来分析其他的结果。

结果：不管何种原因，被转为单药治疗的患者，比继续接受多种抗精神病药物联合治疗的患者，更早地终止了原先的治疗。6个月后，多种抗精神病药物联用组中83%的患者，仍在继续服用原先的2种抗精神病药物，而在转为单药治疗组中仅有68%的患者，仍在服药1种原先的抗精神病药物。大部分停止了单一抗精神病治疗的患者，都愿意转为原来的多种药物联合治疗，但2组患者在精神症状的评估和住院率上没有选择差异，且单药治疗组患者的平均体重减轻，而多种药物联合治疗组患者的平均体重则增加。

结论：1、在2种抗精神病药联合治疗时，停止其中1种抗精神病药物的患者更多更快引起治疗终止，但仍有三分之二的患者，顺利地从2种药物联合治疗转为单一药物治疗，在精神症状的控制方面，与2种药物联合治疗的患者没有区别，并且体重下降，这项结果有力的支持了指南中鼓励将多种药物治疗转为单一治疗的原则，只在有充分证据说明单一药物治疗效果不佳的情况下，才可以建议患者接受多种抗精神病药物联合治疗；2、如果患者出现体重显著增加，血糖或者血脂水平增加，治疗上可以考虑换用其他抗精神病药；3、抗精神病药物联用在精神分裂症的治疗中占的比例逐渐增多， 美国APA指南及中国指南对精神分裂症的治疗均推荐单一用药原则，联合用药有待进一步的考证，单一用药可以实现患者的治愈，并且安全性较联合用药更佳，联合用药时应考虑药物间的相互作用，对特殊类型患者如老人等也应特殊考虑。

关键词 药物联合 转为单一 疗效观察

精神科护理不良事件原因分析及护理方案

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目的：探讨精神科护理不良事件原因，制定相关护理方案，以减少不良事件发生，减轻不良事件所造成的不良后果，提高护理质量。

方法：将我院2024年3月1日至2024年9月1日期间发生的10起不良事件进行分析。采取统计学等方法对不良事件与患者关系、与护理人员关系进行描述。

结果：不良事件有4例冲动伤人；2例跌倒；1例指甲剪遗失；2例皮肤破损；1例护士锐器伤。工作

1–2年护士发生率为40%。护理不良事件是指由于医疗护理行为造成患者死亡、住院时间延长，或离院时仍带有某种程度的失能，分为可预防性不良事件和不可预防性不良事件。护理不良事件分为事故、差错、护理缺陷三个等级。类型：患者在住院期间发生跌倒、用药错误、走失、误吸或窒息、烫伤以及其它与患者安全相关的护理意外；诊断或治疗失误导致患者出现严重并发症、非正常死亡、严重功能障碍、住院时间延长或住院费用增加等医疗事件；严重药物或输血不良反应；因医疗器械或医疗设备的原因给患者或医务人员带来的损害；院内感染；门急诊、保卫科、信息等其它相关不良事件。笔者将某精神科病区上报的10起不良事件进行分析，报告如下。（1）护理不良事件的原因分析：a精神科疾病具有自身的特殊性，病人病情复杂，与其个人的经历、家庭环境、社会环境等影响因素有关，临床治疗和护理具有一定的难度。有些病人在病态思维的支配下，如被害妄想、幻听、罪恶感、被控制感而出现的暴力行为。

b护理人员工作责任心不强，工作不严谨。由于精神病人治疗依从性及自知力差，时常出现拒绝治疗和护理的行为。因此，在护理过程中，观察不仔细，病人易出现意外。c年轻护理人员经验不足，40%的护理不良事件发生在工作1–2年的护士身上。d护理人员压力大，由于精神护理的特殊性，风险过大，使护士心理压力过大，导致护士离开精神专科护理团队，而护士在人员少、工作量大的情况下容易造成注意力分散，容易出现护理不良事件。e精神科护理专科性较强，如刀剪等锐器、绳索、棍筷等都不可带入病房，给日常护理带来难度，而部分患者及家属不配合安全检查，甚至收藏危险品，病房容易出现危险品，以至于容易发生与患者安全有关的护理不良事件。(2)护理不良事件的护理方案:a加强护理人员对精神科专科知识的学习与培训。尤其对新上岗人员要加强岗前培训，便于临床工作中灵活运用专科知识解决护理问题。b严格执行规章制度。严格执行各项规章制度，如岗位职责，交接班制度、查对制度、分级护理制度、探视制度等。c精神科护理具有高风险，护理人员心理压力过大。管理者应尽量减少压力源，多询问病区护士工作情况，创造一个温馨的工作环境。d加强病房安全管理。定期安全检查，杜绝危险品流入病房，发现门锁、桌椅等设施损坏及时上报维修。严格交接物品，发现药品、钥匙、医疗器械、护理日常生活用品等丢失及时寻找。病人进入病房时，注意检查有无危险物品带入病房。

结论：精神科护理不良事件的原因有精神科疾病的影响，护理人员经验不足、护理工作不严谨、责任心不强等。应严格落实各项护理制度，加强年轻护士的岗前培训。

关键词 精神科 不良事件 护理方案

青少年抑郁患者自伤行为的心理特征及情绪行为困难的链式中介效应研究

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目的：探讨中国青少年抑郁患者自伤行为的心理特征及情绪行为困难的链式中介机制。

方法：纳入214例住院青少年抑郁患者（自伤组158例，非自伤组56例），通过Rosenberg自尊量表（SES）、Barratt冲动量表（BIS–11）、抑郁自评量表（SDS）和长处和困难问卷（SDQ）评估心理特征，采用置换检验、岭回归及Bootstrap链式中介模型分析影响因素及路径。

结果：自伤组在自尊水平（21.6 ± 4.9 vs.24.8 ± 6.4）、冲动性（68.1 ± 8.9 vs.63.2 ± 10.6）、抑郁程度（33.0 ± 6.2 vs.27.5 ± 7.6）及情绪行为困难（21.5 ± 5.8 vs.17.4 ± 7.5）上均显著更严重（均P<0.01）。岭回

归显示抑郁（β=0.137, P<0.001）为核心预测因子。链式中介分析表明，情绪行为困难通过功能影响因子（β=0.195）和抑郁（β=0.986）的级联作用影响自伤，总间接效应为0.015（95%CI 0.006–0.026），占总效应78.95%。

结论：自伤行为由情绪行为困难、功能损伤与抑郁的链式机制驱动，需靶向干预情绪调节与功能恢复以阻断恶性循环。

关键词 自伤行为；青少年；情绪行为困难；抑郁障碍；中介效应

青少年抑郁障碍的自尊与冲动对非自杀性自伤行为的影响

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目的：比较在伴与不伴非自杀性自伤（NSSI）行为的青少年抑郁障碍患者自尊及冲动水平的差异，为进一步探索伴NSSI青少年抑郁障碍患者的心理行为特征和干预导向提供临床帮助。

方法：将我院2024年5月至10月在儿少精神科住院的青少年抑郁障碍患者作为研究对象，共纳入118例（男31人，女87人），参照NSSI的评估标准，将研究对象按照是否伴有NSSI行为分为研究组（伴NSSI）76例和对照组（不伴NSSI）42例，两组治疗前均进行汉密尔顿抑郁量表（HAMD–17）、抑郁自评量表（SDS），临床疗效总评量表病情严重程度（CGI–SI）、自尊量表（SES）、Barratt冲动量表（BIS–11）的评定，比较两组间的差异。同时对研究组内自尊量表评分与冲动量表评分进行相关性分析。

结果：两组被试对象的HAMD–17、SDS、CGI–SI评分差异无统计学显著性（P＞0.05），从疾病严重程度看两组具有可比性。研究组自尊量表评分（20.98±3.77）低于对照组（23.96±2.25）（P＜0.05），研究组Barratt冲动量表总分（74.55±9.26）显著高于对照组（63.28±9.35）（P＜0.01）。研究组内自尊评分与冲动总分之间没有统计学相关性（P＞0.05）。

结论：伴NSSI的青少年抑郁障碍其自尊水平相比没有NSSI行为的患者更低，自我认同感更差。相对不伴有NSSI者，伴NSSI者冲动水平更高，因此降低其冲动水平，提高自尊可能对减少NSSI行为的发生有一定的临床效应。

关键词 青少年抑郁障碍；自尊；冲动；非自杀性自伤

经颅磁刺激治疗青少年强迫症的临床研究

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目的：强迫症（Obsessive–Compulsive Disorder, OCD）是一种以反复出现的强迫思维和强迫行为为特征的精神障碍，青少年期是高发阶段之一。传统治疗方法包括认知行为疗法（CBT）和选择性5–羟色胺再摄取抑制剂（SSRIs），但部分患者疗效不佳或难以耐受药物副作用。经颅磁刺激（Transcranial Magnetic Stimulation, TMS）作为一种非侵入性神经调控技术，近年来在精神疾病治疗中展现出潜力。本研究旨在探讨TMS对青少年强迫症患者的临床疗效及安全性，为优化治疗方案提供依据。

方法：本研究采用随机双盲对照试验设计，纳入60例12–18岁符合DSM–5诊断标准的强迫症患者，随机分为主动TMS组（n=30）和假刺激组（n=30）。TMS组接受高频（10Hz）刺激左侧背外侧前额叶皮层（DLPFC），每周5次，共4周；假刺激组采用相同参数但无有效磁场输出的伪线圈。主要疗效指标为耶鲁–布朗强迫量表（Y–BOCS）评分变化，次要指标包括汉密尔顿焦虑量表（HAMA）和儿童抑郁量表（CDI）评分。安全性评估涵盖不良事件记录及脑电图监测。数据分析采用重复测量方差分析（ANOVA）和卡方检验。

结果：1、疗效分析：治疗4周后，TMS组Y–BOCS总分较基线下降（23.5 ± 4.2 vs. 15.1 ± 3.8，$p<0.001$），显著优于假刺激组（23.7 ± 4.0 vs. 20.3 ± 4.1，$p=0.12$），有效率（Y–BOCS减分率≥35%）为63.3%，假刺激组为16.7%（$p<0.01$）。2、次要指标：TMS组HAMA和CDI评分亦显著改善（$p<0.05$），提示TMS可能对共病焦虑抑郁症状有协同作用。3、安全性：两组均未出现严重不良事件，TMS组5例报告轻微头痛（16.7%），2例局部头皮不适（6.7%），均自行缓解。

讨论：本研究证实高频TMS刺激左侧DLPFC可显著改善青少年强迫症症状，其机制可能通过调节皮层–纹状体–丘脑环路功能，增强前额叶对边缘系统的抑制控制。与成人研究相比，青少年患者对TMS反应更敏感，可能与神经可塑性较强有关。此外，TMS的安全性良好，无认知功能损害报告，为其在青少年群体中的应用提供了支持。局限性包括样本量较小、随访时间较短（仅8周），未来需扩大样本并延长观察期以评估长期疗效。此外，个体化刺激靶点（如辅助运动区）及联合CBT的优化方案值得进一步探索。综上，TMS是青少年强迫症一种有前景的辅助治疗手段，尤其适用于药物难治性病例，但需结合多模态评估以实现精准干预。

关键词 经颅磁刺激治疗，青少年，强迫症，疗效

冲动及焦虑对青少年抑郁障碍非自杀性自伤行为的影响

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目的：探讨冲动、焦虑对青少年抑郁障碍患者非自杀性自伤行为发生的影响。

方法：纳入青少年抑郁障碍患者共275例，分为研究组（伴有NSSI行为，219例）和对照组（无NSSI行为，56例）。采用Barratt冲动性量表（BIS–11）、状态–特质焦虑问卷（STAI）进行评估。

结果：研究组BIS–11中注意力冲动、运动冲动、无计划冲动评分及STAI状态焦虑及特质焦虑得分均高于对照组，差异具有统计学意义（$P<0.05$）。相关性分析结果示，NSSI行为的发生与认知冲动、行动冲动、无计划冲动、状态焦虑及特质焦虑呈正相关（$P<0.01$）。回归分析结果示，状态焦虑是NSSI发生的独立风险因素（OR=1.07，$P<0.01$）。

结论：伴有NSSI行为的青少年抑郁患者存在更明显的冲动性及高焦虑水平，高焦虑状态是NSSI行为发生的独立风险因素。

关键词 非自杀性自伤；青少年抑郁障碍；冲动性；状态–特质焦虑

园艺疗法联合团体正念减压训练在老年抑郁症患者中的应用

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目的：探讨园艺疗法联合团体正念减压训练对老年抑郁症患者的影响。

方法：选取2023年 1月— 2023 年12月期间在淮安市第三人民医院住院的100例老年抑郁症患者作为研究对象，用随机数字表法根据入组时间先后，分为对照组和干预组，每组各50例。对照组给予常规治疗和护理。干预组在对照组基础上，增加4周的园艺疗法联合团体正念减压训练。于治疗前和治疗后4周末，采用焦虑自评量表（SAS）、抑郁自评量表（SDS）、精神幸福感指数量表（SIWB）比较两组治疗前后焦虑、抑郁水平及精神幸福感指数的变化。

结果：2组患者治疗前SAS与SDS评分比较差异，无统计学意义（$p>0.05$）。4周后2组患者评分均较治疗前下降，但干预组评分明显低于对照组的分，差异有统计学意义。2组患者治疗前SIWB评分比较差异，无统计学意义（$p>0.05$）。4周后2组患者评分均较治疗前下降，但干预组评分明显高于对照组的分，差异有统计学意义。

结论：使用园艺疗法联合团体正念减压训练可有效缓解老年抑郁症患者的临床症状，促进患者的康复，提高老年人的精神幸福感。

关键词 园艺疗法 正念减压 精神幸福感 抑郁症 老年

Adolescent non-suicidal self-injury: The moderating influence of social support utilization on depression

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BACKGROUND：Adolescence is a period marked by physiological and psychological imbalances, which pose an increased risk for adolescents with major depressive disorder (MDD) to commit non-suicidal self-injury (NSSI).

AIM：To investigate the moderating role of social support utilization in depression and NSSI among adolescents with MDD.

METHODS：This cross-sectional study enrolled 314 adolescents with MDD (258 with NSSI, 56 without) from a Chinese tertiary psychiatric hospital (2021-2023). Participants completed validated scales, including the self-esteem scale, the Barratt impulsiveness scale, the self-rating depression scale, and the teenager social support rating scale. Logistic regression and hierarchical regression analyses were used to examine predictors of NSSI and the moderating effect of social support utilization.

RESULTS：Results showed that the NSSI group had higher depression levels, lower self-esteem, and greater

impulsivity. While overall social support was higher in the NSSI group, social support utilization significantly moderated the depression–NSSI relationship. Specifically, higher utilization levels weakened the association between depression and NSSI ($\beta = -0.001$, $P < 0.05$).

CONCLUSION: These findings suggest that effective utilization of social support, rather than its mere presence, is crucial in reducing NSSI risk among depressed adolescents.

Key Words Non–suicidal self–injury; Social support utilization; Major depressive disorder; Adolescent; Moderating effect

三级医院未婚男护士择偶观不利因素的质性研究

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目的：了解三级医院未婚男护士的择偶观，为护理行业的可持续发展和医院的人力资源管理提供参考。

方法：采用质性研究中现象学研究法对淮安地区4所三级医院12名未婚的男护士进行深入访谈，运用Colaizzi的现象学分析法进行资料分析。

结果：归纳出影响未婚男护士择偶观的主题为：职业的性别观、职业的性质；择偶范围的限制；择偶的标准；择偶的动机。

结论：医疗机构可以从加强社会对男护士职业的正面宣传与认可；提升职业发展，减少工作–家庭冲突；扩大社交平台，增加择偶机会；引导男护士建立合理的择偶标准；加强心理健康支持，树立健康的择偶动机五方面入手，来改善男护士择偶中存在的各种不利因素，以稳定男护士队伍，提升医院的护理质量。

关键词 三级医院；未婚；男护士；择偶观；质性研究

网络化认知行为疗法对肥胖患者术后身体形象认知和负性情绪的影响

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目的：不良的身体形象认知和负性情绪在肥胖患者中普遍存在，为此寻求减重手术。网络化认知行为疗法对身体畸形障碍症状严重程度、抑郁等方面均显著改善，但在肥胖患者中还没有类似的研究。本研究目的是为肥胖患者提供基于网络认知行为疗法改善身体形象认知和负性情绪，并评价该方案的有效性。

方法：纳入110例肥胖患者，随机分为干预组（n=55）、对照组（n=55），干预组在腹腔镜袖状胃切除术基础上予以网络化认知行为疗法、对照组常规予以腹腔镜袖状胃切除术。基于体质量内在化歧视量表(Weight Bias Internalization Scale, WBIS)和身体意象状态量表（Body Image States Scale，BISS）评估肥胖患者术后1年内身体形象认知，抑郁自评量表(Self–Rating Depres–sion Scale, SDS)和焦虑自评量表(Self–

ratingAnxiety Scale,SAS)评估患者术后1年内负性情绪（即抑郁和焦虑），我们进一步建立一系列的线性混合模型，以探索网络认知行为疗法对肥胖患者不良的身体形象认知和负性情绪的长期干预效果。

结果：两组患者WBIS、SDS、SAS评分、BMI均显著下降，其中干预组的降幅更为明显；然而，两组患者BISS评分较干预前升高；上述指标差异均有统计学意义（P＜0.001）。

结论：基于网络化认知疗法联合腹腔镜袖状胃切除术用于治疗肥胖患者的身体形象认知和负性情绪，有效的改善患者身体形象认知，减少抑郁、焦虑的负性情绪，还对患者的体质量产生积极的影响。

关键词 网络化认知行为疗法；腹腔镜袖状胃切除术；体质量内在化歧视；身体意向；负性情绪

经颅磁刺激治疗青少年抑郁症的临床效果研究

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目的：青少年抑郁症发病率逐年攀升，但传统药物与心理治疗存在应答率低、副作用明显等问题。本研究旨在探讨重复经颅磁刺激（rTMS）对青少年抑郁症的安全性及有效性，分析不同刺激参数对临床症状改善的影响，为优化非药物治疗方案提供依据。

方法：本研究采用随机双盲对照设计，纳入72例13–18岁符合DSM–5抑郁发作诊断标准的患者（HAMD–17评分≥18），随机分为高频组（10Hz左侧背外侧前额叶，n=24）、低频组（1Hz右侧背外侧前额叶，n=24）及伪刺激组（n=24）。所有受试者在维持原抗抑郁药基础上接受每日1次、每周5天、持续4周的干预。主要疗效指标为HAMD–17评分变化，次要指标包括儿童抑郁量表（CDI）评分、临床总体印象量表（CGI）及不良事件记录。采用重复测量方差分析比较组间差异，统计显著性设定为p<0.05。

结果：1. 疗效分析：高频组治疗后HAMD–17评分较基线下降52.3%（18.6 ± 2.1→8.9 ± 3.4），显著优于低频组（34.7%）及伪刺激组（12.1%）（F=9.82，p<0.001）。临床应答率（HAMD减分≥50%）高频组达70.8%，显著高于低频组41.7%（χ^2=4.62，p=0.032）及伪刺激组16.7%（χ^2=18.34，p<0.001）。2. 安全性：共报告5例轻微头痛（高频组3例，低频组2例），均通过调整刺激强度缓解，未发生癫痫等严重不良事件。3. 功能改善：高频组CDI评分下降幅度（47.5%）显著高于对照组（p=0.007），且CGI改善指数显示76%患者达到"明显进步"。 讨论 本研究首次系统验证rTMS在青少年抑郁群体中的临床应用价值。高频左侧刺激展现出显著优于传统低频模式的疗效，可能与青少年前额叶神经可塑性增强有关。这一发现支持将rTMS作为药物难治性青少年抑郁的二线治疗方案。但需注意以下局限性：①样本量较小且随访期仅8周，需扩大样本验证长期效果；②未分层分析不同病因亚组的响应差异；③缺乏脑影像学指标佐证神经机制。未来研究应结合功能磁共振探索生物标志物，并建立基于年龄的个性化刺激参数体系。

结论：10Hz左侧背外侧前额叶rTMS可安全有效地改善青少年抑郁症状，其疗效优势提示靶向调控前额叶–边缘系统功能连接的重要性。本研究为青少年非药物治疗提供了高质量循证依据，具有重要临床转化价值。

关键词 经颅磁刺激治疗 青少年 抑郁症

Atherogenic index of plasma and psychotic symptoms in Untreated First-Episode Major Depressive Disorder

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Objective: It is generally established that depression and cardiovascular disease are related.AIP, or the atherogenic index of plasma, is now a valid indicator of cardiovascular risk. However, the link between AIP and psychotic symptoms (PS) in major depressive disorder (MDD) remains largely unexplored. The link between AIP and PS in Chinese patients with untreated first-episode MDD (UFE MDD) was investigated in the present research.

Methods: We gathered demographic and anthropometric information from 1718 individuals with UFE MDD in this cross-sectional investigation. PANSS-P was used to measure PS. The HAMD-17 and HAMA-14 were used to assess depressive and anxiety symptoms, respectively. To examine the correlation between AIP and PS, a multiple binary logistic regression model was employed. Potential nonlinear relationships were examined using smooth curve fitting, and two-piecewise logistic regression was applied to examine threshold effects.

Results: 10.0% of UFE MDD patients had psychotic symptoms (171/1718). Univariate analysis revealed a significant positive correlation between PS and AIP (OR = 5.51, 95% CI: 2.83 to 10.76, P < 0.001); however, this association became nonsignificant after controlling for confounding variables (OR = 1.97, 95% CI: 0.70 to 5.50, P = 0.197). When AIP was categorized into quartiles, the fully adjusted model showed significantly increased risk of psychotic symptoms in the third quartile compared with the first quartile (OR=2.73, 95% CI: 1.27 to 5.86, P=0.010). Smooth curve fitting revealed a nonlinear relationship with an inflection point at AIP = 0.99. Below this threshold, AIP showed a strong association with PS (OR = 21.70, 95% CI: 2.41 to 195.28, P = 0.006), while no discernible correlation was found above it (OR = 0.26, 95% CI: 0.04 to 1.63, P = 0.150).

Conclusions: This study revealed a nonlinear relationship between AIP and PS in untreated first-episode MDD patients (threshold at 0.99), suggesting that AIP may be used as a marker to monitor psychotic symptoms in UFE MDD.

Key Words atherogenic index of plasma, untreaded, psychotic symptoms, major depressive disorder, association

The prevalence and clinical correlates of severe anxiety symptoms in first-episode drug-naïve schizophrenia: a Chinese population study

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Objective: Although anxiety symptoms frequently co-occur with schizophrenia and may substantially influence

disease progression and treatment outcomes, systematic investigations of this comorbidity remain limited. This study aimed to investigate the prevalence and clinical correlations of severe anxiety symptoms among Chinese patients with first-episode drug-naive (FEDN) schizophrenia.

Methods: This cross-sectional study enrolled 255 FEDN schizophrenia patients. Comprehensive clinical and demographic data were collected from all participants. Psychiatric symptoms were assessed using PANSS, while anxiety and depression symptoms were evaluated using the HAMA-14 and the HAMD-24, respectively. Multiple logistic regression analysis was used to estimate risk factors for severe anxiety symptoms in FEDN schizophrenia patients.

Results: The prevalence of severe anxiety symptoms among patients with FEDN schizophrenia was 51.8% (132/255). Multivariable logistic regression analysis revealed that both elevated HAMD-24 scores (OR = 1.17, 95% CI: 1.11-1.22, $p < 0.001$) and higher HDL-c levels (OR = 4.70, 95% CI: 1.53-14.4, $p = 0.007$) were independently associated with increased risk of severe anxiety symptoms. The area under the curve (AUC) of HAMD-24, HDL-c, and the combination of these two variables for severe anxiety symptoms was 0.592, 0.868, and 0.872, respectively.

Conclusion: The findings highlight the substantial prevalence of severe anxiety symptoms in patients with FEDN schizophrenia. HAMD-24 scores and HDL-c levels were identified as independent factors and potential risk markers for severe anxiety symptoms. Our findings contribute to the understanding of potential pathological mechanisms underlying comorbid severe anxiety in first-episode drug-naïve schizophrenia patients.

Key Words schizophrenia, first-episode, severe anxiety symptoms, comorbid, prevalence

成年早期非自杀性自伤的抑郁患者风险决策时频特征研究

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目的：涉及反馈阶段的获益和损失似乎涉及几个频段的大脑振荡活动，且每种频段都包含不同的功能。然而涉及伴有NSSI的MDD患者风险决策反馈处理过程尚不完全清楚。因此，本研究部分的目的是在广泛的频率范围内调查NSSI人群在决策反馈加工过程中神经振荡模式，为更有效的治疗干预提供见解。

方法：我们在2023年03月至2024年12月期间入组研究被试，本研究部分共计纳入136名未服药的MDD患者（伴有NSSI:64人，不伴有NSSI:72人）和71名性别和年龄匹配的健康对照者。所有参与者完成了改良版的爱荷华州赌博任务（Iowa gambling task，IGT），在此期间记录了脑电图（Electroencephalogram，EEG）。利用时间-频率分析和基于团簇的非参数置换检验，先在各个组内比较风险决策反馈阶段获益和损失条件下各个频段（Theta、Alpha、Beta）时频特征，其次分别在获益和反馈条件下比较组间和组间的各频段时频差异模式。

结果：相较于获益反馈，所有组在损失反馈中观察到Theta频段的功率增强。相反，在获益反馈条件下，Alpha与Beta频段的功率则显著高于损失反馈。进一步分析不同组别在损失反馈下的表现发现， HC组在θ、α及β频段的功率均超过nNSSI组。同时，在α频段上，NSSI组的能量值高于nNSSI组；而在β频段，HC组的能量水平则明显高于NSSI组。然而，在经历获益反馈之后，三个组别之间在θ、α和β频段的能量显示出较为一致的趋势。

结论：这些发现揭示了不同反馈条件对大脑电活动的特定频段有不同的影响，尤其是HC组相较于NSSI和nNSSI组在损失反馈下表现出更高的能量水平，这可能指示着健康个体与MDD个体之间反馈处理

机制的不同。此外，α频段差异可能有助于理解NSSI行为的心理病理机制，并为评估和干预提供潜在的生物标志物。

关键词 时频分析；风险决策；重症抑郁症；非自杀性自伤

中医穴位贴敷联合耳穴压豆对精神分裂症患者便秘的效果研究

黄文
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目的：探讨穴位贴敷联合耳穴压豆对精神分裂症患者便秘症状的干预效果。

方法：选取2024年4月～2025年3月本院收治的160例符合入组标准的精神分裂症便秘患者作为研究对象，采用随机数字表法分为对照组、耳穴压豆组、穴位贴敷组和穴位贴敷联合耳穴压豆组，每组各40名，对照组给予常规护理，耳穴压豆组在常规护理基础上给予耳穴压豆疗法，穴位贴敷组在常规护理基础上给予穴位贴敷法，联合组在常规护理基础上给予穴位贴敷联合耳穴压豆疗法。对比4组患者干预前后便秘症状改善情况、便秘患者生存质量及服药依从性。

结果：干预后联合组患者便秘临床症状(包括首次排便时间、排便间隔时间、排便速度、粪便性状、排便费力指数)改善情况评分均低于另外3组，联合组便秘患者生存质量评分低于另外3组，联合组患者服药依从性高于另外3组，差异均有统计学意义（P<0.05）。

结论：中医穴位贴敷联合耳穴压豆可缓解精神分裂症患者的便秘症状，提高其生活质量及治疗依从性。

关键词 精神分裂症；便秘；穴位贴敷；耳穴压豆

精神分裂症患者认知灵活性受损的神经相关因素：一项使用线索切换任务范式的ERP研究

梅倩
无锡市精神卫生中心

目的：基于精神分裂症患者认知灵活性损害的事件相关电位特征，探讨精神分裂症认知灵活性功能损害的神经电生理机制，为该病的治疗新的靶点提供科学依据。

方法：我们的样本包括39名精神分裂症患者和46名健康对照。所有参与者在执行线索切换任务时均采用事件相关电位 (ERP) 测量。误差率、反应时间以及误差和反应时的转换成本用于行为数据的分析。对ERP数据进行时域分析。

结果：精神分裂症患者错误率较高，反应时较长。ERP数据分析显示，与正常人相比，精神分裂症患者在进行线索切换任务时P3波幅较大，潜伏期较长，P3差异波幅较小。

讨论：这是首次发现SCZ认知灵活性损害相关的神经电生理学证据。这一结果提示P3成分可能是精

神分裂症认知灵活性损害的重要神经电生理机制。本研究结果表明线索刺激下不同组别和不同脑区切换成本具有差异，反映了与线索切换反应控制相关的大脑激活的变化。与以往研究一致认同精神分裂症的认知灵活性受损，且精神分裂症患者在灵活应对规则切换方面存在显著问题。总之，精神分裂症患者表现出认知灵活性受损，这些损害在P3成分表现明显。观察到的ERP模式为线索切换任务背后的神经机制提供了有价值的见解。患者表现出认知灵活性受损，这些损伤的神经相关反应是异常的P3事件相关电位。这些发现为理解认知灵活性受损的神经机制提供了有价值的见解，并可能指导精神分裂症的针对性干预。

关键词 事件相关电位、线索切换任务、精神分裂症、认知灵活性、切换成本

稳定期精神分裂症患者孤独感与被动自杀意念的相关性分析

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目的：探讨稳定期精神分裂症患者的孤独感与被动自杀意念的相关性。

方法：采用孤独感自评量表（UCLA Loneliness Scale，UCLA）、简明国际神经精神访谈中文版自杀分量表（The suicide subscale of the Chinese version of Mini-International Neuropsychiatric Interview，MINI）和自制的一般情况调查量表，对在某医院确诊为精神分裂症的208例稳定期精神分裂症患者进行调查分析。

结果：208名精神分裂症患者中178例患者孤独感呈阳性（85.58%）、175例被动自杀意念呈阳性（84.13%）；单因素分析显示年龄（F=1.563，P=0.018）、发病情况（t=-3.624，P<0.001）、教育情况（F=13.422，P<0.001）、病程（F=13.795，P<0.001）、累计住院年数（F=17.573，P<0.001）和婚姻状况（F=10.802，P<0.001）是稳定期精神分裂症患者孤独感的影响因素，具有有统计学意义；单因素分析年龄（F=1.537，P=0.022）、发病情况（t=-2.980，P=0.004）、病程（F=6.062，P<0.001）、累计住院年数（F=9.885，P<0.001）是稳定期精神分裂症患者被动自杀意念的影响因素，且有统计学意义；多元回归分析年龄（β=0.148，P=0.063）、发病情况（β=-6.644，P=0.006）、累计住院年数（β=2.110，P=0.032）和已婚（β=4.989，P=0.012）是稳定期分裂症患者孤独感的独立影响因素，具有统计学意义，多元回归分析发病情况（β=-4.729，P=0.018）和累计住院年数（β=2.590，P<0.001）是稳定期精神分裂症被动自杀意念的独立影响因素，具有统计学意义；UCLA均分与MINI均分呈现正相关（r=0.613，P<0.001）。

结论：稳定期精神分裂症大部分患者存在孤独感与被动自杀意念，且孤独感越高，被动自杀意念越强；年龄、发病情况、累计住院年数和已婚是导致孤独感加重的影响因素；发病情况和累计住院年数是导致被动自杀意念的影响因素；建议运用心理治疗手段给予干预。

关键词 精神分裂症；孤独感；被动自杀意念

某精神专科医院患者2023-2024年药品不良反应（ADR）多维特征分析与对策研究

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目的：分析本院患者的药品不良反应的多维特征，为临床用药监测提供参考。

方法：本文通过回顾性分析某精神专科医院患者2023年1月至2024年12月药品不良反应上报至国家药品不良反应监测系统255例数据，从人群特征、药品类别、累及器官、时间分布及集采关联性等多维度展开分析。

结果：2024年的ADR上报率和新的/严重上报率均呈增长趋势；男性、45-64岁例数最多，老年患者（≥65岁）ADR风险升高；合并用药情况有增长趋势；ADR发生率最高的药物为抗精神病药物，尤其是非典型抗精神病药物；其中ADR引起的锥体外系和便秘不容忽视。

结论：建议加强重点药品监测、优化用药方案并完善老年患者用药管理机制，同时构建以“高风险药品-关键人群-用药时间窗”为核心的防控体系，优化集采药品用药后监测流程。

关键词 药品不良反应；临床药师；抗精神病药物；分级药学监护

杏仁核亚区体积减少在童年创伤与抑郁症抑郁严重程度间的中介作用

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目的：探索童年创伤（childhood trauma，CT）与抑郁症（major depressive disorder，MDD）对杏仁核亚区体积的独立与交互影响，并检验这些亚区的体积变化在童年创伤与抑郁严重程度间的中介作用。

方法：纳入2022年10月至2024年11月在南京脑科医院符合抑郁症诊断标准的患者129例及127名性别、年龄与之相匹配的健康对照者；所有受试者接受3D-T1加权MRI扫描，采用FreeSurfer 7.2FreeSurfer软件（版本7.4.0)分割杏仁核亚区体积；使用17项汉密尔顿抑郁量表（17-item Hamilton Depression Scale，HAMD17）、汉密尔顿焦虑量表（Hamilton Anxiety Scale，HAMA）及童年期创伤问卷（Childhood Trauma Questionnaire, CTQ）分别评估抑郁、焦虑严重程度及16岁前的创伤经历。采用广义线性模型分析抑郁症诊断（抑郁/健康）与童年创伤（伴/不伴）的主效应及交互效应，并控制年龄、估计颅内总容积体积、性别、用药史及受教育年限等因素的影响。通过偏相关分析和中介效应模型探索抑郁症患者杏仁核亚区体积与临床指标的关系。

结果：抑郁症诊断与右侧中央核（Wald χ^2=9.09, P=0.026）和内侧核体积增大独立相关（Wald χ^2=10.08, P=0.026）；童年创伤与右侧中央核（Wald χ^2=7.99, P=0.047）和内侧核体积减小独立相

关（Wald χ^2=9.20, P=0.047）。抑郁症与童年创伤在所有杏仁核亚区中均无交互作用。中介分析显示，右侧内侧核体积减少在童年创伤与抑郁严重程度之间具有部分中介作用（中介效应占比26.69%，95%CI=0.002～0.060），在情感忽视维度与抑郁严重程度间也具有部分中介作用（中介效应占比26.75%，95%CI=0.006～0.150），而右侧中央核体积未呈现中介效应。

结论：抑郁症与童年创伤对杏仁核亚区的影响呈现不同的模式，童年创伤与杏仁核亚区体积减少相关，而抑郁症与杏仁核亚区体积增大相关。右侧内侧核体积减少在童年创伤与抑郁严重程度中具有中介作用。

关键词 抑郁症；杏仁核；童年创伤；皮质下亚区分割

单、双相抑郁发作间共同及疾病特异性的功能连接模式和拓扑属性改变

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目的：双相障碍（Bipolar disorder, BD）和抑郁症（Maior depressive disorder, MDD）被定义为不同的诊断类别。然而，由于两者间共同的临床和神经病理基础，鉴别诊断仍是一项临床挑战，尤其是在BD早期阶段。本研究旨在探讨单、双相抑郁间共同的以及疾病特异性连接模式。

方法：本研究招募了处于抑郁发作期的MDD和BD患者，并同期招募性别、年龄相匹配的健康对照。所有参与者在入组时完成临床评估及静息态功能磁共振成像。对MDD患者进行诊断随访，根据随访结果将MDD患者分为了转双相（Transferred to BD, tBD）组和单相抑郁（Unipolar disorder, UD）组。采用网络分析和及进一步的图论分析比较组间异同。

结果：经过严格的诊断核查及图像质量控制，共740名参与者资料纳入分析，包括181名双相抑郁、90名转双相者、265名单相抑郁以及204名健康对照者。BD和UD均表现出脑网络功能连接（Functional connectivity, FC）下降。各组抑郁发作患者（BD、tBD和UD）共有的异常网络主要涉及视觉网络（Visual network, VN）、躯体运动网络（Somatomotor network, SMN）和默认模式网络（Default mode network, DMN）。对这三个网络拓扑特性的分析表明，BD、tBD和UD均出现聚类系数降低（均$P < 0.05$）；仅在BD和tBD中观察到最短路径长度减少和全局效率增加（均$P < 0.05$），而UD中没有观察到。

结论：本研究表明，涉及感觉、情绪处理和运动的VN、SMN和DMN是情感障碍间共同的异常。这些网络间的功能分离障碍是单、双相抑郁所共有的，但网络整合功能障碍则是BD所特有的。此外，tBD和UD的网络整合功能差异可能是早期识别BD的重要神经生物标记。

关键词 双相障碍；单相抑郁；磁共振成像；功能连接；拓扑属性

Cortical thickness signature as a predictor of diagnostic transition from major depressive disorder to bipolar disorder in late adolescence and early adulthood

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Objective: Bipolar disorder (BD) and major depressive disorder (MDD) are classified as distinct diagnostic categories. However, early identification of BD from MDD is challenging due to their high overlap in clinical features, particularly in late adolescence and early adulthood. This study aimed to explore biomarkers for the early identification of BD from MDD.

Methods: The study consists of 139 BD, 148 unipolar depression (UD), and 128 healthy controls (HC) participants ranging from late adolescence to early adulthood. In addition, an independent group of 62 patients initially diagnosed with MDD at baseline and transitioned to BD during follow-up were identified as initial depressive episode BD (IDE-BD). Cortical thickness and surface area were measured for all participants, along with the associations with clinical symptoms.

Results: IDE-BD shares similar cortical thickness patterns with BD and UD. Compared to HC, cortical thinning in the left inferior temporal cortex was observed across all depressive episode groups (all $P < 0.05$). Cortical thickness alterations in right caudal anterior cingulate cortex (cACC.R) were observed specifically in the BD and IDE-BD (both $P < 0.05$), but were absent in the UD. Compared to UD, IDE-BD exhibited significantly increased cortical thickness in the cACC.R ($P < 0.05$). Moreover, the increase in cACC.R thickness in the IDE-BD was associated with hypomania and suicide risk scores.

Conclusions: In this cross-diagnostic study focusing on late adolescence and early adulthood, we revealed shared and disease-specific cortical thickness patterns of depressive episodes. Our study provides valuable insights into the neuropathological mechanisms of mood disorders and helps in the early identification of BD from MDD.

Key Words bipolar disorder; unipolar depression; cortical thickness; early identification

Specific Associations in the Alpha Frequency Between the Subcomponents of Rumination and the Subsystems of the Default Mode Network Among Bipolar I Disorder Patients

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Introduction: Rumination in bipolar disorder (BD) is well documented. Recent neuroimaging studies highlight the role of the default mode network (DMN) in rumination, while few studies have evaluated the DMN activity in BD rumination, particularly the underlying neuroelectrophysiology.

Methods: A total of 44 patients with depressed bipolar I disorder (BD–I) and 46 healthy controls underwent resting–state magnetoencephalography. Two core hubs of the DMN, the posterior cingulate cortex (PCC), and anterior medial prefrontal cortex, together with the dorsal medial prefrontal cortex (dmPFC) and the medial temporal lobe (MTL) subsystems, were identified as the regions of interest. The power envelope method was used to determine the alpha band's cross–subsystem functional connectivity (FC). After comparing the rumination and DMN FC between the groups, Spearman partial correlation analysis was performed to evaluate the relationship between aberrant FC and rumination in BD–I patients.

Results: BD–I patients demonstrated more global rumination, including higher subcomponent scores of brooding and reflection. In addition, the alpha frequency FC of the PCC–dmPFC and dmPFC–MTL subsystems within the DMN was dramatically increased in the BD–I group. The former was strongly associated with reflection, whereas the latter was related to brooding.

Conclusion: The findings suggest that the reflection and brooding components of rumination are selectively related to the alpha frequency FC of the PCC–dmPFC and dmPFC–MTL subsystems, respectively. These associations highlight the significance of DMN activities in rumination among BD–I patients and have implications for future rumination interventions.

Key Words Bipolar Disorder; Default Mode Network; Functional Connectivity; Magnetoencephalography; Rumination

血清Klotho蛋白水平与慢性精神分裂症患者认知功能的相关性研究

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目的：探讨慢性精神分裂症患者血清Klotho蛋白水平与患者临床症状和认知功能之间关系。

方法：于2024年1–12月在连云港市四所精神专科医院选取108例年龄18–60岁的慢性精神分裂症病人作为患者组，同期在连云港市招募18–60岁的83例健康人群作为对照组，进行血清Klotho蛋白测定，采取重复性成套神经心理状态评估量表（RBANS）对所有研究对象测量认知功能，采用阳性与阴性症状评定量表（PANSS）对患者组进行精神症状评估。

结果：患者组血清Klotho蛋白水平明显低于对照组[（233.61 ± 50.35）pg/mL比（347.11 ± 62.64）pg/mL]，差异有统计学意义（P＜0.01）。患者组RBANS评分总分及各分量表分低于对照组（P＜0.01）。相关性分析显示，患者组血清Klotho蛋白与RBANS总分（r=0.258，P＝0.009）呈正相关，其中与各分量表中的即刻记忆（r=0.211，P=0.007）、注意（r=0.220,P=0.028）、延时记忆（r=0.251,P=0.022）呈正相关，与视觉广度（r=0.120,P=0.216）、言语功能（r=0.141,P=0.144）无明显相关性。

结论：慢性精神分裂症患者认知功能受损明显，其血清Klotho蛋白水平降低，且与认知功能相关，提示Klotho蛋白可能参与精神分裂症认知功能损害的机制。

关键词 精神分裂症；Klotho蛋白；认知功能

安非他酮缓释片联合重复经颅磁刺激对缺血性脑卒中后抑郁（PSD）的HAMD、SDS、PSQI及NIHSS评分的影响

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目的：探讨安非他酮缓释片联合重复经颅磁刺激对缺血性脑卒中后抑郁（PSD）的HAMD、SDS、PSQI及NIHSS评分的影响。

方法：收集2023年3月–2024年5月在本院就诊的PSD患者共58例，男性30例，女性28例，所有患者符合《中国脑血管病诊治指南》中缺血性脑卒中诊断标准，经头颅MR或CT影像证实；同时脑卒中后出现的抑郁符合ICD–10（国际精神疾病分类第10版）抑郁发作的诊断标准。随机分为两组，一组单用经颅磁刺激治疗组，一组安非他酮缓释片联合重复经颅磁刺激治疗组，两组性别构成比、年龄、文化、病程及入组时两组HAMD、SDS、PSQI及NIHSS评分均无统计学差异，治疗6周，以TESS评分评估两者不良反应。

结果：研究组患者的HAMD、SDS、PSQI及NIHSS分均优于对照组，两组患者在TESS评分数据指标方面无统计学差异（P>0.05）。

结论：研究证实安非他酮缓释片联合重复经颅磁刺激治疗缺血性脑卒中后抑郁，能够有效缩短抑郁缓解时间、提高神经功能修复效率，且安全性良好，值得进一步推广。

关键词 安非他酮缓释片， 重复经颅磁刺激，缺血性脑卒中后抑郁

DIP2.0形势下精神病专科医院医保精细化管理实践效果研究

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目的：分析在DIP2.0形势下采用精细化管理措施对医保管理工作的实践效果。

方法：选取淮安市某三甲精神病专科医院2024年2月及2025年2月为研究时间段，共选取1144例患者为研究对象，其中2024年2月DIP出院602例患者为研究对照组，未开展医保精细化管理，2025年2月DIP出院542例患者为研究实验组，开展医保精细化管理。采用独立样本t检验方法，比较两组患者在住院时间、住院费用、统筹基金、个人自付四个维度的住院费用指标情况；两组患者在组织管理、医保合规性、医疗质量、费用控制、报销效率、服务质量六个维度的管理质量的指标情况。

结果：观察组患者的住院天数、总费用、统筹基金均显著低于对照组（$P<0.05$），差异有显著意义。观察组患者在个人自付上与对照组没有明显差异（$P>0.05$）。观察组患者在组织管理、医保合规性、医疗质量、报销效率、服务质量、患者满意度上的得分均显著高于对照组（$P<0.05$），差异有显著意义。

讨论：DIP2.0形势下对医院的医保工作实施精细化管理对控制医疗费用的不合理增长有显著成效，促进医院提高管理质量，提升患者满意度。通过信息化、智能化的系统及其他辅助手段，可以帮助医院实现降本增效的目的。

关键词 DIP支付 精细化管理 医院管理

Autonomic Nervous System Imbalance in Major Depressive Disorder May Be Linked to Reduced Connectivity Between the Default Network and Subcortical Beta Frequency Bands: A MEG Study

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Introduction:: Abnormalities in beta frequency band energy and functional connectivity are common in

patients with Major Depressive Disorder (MDD) and may be related to the processing of negative emotions and impaired cognitive function(Du et al., 2023; Wu et al., 2022). Autonomic nervous system imbalance is also commonly observed in individuals with MDD(Koch et al., 2019), but the relationship between abnormal beta frequency band connectivity and autonomic dysfunction remains unclear. This study aims to explore the relationship between autonomic nervous system imbalance and beta frequency band functional connectivity in patients with MDD.

Methods:: The study included 132 patients with MDD and 103 age- and sex-matched healthy controls (HC). A 275-channel whole-head CTF Magnetoencephalography (MEG) system with a sampling rate of 1200 Hz was used for MEG recording in a specially shielded room. All participants completed a 5-minute resting-state MEG scan along with synchronized electrocardiogram (ECG) data collection. MEG data were used to calculate beta frequency band functional connectivity across the whole brain, and heart rate variability(HRV) data were derived from the ECG. Independent samples t-tests and Pearson correlation analysis were used for statistical analysis.

Results: Compared to HC, patients with MDD exhibited significantly lower HRV metrics, including pNNI50, RMSSD, SDNN, LF, HF, and total power ($p < 0.05$), with the exception of average heart rate. Furthermore, the MDD group showed diminished beta frequency band connectivity in several brain regions, including from CAL.L (Calcarine fissure and surrounding cortex) to PoCG.L (Postcentral gyrus), OLF.L (Olfactory cortex) to ANG.R (Angular gyrus), SFGmed.L (Superior frontal gyrus, medial) to ANG.R (Angular gyrus), OLF.L to PCL.L (Paracentral lobule), CAL.L to PCL.L, and SFGmed.L to ITG.R (Inferior temporal gyrus) (all $p < 0.05$, FDR corrected). Additionally, functional connectivity between OLF.L and ANG.R was positively correlated with several HRV indices, including pNNI50, RMSSD, and HF.

Conclusions: In line with previous studies, patients with MDD exhibit more pronounced autonomic nervous system dysfunction. This dysfunction may be associated with reduced connectivity between the default network and subcortical beta frequency bands in patients with MDD.

Key Words Major Depressive Disorder; Autonomic Nervous System; Beta Band; Functional Connectivity

系统式家庭治疗对伴有非自杀性自伤青少年抑郁障碍患者家庭功能的作用

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目的：探讨系统式家庭治疗对伴有NSSI青少年抑郁障碍患者家庭功能的作用。

方法：于2022年 1月至2024年12月选取苏州市广济医院收治的符合美国《精神障碍诊断与统计手册》第5版（DSM-5）抑郁障碍诊断标准，且伴有NSSI的70例青少年抑郁障碍患者，采用数字随机表法随机分为实验组和对照组，两组均接受常规的抗抑郁药物治疗，实验组在此基础上接受系统家庭治疗；对照组在此基础上接受一般支持性心理治疗；每组每周1次，疗程均为4周。所有被试在治疗前后均接受汉密尔顿抑郁量表 (Hamilton Depression Scale，HAMD-17) 、家庭功能评定量表（Family Assessment Device,FAD）以及渥太华自我伤害调查表（Ottawa Self-injury Inventory，OSI）测验。

结果：①治疗后，实验组与对照组在HAMD上[实验组（9.15 ± 4.04）分，对照组（10.04 ± 3.95）

分]均较治疗前[实验组（24.67 ± 4.59）分，对照组（24.45 ± 3.99）分]显著下降；②在OSI评分方面，治疗后[实验组（9.37 ± 2.34），对照组（13.54 ± 3.35）]均较治疗前[实验组（25.39 ± 4.06），对照组（25.28 ± 4.13）]下降，治疗后实验组OSI低于对照组；③在家庭功能方面，实验组在[沟通（Communication,CM）（2.14 ± 0.38）分、情感介入（Affective involvement,AI）（2.21 ± 0.57）分、总的功能（General Functioning，GF）（1.89 ± 0.30）分]较对照组[分别为CM（2.87 ± 0.35）分、AI（3.04 ± 0.45）分、GF（2.19 ± 0.28）分]降低，实验组在[家庭角色（Roles，RL）（1.97 ± 0.41）分、情感反应（Affective Responsiveness，AR）（2.27 ± 0.41）分、GF（1.89 ± 0.30）分]较治疗前[分别为RL（2.78 ± 0.52）、AR（3.17 ± 0.41）、GF]（2.70 ± 0.29）分]降低，差异均有统计学意义（所有P＜0.05）。

讨论：以往研究显示伴NSSI青少年抑郁障碍患者发病率很高，他们容易相互学习非自杀性自伤行为，具有一定的“传染性”。伴有NSSI青少年抑郁障碍家庭功能不良，成员之间沟通困难，家庭关系僵化，整体适应功能减退。系统式家庭治疗通过鼓励患者家庭成员之间相互沟通，营造平等的家庭关系，促进情感交流，提升家庭整体功能等，且可通过改善家庭关系来减少NSSI发生的风险因素。 系统式家庭治疗可改善伴NSSI青少年抑郁症障碍患者NSSI水平以及FAD中RL、AR以及GF水平。

关键词 青少年抑郁障碍；非自杀性自伤；家庭功能；系统式家庭治疗

Functional network connectivity biomarkers identify sex hormone-specific phenotypes of major depressive disorder

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Background: Functional connectivity (FC) features serve as effective biomarkers to enhance the diagnostic and treatment of major depressive disorder (MDD). While sex hormones play a crucial role in MDD pathogenesis, neuroimaging signatures specifically linked to sex hormone fluctuations remain critically underexplored for MDD identification.

Methods: A dataset including 7,316 participants with sex hormones and depression assessment was used to analyzed the relationships between depression and sex hormones across age and sex groups. Additionally, employing REST-meta-MDD dataset including 753 MDD patients and 681 controls, we established a novel graph classification framework based on multi-convolution network and attention pooling to identify sex hormone-specific MDD subtypes.

Results: MDD individuals of both sexes showed elevated estrogen levels than non-MDD individuals. Female MDD individuals also had higher testosterone levels than their non-MDD counterparts. Depressive symptoms differences between young and middle-aged MDD individuals were predominantly observed in females, whereas no significant age-related variations were detected in males. Our novel method achieved over 75% accuracy in

classifying young and middle-aged MDD patients. Discriminative features were mainly in the sensorimotor network for males and the cingulo-opercular network for females.

Conclusion: These findings revealed that sex hormone fluctuation-specific FCs were critically in identifying MDD subtypes, especially for females. Considering sex hormones in MDD diagnosis and treatment is essential for improving clinical outcomes.

Key Words depression; subtype; sex hormone fluctuation; functional connectivity

Altered dynamic brain activity of recent suicidal ideation and suicidal attempt in depression patients and its relationship with cognitive function

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Objective: The "ideation-to-action" framework for suicide posited that the occurrence of suicidal ideation (SI) and suicide attempts (SA) may involve distinct neural mechanisms. However, the disparities in neurocognitive impairment between SI and SA, along with the underlying neural mechanisms, remain further investigation.

Methods: A total of 730 participants were recruited, including depressed patients with recent SA (SA group, n = 69), patients with recent SI but no history of SA (SI group, n = 327), patients without SI or SA (NSI group, n = 87) and 247 healthy controls. All participants underwent resting-state functional magnetic resonance imaging (rs-fMRI) scans and completed cognitive function assessments. The dynamic regional homogeneity (dReHo) was measured using a sliding-window approach. Differences in dReHo and cognitive function between groups were analyzed.

Results: The SI group demonstrated decreased verbal memory compared to the NSI group. Critically, the SA group exhibited more pronounced verbal memory impairment than the SI group, accompanied by deficits in working memory and cognitive flexibility. Neuroimaging results revealed elevated dReHo values in the right precuneus (PCUN.R) in the SA group, distinguishing them from the SI, NSI, and HC groups. Additionally, the increased dReHo of PCUN.R was correlated with diminished cognitive performance.

Conclusions: Depressed patients with SA showed elevated variability of functional activity in PCUN.R, which may be related to their more severe cognitive impairment. This may be a potential neural basis for the development of SA. Our findings offer new insights for advancing neuroscience research on the progression from SI to SA.

Key Words suicidal ideation; suicidal attempt; major depressive disorder; resting-state functional magnetic resonance imaging; cognitive function

Functional Network Organization for Early Identification of Bipolar Disorder in Late Adolescents and Young Adults with Depressive Episodes

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Objective: Bipolar disorder (BD) is often misdiagnosed as major depressive disorder (MDD), especially among individuals in late adolescence and young adulthood, due to the delayed emergence of distinguishing clinical symptoms. This longitudinal follow-up study aimed to identify neurobiological markers that enable early differentiation of BD from MDD in late adolescence and young adulthood.

Methods: The study comprised 181 patients with bipolar depressive disorder (BDD), 90 patients who transitioned from MDD to BD (tBD), 265 patients with unipolar depression (UD), and 204 healthy controls (HC). The tBD group refers to individuals initially diagnosed with MDD who experienced manic/hypomanic episodes during follow-up, resulting in a revised diagnosis of BD. All participants underwent resting-state functional magnetic resonance imaging (rs-fMRI) at baseline. Functional connectivity (FC) analyses were performed based on large-scale brain networks, along with graph theory analyses.

Results: Patients with depressive episodes showed reduced FC between the sensorimotor network (SMN) and visual network (VN) and within the subcortical network (SubN) ($P < 0.01$). All patient groups showed reduced assortativity ($P < 0.05$). Sigma was elevated in BDD and tBD, accompanied by reduced maximum sparsity in BDD and increased gamma in tBD ($P < 0.05$). The UD group showed no changes in these metrics, but demonstrated reduced clustering coefficient and local efficiency ($P < 0.01$). Compared to UD, BDD and tBD showed higher sigma and gamma, and tBD had higher local efficiency. In tBD, network metrics were associated with depressive severity, anxiety, suicide, and aggression ($P < 0.05$).

Conclusions: BDD and tBD patients exhibited highly modular organization in the SMN, VN and SubN, whereas UD patients were characterized by reduced local efficiency. These patterns serve as distinct neural fingerprints with potential diagnostic value for the early identification of BD from MDD.

Key Words bipolar disorder; unipolar depression; resting-state functional magnetic resonance imaging; functional connectivity; graph theory

Functional Brain Abnormalities in Adolescents and Young Adults with Bipolar Depression with Mixed Features: Insights from Resting-State fMRI

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Background: Bipolar depression with mixed features (BD-MF) is a distinct subtype of bipolar disorder (BD), associated with emotional instability, impulsivity, and elevated suicide risk. However, its neurobiological mechanisms remain poorly understood.

Methods: Using DSM-5 criteria, 208 adolescents and young adults with bipolar depression and 169 healthy controls (HC) were recruited, comprising 78 BD-MF, 110 BD without mixed features (BD-nMF), and 164 HC. Clinical assessments included the Hamilton Depression Rating Scale-17 (HAMD-17), Hamilton Anxiety Rating Scale (HAMA), and Young Mania Rating Scale (YMRS). Resting-state fMRI was analyzed using fractional amplitude of low-frequency fluctuations (mfALFF) to identify functional abnormalities, with correlations between mfALFF values and clinical symptoms examined.

Results: BD-MF patients exhibited significantly increased mfALFF values in the right precuneus, left inferior parietal lobule, and right middle frontal gyrus compared to BD-nMF and HC ($P < 0.05$, FDR corrected). Hyperactivation of the right precuneus correlated with mixed features ($r = 0.364$, $P < 0.001$) and agitation scores ($r = 0.275$, $P < 0.001$). Left inferior parietal lobule activity correlated with suicide scores ($r = 0.241$, $P < 0.001$), and right middle frontal gyrus hyperactivation correlated with mixed features ($r = 0.293$, $P < 0.001$).

Conclusions: BD-MF involves functional abnormalities in the right precuneus, left inferior parietal lobule, and right middle frontal gyrus, which are associated with mixed features, agitation, and suicide risk. These findings underscore the potential of neuroimaging biomarkers for early diagnosis and risk stratification. Integrating clinical and neuroimaging data may facilitate early intervention and improve outcomes for high-risk patients.

Key Words Bipolar Disorder; Mixed Features; Functional Brain Biomarkers; Adolescents and Young Adults; Suicide; Agitation

首发未服药抑郁症患者的脑电微状态特征研究

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目的：通过对首发未用药抑郁症患者脑电微状态参数特征的比较分析，探讨抑郁症的特异电生理特征，为重度抑郁障碍发病机制的研究及早期诊断提供电生理学依据。

方法：本研究纳入84例首发未用药的重度抑郁症患者及82例性别、年龄相匹配的健康对照，所有受试者均采集5–6分钟的闭眼静息态脑电数据，使用MATLAB和EEGLAB并进行预处理和微状态分析。使用SPSS 26.0比较两组受试者静息态脑网络微状态时间参数特征。

结果：本研究发现了4种典型的微状态（A–D），与健康对照组相比，重度抑郁障碍组微状态A的覆盖率、持续时间和发生率均显著降低，微状态B的覆盖率、持续时间和发生率显著增高，微状态D的覆盖率、持续时间则显著降低。此外，两组间微状态A→B、A→D、B→A、C→A、C→B、D→A及D→B的转化概率差异均具有统计学意义（$P < 0.05$）。

结论：首发未用药抑郁症表现为微状态A、微状态B和微状态D的改变，反映了重度抑郁症患者存在脑网络的潜在异常，这些特异性微状态可作为重度抑郁症的生物标志物，有助于揭示重度抑郁症的发病机制并辅助早期诊断。

关键词 重度抑郁症；静息态脑电图；微状态

低频重复经颅磁刺激联合正念认知疗法对主观性失眠患者的干预研究

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目的：了解慢性失眠患者睡眠质量与焦虑之间的关系,探讨低频重复经颅磁刺激联合正念认知疗法对主观性失眠患者睡眠的影响。

方法：选取70例符合国际睡眠障碍分类–第3版（ICSD–3）诊断标准的慢性失眠患者，按入院时间随机分成对照组和研究组各35例，研究组给与低频rTMS联合正念认知疗法，对照组采用rTMS和睡眠健康教育。70例受试者完成一般情况调查表、状态–特质焦虑问卷、阿森斯失眠量表、睡眠日记，比较治疗前后两组患者主观睡眠及状态–特质焦虑情况。

结果：在状态焦虑和特质焦虑上主观性失眠患者得分均高于正常水平；治疗后两组患者状态焦虑和特质焦虑得分较治疗前下降，差异有统计学意义($P<0.05$)；研究组在治疗后特质焦虑得分明显低于对照组，差异性极其显著（$P<0.01$）；研究组治疗后睡眠潜伏期较治疗前缩短、总睡眠时间、总卧床时间，睡眠效率较治疗前提高，差异有统计学意义($P<0.05$)。

结论：低频重复经磁刺激治疗改善状态焦虑，正念治疗影响特质焦虑，两者结合使用可降低患者焦虑水平，增加睡眠的主观感受性，睡眠质量提高。

关键词 主观性失眠；经颅磁刺激；正念认知疗法；状态焦虑；特质焦虑

奥氮平对小鼠代谢的影响及Ghrelin的中介效应

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目的：探索不同剂量奥氮平对小鼠代谢的的影响及Ghrelin的中介效应。

方法：将SPF级雄性C57BL/6小鼠40只，随机分为对照组（CG，0.2mL生理盐水灌胃）、奥氮平低剂量组（LG，0.5 mg/kg奥氮平灌胃）、奥氮平中剂量组（MG，1.0 mg/kg奥氮平灌胃）和奥氮平高剂量组（HG，2.0 mg/kg奥氮平灌胃），每组10只，比较实验前后小鼠各指标的变化。

结果：四组小鼠体重的差异不显著（P = 0.141）。四组小鼠摄食量的差异有统计学意义（P = 0.004），CG组、HG组摄食量显著高于LG组和MG组。四组小鼠活动总路程的差异有统计学意义（P < 0.001），CG组和LG组总路程显著高于MG组和HG组。四组小鼠在血浆TC水平变化上差异有统计学意义（P = 0.003），CG组显著低于其他三组。四组小鼠实验前后的TG差异有统计学意义（P < 0.001），CG组TG显著低于其他三组。四组小鼠实验前后的LDL-C差异有统计学意义（P = 0.014），CG组LDL-C显著低于其他三组。四组小鼠实验前后的HDL-C差异不显著（P = 0.164）。四组小鼠实验前后的Ghrelin差异有统计学意义（P < 0.001），MG组Ghrelin显著高于CG组和LG组，HG组Ghrelin显著高于其他三组。路径分析结果显示，Ghrelin对BW无显著影响（P = 0.991）；Ghrelin对TG存在显著正向影响（P < 0.001）；Ghrelin对TC存在显著正向影响（P = 0.001）；Ghrelin对LDL-C存在显著正向影响（P < 0.043）；Ghrelin对HDL-C无显著影响（P = 0.539）。

结论：短时间内服用0.5 mg/kg和1.0 mg/kg奥氮平的小鼠食物摄入量减少；奥氮平可明显升高血脂水平，且影响结果无明显剂量依赖性；1.0 mg/kg和2.0mg/kg奥氮平降低了小鼠的活跃程度；0.5 mg/kg、1.0 mg/kg和2.0mg/kg奥氮平均升高了血浆TC、TG和LDL-C水平，只有1.0 mg/kg和2.0mg/kg奥氮平升高了血浆Ghrelin水平。Ghrelin介导了奥氮平对小鼠脂代谢影响的过程。

关键词 奥氮平；血脂；Ghrenlin；副作用

Clinical Traits of Patients with Major Depressive Disorder with Comorbid Borderline Personality Disorder Based on Propensity Score Matching

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Background: Major depressive disorder (MDD) with comorbid borderline personality disorder (BPD) makes

the clinical symptoms of patients more complex and more difficult to treat, so more attention should be paid to the recognition of their clinical features. This study investigated the differences between patients with MDD with and without BPD in clinical traits.

Methods: Propensity score matching was used to analyze the retrospective patients' data from August 2012 to September 2019. Altogether, 1381 patients with MDD were enrolled; 38 patients with MDD were matched to compare demographic data, and scores on the Hamilton Depression Scale (HAMD), Hamilton Anxiety Scale (HAMA), Self-Rating Depression Scale (SDS), Modified Overt Aggression Scale (MOAS), and the frequency of non-suicidal self-harm (NSSH).Results: Compared to patients with MDD without BPD, the age of onset of patients with MDD with comorbid BPD was significantly earlier (t=3.25, P=0.00). The scores of HAMA (t=-2.28, P=0.03), SDS (t=9.31, P=0.00), MOAS (t=-13.67, P=0.00), verbal aggression (t=-3.79, P=0.00), aggression against objects (t=-2.84, P=0.00), aggression against others (t=-6.70, P=0.00), and aggression against self (t=-9.22, P=0.00) were significantly higher in patients with MDD with comorbid BPD. Moreover, the frequency of NHSS in these patients was significantly higher (c2=20.13, P=0.00). MOAS was an independent influencing factor in these (OR=7.38, P=0.00).

Conclusions: Patients with BPD showed early onset and increased complaints relative to symptoms, accompanied by obvious anxiety symptoms, impulsive behavior, and NSSH. Therefore, patients with MDD with impulsive behavior have comorbid BPD.

Key Words Major Depressive Disorder; Borderline Personality Disorder; Propensity Score Match; Impulsive Behavior; Non-suicidal self-harm

一例焦虑障碍患者出汗的中医护理

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焦虑障碍是最常见的精神疾病之一。据研究统计，约1/3的人群在一生中会经历焦虑障碍，严重影响人们的社会功能[1, 2]。焦虑症常伴有心悸、胸闷、气短、出汗、紧张性震颤、口干及颜面潮红或苍白等躯体症状[3]。中医上汗证是指由于阴阳失调，营卫不和，腠理开阖不利而导致汗液外泄的一类病症。中医关于汗症早有记载，《医学正传·汗症》“其自汗者，无时而濈然出，动则为甚，属阳虚。盗汗者，寐中而通身如浴，醒来方知，属阴虚”。汗液为人体精液的一种，如汗出过度则为病理状态。目前，西医的抗焦虑药物虽可以有效缓解患者出汗的问题,但却会产生较多副作用,如易导致困倦、肝功能损害以及长期使用易形成依赖、耐受等[4]。有研究报道，中医护理可有效缓解患者焦虑引起的出汗症状,具有积极的临床应用价值。因此我们采用悬空灸复溜、中药贴敷等特色中医护理技术，探究对患者出汗症状情况，这种整体调节作用突显了中医“治病求本”的核心理念。实践表明，将中医护理方案整合到焦虑障碍管理中，不仅能有效阻断“焦虑-出汗-阴阳失衡”的恶性循环，其非药物干预特性更规避了化学药物的不良反应风险。这种基于天人相应理论的护理模式，为现代心身疾病的治疗提供了重要的补充路径。为更快改善焦虑患者出汗症状及预后，提高患者生活质量，现将本科室收治的一例焦虑患者出汗严重的护理措施总结如下。

关键词 焦虑障碍；出汗；中医护理

首发精神分裂症行为控制后期β频段活动延续性调节的异常：一项时间－频率分析研究

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背景：β频段（13－30 Hz）的神经振荡在运动抑制和行为控制中具有关键作用。已有研究表明，该频段在前补充运动区（pre-supplementary motor area, preSMA）与初级运动皮层（left primary motor cortex, lM1）的功率变化，与Go/No-Go任务中的抑制功能密切相关。然而，过往研究多聚焦于150－400 ms的经典分析窗口，强调早期β功率下降所反映的即时抑制过程。近期理论指出，行为抑制可能具有更长的时程，其在任务执行后的后期调节机制尚未被充分研究。为此，本研究探索400ms之后β节律的延续性调节特征，并比较其在首发精神分裂症患者（first-episode schizophrenia, FES）与健康对照（healthy controls, HC）中的差异表现。

方法：本研究共纳入18例FES患者与20名年龄、性别匹配的HC个体，均完成Go/No-Go任务条件下的脑磁图（magnetoencephalography, MEG）采集。鉴于前期功率谱分析结果显示preSMA与lM1区域均存在β功率下降，本研究时间－频率分析（time－frequency representation, TFR）阶段主要选取接近lM1区域的通道进行动态追踪，以观察后期功率调节过程。重点提取NoGo条件下代表preSMA与lM1的通道功率，并分别计算150－400ms（传统抑制期）与400－800ms（后期恢复期）两个时间窗内的β功率均值，同时绘制通道平均功率曲线，观察动态变化趋势。并把β功率恢复幅度与行为指标（冲动量表（Barratt Impulsiveness Scale-11, BIS-11）和数字符号替代测验（Digit Symbol Substitution Test, DSST））进行相关性分析。

结果：FES组在150－400 ms时间窗内的β频段功率显著低于HC组（$p < 0.05$），表现出更强的β抑制。进一步分析显示，在接近初级运动皮层（lM1）区域的通道中，HC组在约600 ms处出现β功率的明显回升，而FES组该现象不明显，部分个体在整个后期时间段内持续维持较低的功率水平。该回升趋势在β频段核心频率（如18 Hz）尤为突出，表现为早期下降后在600－800 ms区间内逐渐增强。行为数据分析显示，FES组中β功率恢复幅度与冲动量表（Barratt Impulsiveness Scale-11, BIS-11）总分呈负相关（$r = -0.42, p < 0.05$），与数字符号替代测验（Digit Symbol Substitution Test, DSST）得分呈正相关（$r = 0.47, p < 0.05$），提示该后期神经活动的个体差异可能与冲动倾向及执行控制能力密切相关。

结论：本研究在群体水平上系统考察了No-Go抑制后期β频段功率的延续性调节特征，并首次将该神经动态与个体行为表现（冲动性与执行效率）相联系，揭示其在首发精神分裂症患者中的潜在障碍机制。FES个体虽展现出增强的β抑制响应，但缺乏典型的延迟性功率恢复，提示其在后期反馈调节与抑制后整合机制中可能存在功能障碍。β恢复的个体差异与冲动性及任务表现显著相关，为理解精神分裂症中的行为控制障碍提供了新证据，并为β节律作为神经调节生物标志物的潜力提供了支持。后续研究将结合功能连接、神经炎症指标与多模态行为评估，进一步解析其跨时空调控机制。

关键词 首发精神分裂症；行为控制；β频段；时间－频率分析；冲动性

Do cytokines influence post-stroke insomnia?

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Objective: It is widely postulated that inflammation contributes to the pathogenesis of both stroke and insomnia; however, the mechanism underlying post-stroke insomnia (PSI) remains ambiguous. Therefore, this study aims to elucidate the potential inflammatory mechanisms associated with PSI and evaluate its predictive value.

Methods: Patients with acute stroke were enrolled in this study. Sleep quality was evaluated using the Pittsburgh Sleep Quality Index (PSQI), alongside the assessment of 12 cytokines and C1q levels. The anxiety (HAD-A) and depression (HAD-D) states of patients were assessed utilizing the Hospital Anxiety and Depression Scale. Statistical analyses were conducted to compare differences in each indicator among patients with various types of stroke and varying sleep quality.

Results: The prevalence of sleep disorders among patients with acute stroke is as high as 75.7%. There were no significant differences observed in the PSQI scores and cytokines across different subtypes of strokes. However, significant differences were found in Interleukin-6 (IL-6), Interferon-α (INF-α), and C1q levels, as well as in HAD-A and HAD-D scores among patients with varying post-stroke sleep quality . Factors associated with PSQI included C1q, HAD-A and HAD-D scores. Binary logistic regression analysis revealed that C1q, IL-6, IL-10, IL-12, HAD-A, and HAD-D had a significant impact on sleep quality. The receiver operating characteristic (ROC) curve indicated that only IL-6 and HAD-A scores predicted PSQI.

Conlusion: Insomnia is common after acute stroke, possibly due to inflammation. IL-6 levels and anxiety could serve as predictors for PSI development, thereby presenting potential targets for therapeutic intervention.

Key Words Stroke, Inflammation, Cytokines, C1q, Depression, Anxiety

The homogeneity of training for graduate students of psychiatry in different universities in China

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Introduction: The cultivation of psychiatry graduate students is critical for addressing the shortage of mental health resources in China. However, no research has examined the homogeneity of their training across universities. This study evaluates the homogeneity of both training outcomes and processes at different institutions, potentially offering evidence-based insights for policy-making.

Methods: From June 2022 to December 2022, surveys were conducted via an online questionnaire platform among designated universities. The survey covered general information, the training process, and the training outcomes.

Results: Among the four types of universities, significant differences were observed in the clinical training process, including teaching rounds (P<0.05), case discussions (P<0.01), small lectures (P<0.01), teaching conditions (P<0.01), and total scores (P<0.01). Significant differences were also noted in research conditions (P<0.01) and total scores (P<0.05) during the research training process. In the humanistic quality training process, only morality (P<0.01) showed significant differences. Additionally, the total score of the training process (P<0.01) was significantly different. Regarding training outcomes, only graduation examinations differed significantly among the four universities (P<0.01). Correlation analysis revealed a positive correlation between clinical conditions (r = 0.327, P<0.01), research conditions (r = 0.453, P<0.01), and total scores (r = 0.307, P<0.05). However, no correlation was found for humanistic quality conditions (r = 0.044, P>0.05).

Conclusion: The training outcomes for psychiatry graduate students show high homogeneity, but the training process consistency needs improvement. More emphasis should be placed on daily clinical practice and research.

Key Words University, Graduate students of psychiatry, Training process, Training outcome, Homogeneity.

利培酮与喹硫平治疗首发精神分裂症的临床对比研究

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目的：探讨在首发精神分裂症患者的治疗中采用利培酮或采用喹硫平的治疗效果。

方法：随机抽取本院2022年1月～2023年1月74例首发精神分裂症病例作为研究样本，借助随机数字表法予以均分组，即对照组（n=37例）、观察组（n=37例），观察组患者以喹硫平进行治疗，对照组患者采用利培酮治疗，比较2组的临床疗效、认知功能以及药物不良反应率。

结果 ：施治前阳性症状、阴性症状、一般精神病理症状、PANSS总得分2组平行比较差异微小P＞0.05，施治后2组的阳性症状、阴性症状、一般精神病理症状、PANSS总得分均较本组施治前降低P＜0.05，且施治后2组的各项评分相比均差异较小P＞0.05；施治前即刻记忆、延时记忆、视觉广度、注意力、语言功能以及RBANS总得分2组平行比较差异微小P＞0.05，施治后2组的即刻记忆、延时记忆、视觉广度、注意力、语言功能以及RBANS总得分均较本组施治前升高P＜0.05，且施治后2组的各项评分相比均差异较小P＞0.05；治疗总有效率组间平行对比中，观察组达到97.30%、对照组94.59%，P＞0.05；药物不良反应发生率组间平行对比中，观察组13.51%、对照组16.22%，P＞0.05。

结论：对首发精神分裂症患者采用利培酮或喹硫平进行治疗均可获得确切疗效，并改善认知功能，且用药安全性均较好。

关键词 精神分裂症；首发患者；利培酮；喹硫平

急性期脑卒中患者睡眠质量与感知压力、社会支持和心理弹性的关系

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目的：探讨急性期脑卒中患者睡眠质量与感知压力、社会支持和心理弹性间的中介作用。

方法：采用横断面研究设计，于2023年8月至2025年1月对常州市第二人民医院527例急性期脑卒中患者进行问卷调查。使用一般资料调查表、10项感知压力问卷、社会支持量表、心理弹性量表和匹兹堡睡眠质量指数量表进行评估，采用Pearson相关分析和SPSS-PROCESS宏插件进行链式中介效应分析。

结果：患者感知压力（18.86 ± 6.32分）与社会支持（36.22 ± 7.62分）、心理弹性（57.92 ± 14.46分）呈负相关（r=-0.272，r=-0.296，P<0.001），与睡眠质量（7.19 ± 3.27分）呈正相关（r=0.372，P<0.001）。社会支持与心理弹性正相关（r=0.508，P<0.001），与睡眠质量负相关（r=-0.293，P<0.001）。心理弹性与睡眠质量负相关（r=-0.337，P<0.001）。中介分析显示：感知压力正向预测睡眠质量（β=0.25，P<0.001）；社会支持（β=-0.10，P<0.001）和心理弹性（β=-0.19，P<0.001）负向预测睡眠质量，并起到部分中介作用，中介效应分别为8.24%和9.41%；感知压力对睡眠质量的直接效应为0.130，占总效应的76.47%；感知压力通过社会支持、心理弹性对睡眠质量有链式中介效应，占总效应的7.06%。

结论：急性期脑卒中患者睡眠质量受感知压力直接影响，并通过社会支持和心理弹性的中介路径间接影响。临床应重视心理社会干预，通过增强社会支持网络和培养心理弹性改善患者睡眠质量和整体预后。

关键词【关键词】急性期；脑卒中；睡眠质量；感知压力；社会支持；心理弹性

Endogenous Neural Phenotypes of Diagnostic Transition from Major Depressive Disorder to Bipolar Disorder: A MEG-Based Dynamic Brain Modeling Study

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Objective: Bipolar disorder (BD) is often misdiagnosed as major depressive disorder (MDD). Delays in diagnosis will make treatment difficult. Previous studies on major depressive disorder (MDD) and bipolar disorder (BD) have found differences in brain structure and function, including key brain regions such as the default mode

network (DMN), sensorimotor network (SMN), and central executive network (CEN). However, little is known about the dynamic network activity in the brain of patients who were initially diagnosed with bipolar disorder (tBD) after a depressive episode. Therefore, the purpose of this study is to identify bipolar disorder early before a manic episode by using sub-second spontaneous transient state activation. By exploring how spontaneous transient activation patterns organize and coordinate brain networks, comparing the brain dynamic characteristics of tBD, MDD, and BD patients, revealing the underlying neurophysiological mechanisms, and providing a scientific basis for the early identification of BD.

Methods: Resting-state magnetoencephalography (MEG) data were collected from 33 patients with tBD, 54 patients with major depressive disorder (MDD), 55 patients with bipolar disorder (BD), and 53 matched healthy controls (HC). Dynamic network modeling (DyNeMo) was adopted to capture sub-second dynamic activities with a limited number of potential states in source space signals. Here, DyNeMo states describe the spatiotemporal characteristics of six brain networks. Temporal parameters and spectral activation information of each state were obtained, and nonparametric permutation tests were used to compare the occupancy fraction (FO), lifetime (LT), interval time (IT), and switching rate (SR) of each state between groups, while controlling for sex, age, and years of education.

Results: The results showed that the four groups had significant differences in SR in state 2 (DMN) ($F = 7.313$, $p < 0.001$, $q = 0.001$) and SR in state 4 (low-power background network) ($F = 9.514$, $p < 0.001$, $q < 0.001$). Post hoc tests showed that in state 2, the transition rate of the tBD group was significantly higher than that of the BD group ($p = 0.011$, $q = 0.016$) and the HC group ($p = 0.002$, $q = 0.007$). In addition, the transition rate of the UD group was higher than that of the BD group ($p = 0.004$, $q = 0.008$) and the HC group ($p = 0.001$, $q = 0.005$). Meanwhile, in state 4, SR in tBD was significantly higher than that in UD ($p = 0.040$, $q = 0.060$), BD ($p < 0.001$, $q < 0.001$), and HC ($p < 0.001$, $q < 0.001$). In addition, SR in UD was higher than that in HC ($p = 0.028$, $q = 0.055$).

Conclusion: Our study revealed different brain activation patterns between tBD, MDD, and BD. States 2 and 4 may reflect the activity of specific neural networks related to emotion regulation, cognitive control, and attention. Compared with UD, tBD experienced more severe cognitive impairment and mood swings, showing stronger brain network dynamic instability. These findings suggest that the increase in SR in state 4 may serve as a sensitive biomarker of phase transition, revealing that abnormal low-power activity in the brain is a key early indicator of BD.

Key Words Bipolar disorder , Major depressive disorder, Resting-state MEG, Dynamic brain networks, DyNeMo

色氨酸代谢通路重要指标与精神分裂症的关联研究

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目的：精神分裂症（SCZ）是一种严重的神经精神疾病，以认知、情感和行为异常为特征，其病理机制涉及遗传、环境及神经递质失衡等多重因素。近年来，色氨酸（Trp）代谢通路的异常激活成为研究热点，该通路通过产生5羟色胺（5-HT）、犬尿氨酸（KYN）等活性代谢物，在神经炎症调节、氧化应激和突触可塑性中发挥关键作用，可能是SCZ病理机制的重要枢纽。本文旨在运用靶向代谢组学定量检测MK-801诱导的SCZ样小鼠模型的脑组织及血清在Trp代谢通路上的相关指标的代谢差异，探讨Trp代

谢通路异常与SCZ中病理机制的关联性，进一步检测急性期SCZ患者血清Trp代谢通路相关物质，探索辅助SCZ诊断的外周生物标记物，寻找MK-801模型与临床患者代谢谱的相似性。

方法：第一部分：选取C57BL/6小鼠适应性饲养7天后，随机分为对照组、模型组。前2周对照组腹腔注射生理盐水，模型组腹腔注射MK-801（地佐环平）。第3周对照组及模型组行为学实验。第4周取两组小鼠心脏血，离心留取血清及取小鼠脑组织。第二部分：收集55例首发或停药6月及以上的急性期SCZ患者的基线期及经过抗精神病药物治疗2周、4周后的血液样本与55例健康对照人群的血液样本。运用靶向代谢组学检测定量检测目标代谢物。

结果：MK-801模型小鼠脑组织中多巴胺（DA）[308.66（244.51，516.23）]与对照组DA[443.54（393.89，598.51）]相比，显著降低；甘氨酸（Gly）[14733.22（10572.10，21488.64）]与对照组Gly[10388.94（8450.87，13798.94）]相比，显著升高。MK-801组血清5羟基吲哚乙酸（5HIAA）（209.35 ± 51.86）、5-HT（2067.82 ± 448.99）、吲哚乙酸（IAA）[22.79（18.66，35.59）]与对照组5HIAA（256.21 ± 63.50）、5-HT（2394.65 ± 410.99）、IAA[43.46（32.88，65.33）]相比，显著减少；酪氨酸（Tyr）[8835.36(7889.63,11495.36)]与对照组Tyr[7893.67（6715.73，9430.79）]相比，显著升高，p均＜0.05。

病例组基线期Gly[221.34（184.41，288.23）]、Tyr[3686.03（2804.45，4891.74）]、KYN[166.53（137.38，193.13）]、犬尿喹啉酸（KYNA）[2.26（1.75，2.99）]、Trp[5889.38（4525.43，6941.24）]、天冬氨酸（Asp）[50.59（39.9.，66.95）]、5-HT[214.62（139.49，274.28）]、IAA[234.29（169.77，357.96）]、KYNA/KYN[0.01（0.01，0.02）]与对照组Gly[500.70（403.08，659.29）]、Tyr[8293.35（6548.72，10043.22）]、KYN[306.06（254.4，357.75）]、KYNA[9.77（7.11，12.85）]、Trp[10411.58（8879.03，12814.32）]、Asp[60.68（49.68，79.47）]、5-HT[607.14（456.06，736.88）]、IAA[317.59（216.74，379.89）]、KYNA/KYN[0.03（0.02，0.04）]相比，显著降低。谷氨酰胺（Gln）（2434.77 ± 619.85）、褪黑素（MT）[0.09（0.00，0.02）]、5HIAA[12.54（9.72，16.78）]与对照组Gln（2031.32 ± 442.07）、MT[0.00（0.00，0.00）]、5HIAA[9.77（7.10，12.93）]相比，显著增加，p均＜0.05。KYN/Trp[0.03（0.02，0.03）]与对照组KYN/Trp[0.03（0.03，0.03）]相比，差异不明显。

用药后，Gln、Gly、Asp、KYNA、KYN、Trp、Tyr、KYN/Trp随着用药时间的变化，水平升高；MT随着用药时间的变化水平逐渐降低。

讨论：SCZ模型小鼠及急性期SCZ与正常对照组相比Trp代谢通路相关物质存在明显的差异，尤其是Trp、KYN、KYNA、KYNA/KYN比值、KYN/Trp比值、Gly、Tyr、Asp、Gln、5-HT、5HIAA、IAA、MT的变化与SCZ关系紧密，可能在SCZ的病理机制中具有重要作用；Gln、5-HT、5HIAA与认知功能及阴性症状密切相关。

关键词 精神分裂症；色氨酸通路；MK-801；认知功能

体验式健康教育对住院精神分裂症伴糖尿病患者自我管理行为的影响

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目的：以体验式健康教育为干预措施，探讨体验式健康教育对住院精神分裂症伴糖尿病患者自我管

理行为的影响。

方法：选取 2024年 1—12月在南京市某二级甲等医院精神科就诊的70例精神分裂症伴糖尿病患者为研究对象，采用精神分裂症患者自我管理量表（SSMIS)、2型糖尿病自我管理行为量表(T2–CSO)、密歇根糖尿病知识测试问卷（DKT）及精神分裂症知识测验问卷(自制)对患者干预前后自我管理行为进行统计学分析。

结果：干预后观察组患者的维持社会功能级日常生活、自我效能感、精神症状管理、糖尿病症状管理、服药依从性药物管理评分均高于对照组（P＜0.05）。

讨论：在精神分裂症伴糖尿病患者临床护理中应用体验式健康教育模式，可明显改善病人病情，促使患者产生改变自我管理行为的意向，提高患者自我管理能力，改善患者的社会功能，促进康复。

关键词 精神分裂症；糖尿病；体验式健康教育；自我管理能力

前瞻性研究：一种经外部精神科验证的抑郁症筛查新工具

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目的：抑郁症已成为全球范围内的重大社会公共卫生问题。我国抑郁症患者具有高共病率、高社会功能损害以及低精神卫生服务利用率的特点。因此，提升抑郁症筛查的准确率，已成为精神卫生从业人员亟待解决的重要课题与严峻挑战。

在抑郁症的诊疗过程中，结构化临床访谈是常用的诊断手段，然而其受到精神科医师数量、场地及时间等多方面因素的制约，难以快速便捷地应用于众多有需求的抑郁症患者。尽管患者健康问卷 9（PHQ–9）在精神科抑郁症患者的初步筛查中被广泛使用，但仍存在较多患者被误诊或漏诊的情况。目前，尚未有针对精神科门诊抑郁症患者筛查的高精度工具。本研究旨在前瞻性地构建一种列线图，以期提高精神科门诊抑郁症患者筛查的准确性。

方法：于2023年02月开始从西京医院和联勤保障部队第九〇四医院精神科门诊招募受试者。截止2024年02月，西京医院招募546例抑郁症患者，以2：1的比例随机分为训练队列（N=364）和内部验证队列（N=182），第九〇四医院196名抑郁症患者组成了外部验证队列。使用R软件（4.2.3）进行统计分析，采用10次交叉验证的LASSO回归分析对数据进行降维，筛选出抑郁症的最优预测因子，按其在多变量Logistic回归中的系数进行整合，绘制列线图。通过ROC曲线下面积（AUC）来判断列线图的鉴别能力，并使用决策曲线分析(DCA)对列线图和PHQ–9的临床效能进行比较。

结果：在训练队列、内部验证队列和外部验证队列中，PHQ–9评分≥10的患者比例分别为67.31%（245/364）、64.29%（117/182）和48.47%（95/196），据MINI诊断为抑郁症患者的比例分别为58.52%（213/364）、57.69%（105/182）和35.71%（70/196）。经散点图分析，列线图和PHQ–9的总分在训练队列和验证队列中表现出很强的正相关性。在内部验证队列中，列线图AUC[0.946（0.925–0.968）]显著高于PHQ–9[0.915（0.883–0.946）]，p＜0.01；同样在外部验证队列中，列线图AUC[0.943（0.920–0.966）]也优于PHQ–9[0.908（0.874–0.942）]，p＜0.01。总的来说，列线图显示出了比PHQ–9更好的区分能力和更好的性能，可以提高抑郁症患者筛查的准确性。

讨论：PHQ–9是最常用的抑郁症筛查工具，但是忽略了不同症状的权重，导致部分抑郁症患者的误诊和漏诊。本文权衡了PHQ–9不同症状在抑郁症患者中的权重，首次前瞻性的构建了一种列线图，提高了抑郁症筛查准确性，且经内部和外部验证后发现其效果均优于PHQ–9。在以后的工作中，还需扩大样

本量并在其他精神专科医院验证其效能，进行改进，以增加其可用性。

关键词 抑郁症；预测模型；列线图；精神科样本；筛查

iTBS模式重复经颅磁刺激对抑郁症患者快感缺失及社会功能的影响

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目的：探究iTBS模式重复经颅磁刺激对抑郁症患者快感缺失及社会功能的影响，为临床治疗提供实证支持。

方法：进行随机抽样，选取合肥市第四人民医院符合入组要求的抑郁症患者60名，通过随机分配到iTBS组（真刺激组）和对照组（伪刺激组）。iTBS组采用iTBS刺激进行治疗，对照组则采用不产生磁场的伪线圈治疗，其他参数与iTBS组一致，两组治疗时长均持续5天。治疗前后均使用汉密尔顿抑郁量表（HAMD-17）、社会功能缺陷筛选量表(SDSS)、动机与愉悦量表（MAP-SR）数据收集，运用SPSS18.0分析数据。

结果：两组人口学资料及量表评分在基线时无统计学差异（P＞0.05）。治疗结束后，iTBS组在HAMD-17总分、各因子分、SDSS总分均显著降低，MAP-SR总分显著增高（P＜0.001）；且iTBS组在HAMD-17总分减分、MAP-SR总分加分、SDSS总分减分与对照组相比有差异显著（P＜0.001）。

讨论：研究表明，在药物治疗基础上联合iTBS刺激干预，能更有效地缓解抑郁症患者的临床症状，改善快感缺失及社会功能。与单纯药物治疗相比，该联合治疗效果更佳，且不会增加副作用。然而，本研究存在样本量偏小、治疗时长较短、未进行随访研究等局限性。未来应扩大样本量、延长治疗时长并开展随访研究，进一步明确抑郁症患者不同程度快感缺失的定义，深入研究抗抑郁药物机制，探索物理治疗方法的有效性及脑部靶点的作用，为抑郁症的治疗提供更精准有效的方案。

关键词 抑郁症 快感缺失 社会功能 经颅磁刺激

Improvement of Cognitive Function in Schizophrenia with Computer-Assisted Cognitive Remediation Combined with Individualized Occupational Therapy: A Randomized Controlled Trial

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Background: Cognitive impairment is a core feature of schizophrenia and a significant determinant of functional outcomes.Adopting the principals of cognitive remediation, computerized cognitive remediation therapy

(CCRT) has been proven to enhance cognitiove function and functional outcomes but not be sufficient to improve daily functioning.And occupational therapy was designed to support and enable continued participation in daily life ,individualized occupational therapy(IOT) is a personalized therapy with special emphasis on goal-oriented observation of patient performance and real-time changes in treatment plans.We hypothesized that integrating IOT into CCRT would facilitate the transfer of cognitive gains to daily life, enhancing both cognitive improvement and daily functioning.

Objective: To investigate the effects of combined intervention on cognitive function and functional outcomes, including daily functioning, in patients with schizophrenia.

Methods: A randomized controlled trial was conducted at Jiangxi Mental Hospital. 108 clinically stable patients with schizophrenia were recruited from the inpatient department and randomly assigned to either treatment as usual (TAU; n=56) or CACR+IOT (n=52). Cognitive function,daily functioning, social function,quality of life, and intrinsic motivation were assessed at baseline and after treatment.

Results: Findings revealed that, compared to TAU, the CCRT+IOT intervention led to significant improvements or prevented deterioration in several domains of cognitive function(excluding working memory) in patients with schizophrenia, alongside gains in intrinsic motivation and social function.However, the cognitive gains did not transfer into real-world settings, resulting in no significant changes in daily functioning and quality of life.

Conclusion: Combining IOT with CCRT appears to be a feasible and effective intervention for improving cognitive function, social function, and intrinsic motivation in patients with schizophrenia.Future investigations should utilize more appropriate outcome measures and incorporate follow-up assessments to evaluate its long-term impact on daily functioning and quality of life.

Key Words Schizophrenia;Computerized Cognitive Remediation Therapy;Individualized Occupational Therapy;Cognitive Function;Daily Functioning

小胶质细胞在外周性听力损失认知损伤发生中的作用机制研究

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目的：人群调研结果显示中年获得性外周性听力损失是痴呆症的最大可干预风险因素，二者之间的关联机制亟待揭示。噪声性听力损失（Noise-induced hearing loss，NIHL）是外周性听力损失的常见类型，本研究旨在利用NIHL小鼠模型，揭示听力损失后认知损伤的发生机制。

方法：本研究以成年雄性C57BL/6J小鼠为研究对象，在适应性喂养一周后，将小鼠随机分为对照组和NIHL组。其中，NIHL组给予123dB SPL宽带白噪声单次暴露2小时，对照组给予假噪声暴露。各组动物分别在噪声暴露后多个时间点进行行为学实验和组织取材。通过对噪声暴露后多个时间点的的动态追踪，观察NIHL小鼠认知功能和海马神经退行性改变情况；检测血清糖皮质激素水平、海马髓鞘结构完整性以及小胶质细胞表型；采用糖皮质激素受体拮抗剂RU486预处理评估应激通路对NIHL小鼠认知功能和海马小胶质细胞表型改变的贡献；最后通过1个月自主跑轮运动干预探究其神经保护效应及可能机制。

结果：NIHL小鼠模型表现出：1）年龄相关性认知功能与海马神经退行性改变加速衰退；2）时序

性病理特征：噪声暴露后即刻血清糖皮质激素水平短暂升高、噪声暴露后远期海马持续脱髓鞘、海马小胶质细胞先激活后衰老；3）噪声暴露前90分钟RU486腹腔注射缓解NIHL小鼠噪声暴露后7天小胶质细胞的激活，未改善噪声暴露后1个月后的小胶质细胞异常激活；4）运动干预虽然未改善听力损失程度和海马脱髓鞘，但是有效恢复了小胶质细胞的形态异常，伴随有小胶质细胞内髓鞘碎片减少、HIF1a表达恢复正常；同时有效逆转噪声暴露后1个月的认知损伤和海马神经可塑性减退。

结论：我们的结果表明，NIHL后认知功能的加速退化和海马神经可塑性的异常改变很可能源于海马小胶质细胞对继发性髓鞘损伤的适应不良反应。自主运动可作为有效的干预策略，通过调控小胶质细胞HIF1a通路减轻外周性听力损失的认知损害。

关键词 听力损失；小胶质细胞；认知损伤

局部脑氧饱和度在预防心脏外科手术患者术后谵妄中应用的研究进展

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目的：系统综述局部脑氧饱和度（regional cerebral oxygen saturation, rSO2）技术在心脏外科术后谵妄中的应用，探讨其在评估脑灌注、指导干预及个体化管理中的价值，为围术期认知功能管理提供参考依据。

方法：通过检索国内外数据库，收集近十年关于rSO2与心脏外科术后谵妄的临床研究及综述文献，从rSO2技术原理、在术前、体外循环期间、主动脉阻断与开放和术后复苏期各阶段对脑灌注状态的评估、指导干预措施及现存问题等方面进行归纳分析。

结果：研究表明，术前rSO2基线值低于50%与术后谵妄显著相关，且术前rSO2基线值越低，发生术后谵妄风险越高；体外循环、主动脉阻断与开放及术后复苏期，rSO2下降幅度超过基线值的20%与术后谵妄发生显著相关。通过依据rSO2值调整呼吸参数、血流动力学等干预措施，可使术后谵妄发生率降低30% ~50% 。然而，rSO2监测存在准确性受限、缺乏统一临床应用指南等问题。

讨论：rSO2技术为术后谵妄防治提供了新途径，但需解决监测准确性问题，如设备差异、个体因素及监测区域局限性等。未来应制定统一临床应用指南，结合患者特征动态调整干预阈值，并推进多模态监测与人工智能技术融合，实现术后谵妄的精准预测与个体化防治。通过大样本、多中心研究进一步验证其临床价值，有助于优化心脏外科围术期脑保护策略，改善患者预后。

关键词 局部脑氧饱和度；心脏外科手术；术后谵妄；研究进展

精神分裂症攻击行为的神经机制：基于竞争反应时任务的事件相关电位研究

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目的：本研究旨在利用事件相关电位（Event-related potential，ERP）技术在竞争反应时间任务（Competitive Reaction Time Task，CRTT）期间探究精神分裂症患者攻击行为的神经电生理机制。

方法：参与者包括 40 名精神分裂症患者和 42 名健康对照者。所有参与者在执行 CRTT 任务时均接受了 ERP 测量。CRTT是泰勒攻击范式（Taylor Aggression Paradigm，TAP）的一个广泛实现的变体。在这种竞争范式中，参与者与对手进行反应快慢的比赛。在赢得比赛后，对手受到噪音惩罚；相反，如果他们输了，参与者将受到惩罚。有证据表明，CRTT具有较高的内部效度、收敛效度、判别效度和外部效度。对行为数据以及 ERP 的 P2、N2、P3 和反馈相关负波（feedback-related negativity，FRN）进行了分析。

结果：对行为数据的分析表明，与健康对照组相比，精神分裂症患者在惩罚选择方面更高。对事件相关电位成分的分析表明，在 CRTT 决策阶段，精神分裂症患者的 N2 波幅和 P2 波幅高于健康对照组；然而，在 CRTT 结果阶段，精神分裂症患者的 FRN 波幅和 P3 波幅低于健康对照组。

讨论：本研究首次利用CRTT研究了精神分裂症患者攻击行为的ERP特征，首次阐明了精神分裂症患者攻击行为的神经电生理机制。在社会竞争互动中，精神分裂症患者早期注意力或冲突相关处理增强，但反馈评估受损。这些发现支持了额纹状体和扣带回顶叶回路失调的观点。这些发现为理解冲动性和攻击性的神经机制提供了宝贵的见解，并可能指导精神分裂症的针对性干预措施。

关键词 精神分裂症，事件相关电位，攻击行为，竞争性反应时间任务

表现为小脑认知综合征的边缘型人格障碍1例报道并文献学习

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边缘型人格障碍过去被认为“无药可救”，数十年来，精神学科专家、心理治疗们前仆后继研究边缘型人格的治疗，并关注该群体的认知特点。本文报道了一例较为复杂的抑郁症共病边缘型人格障碍，神经心理评估结果提示异常，并基本符合小脑认知综合征诊断标准。图式治疗是边缘型人格障碍心理治疗的推荐方法，该患者经抗抑郁剂、神经营养剂等药物治疗联合图式治疗，随诊半年，治疗效果理想。

关键词 边缘型人格障碍；小脑认知综合征；图式疗法；神经心理评估

功能性脑影像学指标预测MECT治疗重度抑郁症疗效的研究

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目的：基线的功能性脑影像学指标结合机器学习预测无抽搐电休克疗法（Modified electroconvulsive therapy，MECT）治疗重度抑郁症疗效的脑影像学标志物。

方法：收集符合入组条件的重度抑郁症患者37例，MECT前行静息态功能磁共振扫描，汉密顿抑郁量表24项评估抑郁症状。DPABI V8.1软件进行数据预处理，提取治疗前低频振幅（Amplitude of Low Frequency Fluctuation，ALFF）、分数低频振幅（fractional Amplitude of Low Frequency Fluctuation，fALFF）和局部一致性（Regional Homogeneity，ReHo）值，基于Matlab R2022b使用自动解剖标记（Anatomical Automatic Labeling，AAL）图谱提取特征。T检验法选择特征，支持向量机，随机森林及逻辑回归进行预测，留一交叉验证法估计模型的泛化能力。准确度、敏感度和特异度，以及曲线下面积描述分类能力，预测准确度行1000次置换检验。

结果：组合指标ALFF及fALFF在支持向量机中预测表现最佳，预测准确度为75.68%，曲线下面积0.75，一致性权重脑区主要为双侧小脑Crus2(ALFF)及左侧额中回（fALFF）。单一指标ReHo在逻辑回归中预测准确度为72.97%。曲线下面积0.81，ReHo指标在逻辑回归分类模型中训练，一致性权重脑区主要为双侧背外侧前额叶。

讨论：本研究结果说明了存在脑–小脑环路，小脑与前额叶存在功能上的连接，癫痫发作泛化的CrusII可能通过与背外侧前额叶功能上形成联系，参与额顶网络自上而下的注意力调节，进而调节默认模式网络（Default Mode Network，DMN）紊乱的功能状态，间接起到起到情绪调节作用，发挥MECT抗抑郁疗效；另一方面，癫痫发作泛化的CrusII可能与DMN产生功能上的联系，直接调节消极思维，恢复失调的情绪调节，可能是电休克治疗改善抑郁症状的神经环路。因此通过机器学习模型训练得出的MECT抗抑郁疗效的预测脑区（双侧小脑CrusII和双侧背外侧前额叶）可能是MECT快速起抗抑郁作用的关键部位，在MECT快速改善患者包括消极思维和自杀意念在内的抑郁症状的过程中有重要作用，双侧小脑CrusII的ALFF和双侧背外侧前额叶的ReHo能预测MECT治疗重度抑郁症缓解与非缓解的临床结局。

关键词 重度抑郁症 无抽搐电休克治疗 静息态功能磁共振 机器学习

阶梯式运动干预在精神障碍患者体重管理中的运用

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目的：本研究旨在探讨阶梯式运动干预在精神障碍患者体重管理中的运用。

方法：选取78例精神障碍患者作为研究对象，随机分为对照组和实验组，每组各39例。对照组实施常规康复运动，包括散步、做操等；实验组则采用阶梯式运动干预，分为三个阶段。第一阶段着重信念

改变，引导患者认识到体重增长的危害，降低自我效能；第二阶段根据评估结果制订有氧干预结合抗阻运动方案；第三阶段进行抗阻运动结合肢体柔韧性训练与平衡训练。干预时间为3个月，并在干预前、干预3个月后及干预6个月后进行相关指标的评价。评价指标包括BMI指数、腹围、臀围以及Breg平衡量表测定。

结果：在干预前，两组患者的各项指标无显著差异（$P > 0.05$）。干预3个月后，实验组BMI指数由干预前的（28.5 ± 3.2）kg/m² 降至（26.8 ± 2.5）kg/m²，对照组由（28.3 ± 3.0）kg/m² 降至（27.9 ± 2.8）kg/m²，实验组下降幅度更为明显，差异具有统计学意义（$P < 0.05$）。腹围方面，实验组从（95.6 ± 8.5）cm减至（90.2 ± 7.8）cm，对照组从（95.2 ± 8.2）cm减至（93.8 ± 8.0）cm，实验组改善程度优于对照组（$P < 0.05$）。臀围上，实验组由（102.3 ± 9.1）cm降至（98.5 ± 8.3）cm，对照组由（102.0 ± 8.9）cm降至（100.2 ± 8.6）cm，同样实验组效果更佳（$P < 0.05$）。在Breg平衡量表测定中，实验组得分从干预前的（35.2 ± 5.6）分提高到（42.5 ± 6.1）分，对照组从（35.0 ± 5.4）分提高到（37.8 ± 5.8）分，实验组平衡能力提升显著（$P < 0.05$）。干预6个月后，实验组各项指标持续改善，且与对照组的差距进一步拉大。

结论：研究表明，阶梯式运动干预在精神障碍患者体重管理中具有显著效果，能够有效降低患者的BMI指数、腹围和臀围，同时提高患者的平衡能力，相较于常规康复运动更具优势，值得在临床中推广应用。

关键词 阶梯式运动干预；精神障碍患者；体重管理

抑郁症中内隐负性情绪加工的全脑网络时空动态研究

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目的：抑郁症（Major Depressive Disorder, MDD）作为全球致残率前三的精神疾病之一，主要临床特征为负性情绪偏向，其病理机制正在从单一脑区定位向多脑区网络间异常交互转变。现有研究表明，MDD患者在负性情绪加工中表现出默认模式网络、中央突显网络、前额叶–边缘系统等分布式脑网络的功能连接紊乱。然而传统的神经成像技术受限于时间分辨率不足，难以捕捉情绪加工中毫秒级的脑网络功能连接变化，尤其是在情绪加工早期的内隐情绪加工。本研究采用具有高时空分辨率的脑磁图（Magnetoencephalography, MEG）技术，旨在探究MDD患者在内隐负性情绪加工过程中全脑网络的动态时空交互特征，理解MDD情绪加工的病理生理机制，为MDD的早期诊断及治疗寻找潜在的生物标记物。

方法：本研究纳入南京脑科医院心境障碍科住院MDD患者共90名，并通过广告于当地同期招募健康对照（Healthy Controls, HCs）共74名，性别和年龄与患者组相匹配。所有被试在进行MEG扫描的同时完成内隐情绪面孔识别任务，扫描结束后利用磁共振进行头部定位。基于Matlab平台使用2023版本的FieldTrip工具包对MEG原始数据进行划分时间窗、降低噪音、去除伪迹等预处理，对磁共振数据进行脑区溯源重建。利用滑动窗口法，对Theta（4–8 Hz）、Alpha（8–12 Hz）、Beta（12–30 Hz）、Gamma（60–70 Hz）频段的动态功能连接变化进行分析。

结果：与HCs相比，MDD 患者在内隐情绪面孔识别中表现出更长的反应时间和更低的准确率。具体而言，MDD 患者反应时间显著延长（1110.90 ± 26.90 毫秒 vs. 1006.09 ± 28.11 毫秒，$F(1,135) = 7.19$，$P = 0.008$），且对快乐面孔的识别准确率更低（0.426 ± 0.016 vs. 0.293 ± 0.016，$F(1,135) = 33.15$，$P < 0.001$）。MDD 患者在Beta和Gamma频段下，主要表现为早期阶段（100–200毫秒）背侧注意网络

（Dorsal Attention Network，DAN）及额叶–边缘系统网络连接强度显著减弱，在后期阶段（200–400毫秒），主要为额–颞叶网络功能连接减弱。

讨论：本研究揭示了MDD患者在内隐负性情绪加工中的全脑网络动态时空异常。行为学结果中MDD患者反应时延长提示情绪加工效率下降，而快乐面孔识别准确率下降支持“负性情绪偏向”与“正性情绪钝化”的双向失衡模式。MDD患者Beta和Gamma频段在早期阶段的DAN及额叶–边缘系统网络连接异常及后期阶段的额–颞叶网络的连接异常，揭示了MDD患者在无意识情绪加工中的自上而下的皮层–边缘环路的异常，为MDD的早期诊疗提供潜在的生物标志物。

关键词 重度抑郁障碍，内隐情绪加工，动态功能连接，脑磁图

同伴支持在提高精神障碍患者生活技能训练中的运用

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目的：探讨同伴支持在提高精神障碍患者生活技能训练中的运用效果。

方法：选取 65 例精神障碍患者作为研究对象，随机分为对照组和实验组。对照组 32 人，实施以个体形式参加的生活技能训练；实验组 33 人，通过同伴支持模式参加生活技能训练。对同伴工作者进行同质化规范培训，考核评价合格后，由其陪伴患者进行生活技能训练。同伴工作者在训练中讲解要点、示范技能，并给予患者帮助及一对一指导，训练结束后在生活中也随时提供指导。干预时间为 3 个月。

结果：干预结束后，对两组患者的相关指标进行评估。同伴支持者的自我效能评分从干预前的平均 23.45 ± 3.21 分提高到干预后的 31.56 ± 3.57 分（P<0.05），差异具有统计学意义，表明同伴支持模式提升了同伴工作者自身的自我效能感。实验组患者的日常生活活动能力（ADL）评分从干预前的平均 48.67 ± 6.32 分显著提高到干预后的 65.78 ± 5.43 分，而对照组患者的 ADL 评分从干预前的 49.12 ± 6.54 分提高到干预后的 54.34 ± 5.76 分。经统计学分析，实验组与对照组干预后的 ADL 评分差异具有统计学意义（P<0.05），说明同伴支持模式在提高患者生活技能方面效果显著。

结论：同伴支持模式应用于精神障碍患者的生活技能训练中，可有效提高患者的日常生活活动能力，同时提升同伴工作者的自我效能感。该模式为精神障碍患者的康复训练提供了新的思路和方法，值得在临床中进一步推广应用。

关键词 同伴支持，精神障碍患者，生活技能训练

抑郁障碍患者治疗前后烟酸皮肤反应的变化及其与认知功能的关系研究

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目的：探索抑郁发作患者与健康对照组烟酸皮肤反应的差异，探索抑郁发作患者两个月内的烟酸皮肤反应变化，分析患者烟酸皮肤反应的改变与认知功能状态之间的关系。

方法：采用上海交通大学万春玲团队制作的烟酸皮肤反应一体化平台。收集35例抑郁发作患者在入院时、第4周末、第8周末的烟酸皮肤反应面积值，并在这三个时间点进行汉密尔顿抑郁量表（HAMD），汉密尔顿焦虑量表（HAMA），蒙特利尔认知评估量表（MoCA），事件相关电位P300的检测。

结果：抑郁发作患者的烟酸皮肤反应在基线期与健康对照组有显著性差异，将年龄作为协变量排除后，两组之间的差异具有显著性（P=0.003）。使用单因素重复方差分析的统计方法分析抑郁发作患者在入院时，第4周末，第8周末三个时间节点的烟酸皮肤反应变化差异无显著性（P=0.95）。采用Spearman相关分析，在入院时HAMD总分与烟酸皮肤反应具有弱负相关性（r=-0.35，P=0.02），HAMA，MoCa，事件相关电位P300潜伏期，事件相关电位P300波幅，均未与烟酸皮肤反应检出明显相关性（P均>0.05）。

讨论：烟酸皮肤潮红反应（NSFR）是由PLA2-AA-COX2级联途径产生的前列腺素引起的，其任意一个环节的功能障碍都可能导致NSFR异常。抑郁症患者的NSFR显著减弱，可能与脂肪酸代谢异常、炎症反应增强以及神经递质系统的失调有关；目测法是本研究进行NSFR的评价方法，相比于光谱仪法、激光多普勒血流仪法。目测法简单、快捷，不受环境和仪器限制。本次研究我们收集6个浓度的烟酸潮红面积值，弥补了既往研究中观测法的不足；抑郁发生时患者存在免疫炎症与氧化应激通路的异常激活，临床观察表明，脂质信号系统功能障碍可能在情感性障碍中起着病因学作用。如今，更多的研究发现抑郁患者相比健康人群表现出明显的潮红反应减弱和延迟。因此，在基线期我们对患者与健康对照组进行NSFR测试，两组的潮红面积值在基线期具有显著性差异（P=0.003）。验证了抑郁症患者NSFR减弱的特点；在NSFR和抑郁病程之间的关系时，抑郁症患者的情绪状态，认知功能均有所好转，但是烟酸皮肤反应并无明显变化，印证了烟酸皮肤反应作为一种生物内表型中独立于疾病活动状态这一观点。本次研究烟酸皮肤反应与汉密尔顿抑郁量表总分具有弱负相关，与Li等人（2024）研究一致。在认知功能方面，既往研究（Nilsson B M，2015）中发现，口服烟酸无反应的患者，皮肤电活动的反应与认知功能的测试中表现更差。但本次研究中患者的认知功能并未和NSFR检出相关性。社会功能和认知功能与烟酸皮肤反应之间的关系仍不明确；本次研究扔有许多不足，未来我们将继续扩大样本容量，并将性别这一变量纳入到研究之中。

关键词 抑郁障碍 烟酸皮肤反应 认知功能

Causality between 338 Cerebrospinal fluid metabolomics and Bipolar disorder: a bidirectional two-sample Mendelian randomization study

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Objective:Bipolar disorder (BD) is a common mental disorder with both manic and depressive episodes. The study of metabolomics and disease has enabled the discovery of new risk factors, diagnostic markers, and drug targets. For neurological and psychiatric phenotypes, the cerebrospinal uid (CSF) is of particular importance. To evaluate the causal association between cerebrospinal fluid metabolomics and BD using two-sample bidirectional Mendelian randomization (MR) analysis.

Methods:Bipolar disorder data from Finnish database. A GWAS containing 338 CSF metabolomics was used as an exposure factor, and SNPs significantly associated with exposure factors were selected as instrumental variables (IV). First, we selected the Single Nucleotide Polymorphisms (SNPs) with significant associations for CSF metabolomics ($P < 1 \times 10^{-5}$). Then we excluded the SNPs with linkage disequilibrium (LD) in the analysis. The LD of chosen SNPs should meet the condition that $r2 < 0.001$ and distance > 10,000 kb. We extracted the relevant information: chromosome, effect allele (EA), other allele (OA), effect allele frequency (EAF), effect sizes (β), standard error (SE), and P-value. Last, the explained variance (R2) and F-statistic parameters are used to determine whether the identified IVs were strongly associated with exposure. Only SNPs with F-statistic parameters > 10 are retained. To access the casual effects of CSF metabolomics and BD, we conducted two-sample MR analysis. We used CSF metabolomics as "exposure" and BD as "outcome" to evaluate reverse causation effects. Five methods: MR-Egger regression intercept, weighted median method (WM), and inverse variance weighting method (IVW) were used. Heterogeneity testing was performed using the MR Egger and IVW methods. Cochrane's Q statistic was utilized to assess heterogeneity among genetic instruments, with $p > 0.05$ indicating no significant heterogeneity. The MR Egger regression equation was employed to evaluate horizontal pleiotropy of genetic instruments, with $p > 0.05$ suggesting the absence of horizontal pleiotropy. TwoSampleMR package in R software version 4.3.2 was utilized for allele harmonization and analysis. All statistical tests were two-sided, and statistical significance was considered at $p < 0.05$. Finally, reverse MR analysis was performed.

Results:IVW analysis of the causal relationship between CSF metabolomics and BD showed that urate levels (OR = 0.798,95% CI: 0.693 ~ 0.919), argininosuccinate levels (OR = 0.931,95% CI: 0.888 ~ 0.977) were protective factors. glucose levels (OR = 1.318,95% CI: 1.099 ~ 1.582) were risk factors. X-12104 levels have a bidirectional causal relationship with BD (OR = 0.849,95% CI: 0.745 ~ 0.968), (OR = 1.048,95% CI: 1.014 ~ 1.083).

Conclusion:In summary, there is causal relationship between CSF metabolomics and the onset of BD. Our results could offer novel perspectives on the causal connections between CSF metabolomics and BD, and highlight the intricate interactions between the CSF metabolomics and BD.

Key Words Cerebrospinal fluid metabolomics, Bipolar disorder,Mendelian randomization

Modulation of Adaptive and Maladaptive Emotion Regulation Strategies and Prefrontal-Motor Circuit Plasticity by rTMS in Major Depressive Disorder: A Longitudinal Functional Near-Infrared Spectroscopy Study

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Background: Major depressive disorder (MDD) is characterized by emotion dysregulation and prefrontal functional abnormalities. While repetitive transcranial magnetic stimulation (rTMS) alleviates depressive symptoms, its neural mechanisms and links to cognitive-emotional regulation remain unclear.

Objective: This study investigated how rTMS modulates emotion regulation strategies and brain function in

MDD.

Methods: Seventy-one MDD patients underwent rTMS targeting the dorsolateral prefrontal cortex for two weeks. Functional near-infrared spectroscopy (fNIRS) measured prefrontal and motor cortex activation at baseline and post-treatment. Clinical symptoms [17-item hamilton depression scale (HAMD-17), hamilton anxiety scale (HAMA)], emotion regulation strategies (CERQ), and brain-behavior relationships were analyzed via parallel independent component analysis (pICA) and Spearman's correlations.

Results: Post-treatment, HAMD-17 and HAMA scores decreased significantly ($P < 0.001$). CERQ scores for maladaptive strategies (self-blame, rumination, catastrophizing, blaming others) declined, while adaptive strategies (positive focus, planning reappraisal, positive reappraisal) improved (all $P \leqslant 0.001$). Increased activation in Broca's area, primary motor cortex, and supplementary motor area was observed ($P_{FDR} = 0.032$). Baseline bilateral medial prefrontal and left dorsolateral prefrontal activity correlated positively with adaptive strategies ($r = 0.4$, corrected $P < 0.05$), whereas left temporal activity inversely correlated with maladaptive strategies ($r = -0.29$, corrected $P < 0.05$). Baseline depression/anxiety severity strongly associated with maladaptive strategies (all $P < 0.001$), while post-treatment symptom improvement specifically correlated with enhanced positive reappraisal ($P < 0.05$).

Conclusion: rTMS concurrently ameliorates depressive symptoms, optimizes emotion regulation, and enhances prefrontal-motor cortex activation, implicating neural plasticity in this network as a potential mechanism of rTMS efficacy.

Key Words major depressive disorder (MDD), repetitive transcranial magnetic stimulation (rTMS), functional near-infrared spectroscopy (fNIRS), emotion regulation strategies, longitudinal study

成年早期非自杀性自伤的抑郁患者风险决策全脑功能网络研究

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目的：本研究旨在揭示伴有非自杀性自伤行为的重度抑郁症患者在风险决策过程中全脑功能连接的时空模式变化。

方法：我们在2023年03月至2024年12月期间入组研究被试，本研究部分共计纳入136名未服药的MDD患者（伴有NSSI:64人，不伴有NSSI:72人）和71名性别和年龄匹配的健康对照者。所有参与者完成了改良版的爱荷华州赌博任务（Iowa gambling task，IGT），在此期间记录了脑电图（Electroencephalogram，EEG）。对每位受试者进行源层面重建后，在风险决策获益和损失反馈（0-300ms，100-400ms，200-500ms，300-600ms）的各时间段，分别在Theta、Alpha和Beta频段采用相位锁定值方法探索全脑功能连接特征，然后采用基于网络的统计分析（Network-Based Statistics，NBS）确定非自杀性自伤重度抑郁症患者特定的异常连接模式。

结果：研究发现，在损失反馈条件下，三组（健康对照组、伴有NSSI的MDD组、不伴有NSSI的MDD组）在200-500ms时间窗口内的子网络存在显著差异。事后分析发现MDD组（NSSI和nNSSI）和HC组相比，在损失反馈下200-500ms期间Theta频段的连通性降低（$P_{corr} = 0.017$，$P_{corr} = 0.015$）。这种低连接网络主要涉及眶额皮层、额上回和额下回等脑区。

结论：本研究发现，在风险决策任务的损失反馈阶段（200–500ms时间窗内），MDD患者在Theta频段（4–8 Hz）的功能连接模式呈现显著异常，表现为额叶–颞叶–边缘系统网络的功能整合降低。该模式可能是MDD患者风险决策加工的关键神经生物标志物。

关键词 NBS；风险决策；功能连接

基于静息态脑活动的抑郁症阈下双相特征识别

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目的：伴有阈下躁狂症状的抑郁症（MDD+）在神经生物学机制上可能与不伴阈下躁狂症状的抑郁症（MDD–）存在显著差异。本研究通过静息态功能磁共振成像（fMRI）技术，系统比较了MDD+、MDD–、双相抑郁（BD）患者及健康对照（HC）在低频振幅（ALFF）特征上的差异，并进一步探讨了异常脑区活动与终身躁狂症状及认知功能之间的关联。

方法：本研究共纳入566名受试者，抑郁症患者根据HCL–32评分，≥14分纳入MDD+组，<14分纳入MDD–组，最终包括MDD–组（n=125）、MDD+组（n=136）、BD组（n=100）和HC组（n=205）。所有受试者均完成静息态fMRI扫描及临床评估。采用协方差分析（ANCOVA）比较组间ALFF差异，并运用Tukey HSD检验进行事后分析。统计阈值采用GRF校正（体素水平$p<0.001$，簇水平$p<0.05$）。提取差异显著脑区的ALFF值，通过Pearson相关分析考察其与HCL–32评分及认知功能测验（包括数字符号替换测验SDMT、连线测验A/B部分TMTA/TMTB）的关系。

结果：神经影像学分析显示，右侧距状回和双侧舌回的ALFF值在四组间存在显著差异。事后比较发现，MDD+组在这些脑区的ALFF值显著高于MDD–组，且其激活模式与BD组相似，提示MDD+可能具有与双相障碍相似的神经活动特征。进一步的相关性分析表明，右侧距状回的ALFF值与SDMT评分呈显著正相关（$r=0.167$，$p=0.007$），而与TMTA（$r=–0.162$，$p=0.009$）和TMTB（$r=–0.148$，$p=0.016$）呈负相关，提示该脑区的自发活动增强可能与更好的执行功能相关。此外，这些脑区的ALFF值均与HCL–32评分呈显著正相关（$r=0.189–0.224$，$p<0.05$），表明视觉皮层的功能异常可能与躁狂症状的严重程度密切相关。

讨论：本研究发现MDD+患者在视觉加工相关脑区（距状回和舌回）表现出与BD相似的ALFF增高，提示MDD+可能属于双相谱系的一部分。这一特征可作为潜在的神经影像学标记，有助于早期识别具有双相倾向的抑郁患者。此外，ALFF值与HCL–32评分的正相关关系表明，这些脑区的自发活动可能与躁狂症状的严重程度相关。由于视觉加工在情绪调控和认知功能中发挥重要作用，这些脑区的功能异常可能影响MDD+患者的情绪稳定性和认知表现。未来研究可进一步探讨这些影像学特征在MDD+患者情绪转换过程中的作用，并结合多模态影像、遗传和临床指标，优化抑郁症的个体化诊疗策略，为双相障碍临床早期识别和干预提供依据。

关键词 阈下躁狂；磁共振；认知

Left amygdala alterations mediate the effects of negative symptoms on social dysfunction in schizophrenia

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Introduction: To explore whether amygdala (AMYG) alterations modulate the association between negative symptoms and social dysfunction in schizophrenia (SCZ).

Methods: This study was enrolled 53 patients with deficit schizophrenia (DS), 76 with non-deficit schizophrenia (NDS), and 76 healthy controls (HCs) matched for age, education, and gender. Negative symptoms were assessed using the Scale for Assessment of Negative Symptoms. Social function was evaluated using the Scale of Social Function in Psychosis Inpatients. Structural and resting-state functional MRI data were acquired for all participants. AMYG volume calculation and region of interest (ROI)-wise functional connectivity (FC) analysis were performed to compare group differences. Path analysis was employed to explore the relationships between AMYG alterations and social dysfunction in DS.

Results: Bilateral AMYG volume was significantly smaller in SCZ patients than in HCs. In SCZ patients, the left amygdala (AMYG.L) volume was significantly smaller than the right amygdala (AMYG.R) volume. The DS group had a smaller AMYG.L volume than the NDS group; there was no difference in AMYG.R volume. FC strength between the AMYG.L and left superior temporal gyrus (STG.L) was notably weaker in the DS group compared to the NDS. The AMYG.L volume and its FC with STG.L mediated the adverse effects of negative symptoms on social function.

Conclusions: The observed structural and functional AMYG.L abnormalities may contribute to impaired social function in DS. These findings provide new perspectives for early intervention of negative symptoms and social dysfunction in SCZ patients.

Key Words Deficit schizophrenia; Negative symptoms; Social dysfunction; Functional connectivity; Amygdala

《精神卫生法》背景下精神科护士的角色定位与法律责任研究

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随着《精神卫生法》的实施，精神科护士的职能从传统的疾病照护向患者权益维护与安全管理双重角色转变。本文通过分析法律条文及临床实践，探讨护士在知情同意、保护性约束、隐私保护等关键环节的法律责任，并指出当前存在的角色冲突(如患者自主权与医疗干预权的矛盾)。研究提出，护士需加强法律知识培训，优化护理记录流程，并推动多学科协作以平衡患者权利与医疗安全。最后，结合国内

外经验建议完善精神科护理相关法规细则，以降低执业风险，促进依法护理实践。

关键词 精神卫生法、精神科护理、法律责任、患者权益、保护性约束

首发未服药抑郁症患者膝前扣带皮层的兴奋/抑制平衡变化

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背景：重性抑郁障碍（Major depressive disorder，MDD）以复杂的临床症状为特征，其发病机制涉及重叠的因果途径；认知功能障碍常见于MDD，包括注意力、处理速度、执行功能以及语言和视觉空间学习和记忆等的损害。兴奋性与抑制性递质失衡是其病理机制之一。谷氨酸介导大脑中绝大多数的快速兴奋性传递，而 γ-氨基丁酸（γ-Aminobutyric acid，GABA）介导绝大多数快速抑制性传递。既往研究证据表明，使用抗抑郁药治疗可能会降低MDD患者的血浆谷氨酸水平；而质子波谱（Magnetic resonance spectroscopy，MRS）发现未用药MDD患者枕叶皮层的GABA浓度低于健康对照。膝前扣带皮层（Pregenual anterior cingulate cortex，pgACC)往往被认为参与影响MDD的情绪障碍调节，有研究表明ACC中的GABA水平降低与认知功能较差有关。因此使用MRS技术探讨pgACC的兴奋/抑制平衡变化对阐释MDD的特定认知功能障碍和指导临床进行个体化治疗具有重要的意义。

方法：招募南京脑科医院2024年3月至2025年1月入院的符合DSM-5诊断标准的16-35岁的首发未服药MDD患者共26名，并招募性别年龄相匹配的健康对照（Health control,HC)共25名。所有受试者均进行汉密尔顿抑郁（HAMD-24和汉密尔顿焦虑（HAMA）量表的评估；连线测试A（TMT-A)用来评估受试者的注意力功能。所有受试者进行MEGA-PRESS序列编辑的MRS扫描，感兴趣脑区放置在双侧pgACC。使用基于Matlab平台的Gannet工具箱进行后处理，以未抑制水光谱的波谱作为所测递质的参考标准，由于在3.0ppm处测得的信号受到大分子物质的污染，本研究中测的GABA水平标记为GABA+。所有的统计分析在SPSS 26.0中进行，以$P < 0.05$认为有统计学差异。

结果：MDD组TMT-A测试用时时间长于HC组（$P < 0.001$）。MDD组的pgACC中的 Glx（谷氨酸和谷氨酰胺复合物）水平高于健康对照组（$P < 0.05$）；两组的 GABA+ 水平无显著差异（$P > 0.05$），MDD组的GABA+/Glx比值低于HC组（$P < 0.05$）。其他神经递质包括胆碱（cho)、N-乙酰天门冬氨酸（NAA）、肌酸（Cr)等未发现差异（$P > 0.05$）。此外，未发现Glx和GABA+与HAMD-17及HAMA的相关性（$P > 0.05$）。在MDD组GABA+/Glx与TMT-A用时呈负相关（$P < 0.05$），而在HC组中则无此发现。

结论：pgACC的兴奋/抑制平衡是首发未服药MDD的发病机制之一，且可能与MDD的注意力功能受损有关。

关键词 膝前扣带皮层；GABA；抑郁症

精神分裂症幻听患者海马亚区与颞上回的静息态磁共振功能连接特征研究

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目的：本研究通过探讨伴和不伴幻听的精神分裂症患者海马亚区与颞上回的静息态磁共振功能连接特征，揭示与精神分裂症幻听症状相关的潜在脑影像标志物，并为开发基于功能连接的精神分裂症幻听干预提供理论依据。

方法：本研究采用静息态功能磁共振成像技术对44例伴幻听的精神分裂症患者(幻听组)、26例不伴幻听的精神分裂症患者(非幻听组)以及42例健康对照进行扫描和数据采集，并采用阳性和阴性症状量表(Positive and Negative Syndrome Scale, PANSS)评估精神分裂症患者的幻听症状、阳性症状、阴性症状及一般病理症状的严重程度。运用Freesurfer软件自动分割左右海马各12个亚区，以左右海马以及12对海马亚区为种子点，自动化解剖标记模板中的双侧颞上回为感兴趣区，使用DPABI工具包进行磁共振数据的预处理，并进行基于种子的功能连接分析，得出左右海马及其亚区至双侧颞上回的静息态功能连接的数值，利用DPABI及SPSS 24.0 统计软件分析三组之间海马亚区与颞上回的功能连接强度的差异，并将异常功能连接与幻听严重程度及精神分裂症临床严重程度进行相关性分析。

结果：结果显示，幻听组PANSS总分、阳性症状评分明显较非幻听组明显升高(p=0.003，p<0.001)。单因素方差分析结果显示三组数据在右侧海马、右侧海马CA3、CA4亚区与左侧颞上回的功能连接存在显著差异。进一步事后t检验结果显示：与非幻听组相比，幻听组右侧海马及其CA3、CA4亚区与左侧颞上回的功能连接增强(p<0.001，p=0.014，p=0.007)；幻听组右侧海马及其CA3亚区与左侧颞上回的功能连接较健康对照组增强(p=0.035，p=0.018)，而非幻听组右侧海马与左侧颞上回的功能连接减弱(p=0.002)。相关性分析结果显示，幻听组右侧海马CA3与左侧颞上回的功能连接和幻听的严重程度呈正相关(p=0.002，r=0.213)。

结论：研究发现伴幻听的精神分裂症患者右侧海马及其CA3、CA4亚区与左侧颞上回的功能连接强度增强，并且右侧海马CA3亚区与左侧颞上回的功能连接与幻听严重程度改变有关，表明右侧海马，尤其CA3与颞上回的功能连接变化可能是精神分裂症幻听的神经基础。

关键词 精神分裂症，幻听，海马亚区，颞上回，功能连接

腹膜透析患者抑郁现状及影响因素分析

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目的：对腹膜透析患者进行抑郁的横断面调查研究，以期了解腹膜透析患者的抑郁现状，并分析其影响因素，为腹膜透析患者的抑郁干预提供理论支持。

方法：采用便利抽样法，选取2023年10月至2024年10月在江苏省2家三级甲等医院和1家三级综合性医院腹膜透析中心接受治疗且符合纳排标准的299例腹膜透析患者，收集患者一般资料，使用贝克抑郁量表第二版、中文版知觉压力量表、7条目广泛性焦虑量表、肾病患者生活质量量表和蒙特利尔认知评估量表分别评估腹膜透析患者的抑郁、压力、焦虑、生活质量和认知功能。根据抑郁评分将患者分为无抑郁组和抑郁组，比较两组人口学特征、疾病特征、实验室指标及相关量表得分对腹膜透析患者抑郁的影响。筛选单因素分析中差异显著（P＜0.05）的变量纳入二元Logistic回归，分析腹膜透析患者抑郁的影响因素。

结果：① 基本特征和量表得分：男174例（58.19%），年龄为（50.22 ± 12.37）岁，透析龄为（29.72 ± 27.43）月，腹膜透析患者抑郁的发生率为45.15%，腹膜透析患者认知障碍的发生率为58.53%，腹膜透析患者健康危险性压力的发生率为12.04%，腹膜透析患者焦虑的发生率为39.13%，肾病患者生活质量量表症状/问题维度和肾脏病影响维度的平均得分相对较高，维度得分分别为（74.66 ± 13.75）分和（69.88 ± 14.70）分。② 单因素分析：无抑郁组和抑郁组在工作状况、夜间干腹、腹膜透析并发症、透析龄、每日透析超滤量、24小时尿量、每日透析换液次数、尿素、氯、铁、β2微球蛋白、甲状旁腺激素、超敏C反应蛋白、膀胱抑素C、血小板、葡萄糖、直接胆红素、淋巴细胞比率、中性粒细胞比率、淋巴细胞计数、蒙特利尔认知评估量表得分、中文版知觉压力量表得分、7条目广泛性焦虑量表得分和身体健康综合指数，组间差异有统计学意义（P＜0.05）。③ 二元logistic回归分析：焦虑（OR=22.531，P＜0.001）、健康危险性压力（OR=5.626，P=0.024）和高超敏C反应蛋白水平（OR=1.024，P=0.020）是腹膜透析患者抑郁的独立危险因素；有工作（OR=0.345，P=0.012）、夜间干腹（OR=0.438，P=0.035）、身体健康综合指数高（OR=0.950，P=0.013）和认知功能障碍（OR=0.426，P=0.034）是腹膜透析患者抑郁的保护因素。

结论：腹膜透析患者抑郁的发生率较高，焦虑、健康危险性压力、无工作、夜间留腹、超敏C反应蛋白高、身体健康综合指数低和无认知功能障碍的腹膜透析患者更容易抑郁。

关键词 腹膜透析、抑郁、焦虑、压力、认知功能

某大学新生适应障碍及适应障碍者心理健康状况调查

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目的：了解某大学新生适应障碍、抑郁情绪、焦虑情绪、自杀观念状况，并对适应障碍者与非适应障碍者进行对比分析，为进一步实施干预提供方向及参考。

方法：采用适应障碍调查问卷（ADNM-20）、抑郁障碍筛查量表（PHQ-9）、焦虑障碍筛查量表（GAD-7）对抽样选取的404名某大学新生进行无记名问卷调查。

结果：404名大学新生，符合ADNM适应障碍评分标准的有116名，占所有新生比例的28.71%。404名大学新生中，符合PHQ-9重度抑郁评分标准的有8名，其中7名为适应障碍，1名非适应障碍，分别占适应障碍总人数和非适应障碍总人数的6.03%、0.35%，存在统计学差异（χ2值为13.780，P<0.01）。PHQ-9量表中重度抑郁评分（≥15分）以上为需要干预的人员，404名大学新生中共有25名，其中21名为适应障碍，4名非适应障碍，分别占适应障碍总人数和非适应障碍总人数的18.10%，1.39%，存在统计学差异（χ2值为39.796，P<0.01）。焦虑障碍筛查量表（GAD-7）评分示重度焦虑11名，9名为适应障碍，2名非适应障碍，分别占比为7.76%、0.70%，存在统计学差异（χ2值为15.580，P<0.01）。PHQ-9

中条目9为“有种不如死掉或用某种方式伤害自己的念头”，有重要意义。选该条目的新生共125名。其中“几乎每天都有”的有9名，7名为适应障碍，2名非适应障碍，分别占比为6.03%、0.70%，存在统计学差异（ χ2值为10.826， P<0.01 ）。“超过一半以上时间都有”和“几乎每天都有”的共计27名，其中17名为适应障碍，10名非适应障碍，分别占比为14.66%、3.47%，存在统计学差异（ χ2值为16.582，P<0.01 ）。

结论：大学新生中适应障碍较多，适应障碍者存在较多的焦虑、抑郁、自杀状况，对适应障碍者更需予以重点关注。

关键词 大学新生；适应障碍；焦虑；抑郁；自杀

双相情感障碍患者血清心肌酶及尿酸水平与认知功能的关系

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目的：研究分析双相情感障碍患者血清心肌酶及尿酸水平与认知功能的关系。

方法：选取2023年3月至2024年3月在江苏省扬州五台山医院接受住院治疗的双相情感障碍患者共145例作为观察组，另选取本院健康体检志愿者130例纳入正常对照组。比较两组患者治疗前后血清尿酸、心肌酶变化水平和认知功能变化，并分析心肌酶及尿酸与认知功能的相关性以及两组心电图结果。

结果：观察组治疗后的尿酸水平降低，但明显高于对照组，差异有统计学意义（ P＜0.05 ）；观察组治疗后的血清心肌酶水平明显降低，与对照组相比，差异有统计学意义（ P＜0.05 ）。观察组心肌酶和尿酸水平与YMRS和HAMD评分成正相关，治疗后心电图异常率降低。

结论：双相情感障碍患者的认知功能与心肌酶和尿酸水平有显著相关性，其水平越高，认知功能越差。心肌酶和尿酸水平在一定程度上可用来评估认知功能损害的程度。

关键词 双相情感障碍；血清心肌酶；尿酸水平；认知功能

伴快感缺失型重度抑郁障碍患者肠道菌群物种与粪便代谢物变化

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背景：快感缺失是重度抑郁障碍（ Major depressive disorder, MDD ）的核心症状。快感缺失与疾病病程不良、治疗反应差及自杀风险增加密切相关，现有药物治疗及多数一线心理治疗方法均未能有效缓解快感缺失的核心缺陷，且其潜在生物学机制尚未明晰。然而肠道菌群及其代谢物的改变与MDD的发病机制相关，但其与快感缺失的关联尚不明确。

方法：本研究纳入60名健康对照者（ Healthy controls, HC ）、29名伴快感缺失的MDD患者（ MDD

with anhedonia, MDD.WA）及27名不伴快感缺失的MDD患者（MDD without anhedonia, MDD.OA）。采用全基因组鸟枪法宏基因组学和非靶向代谢组学技术，探究快感缺失型MDD患者肠道菌群及粪便代谢物的特异性变化。

结果：HC组与MDD.WA组或MDD.OA组分别存在30种和50种细菌丰度显著差异，其中23种为快感缺失亚型独有。快感缺失型MDD的特征性表现为Blautia sp. SC05B48丰度显著升高（AUC=0.7114），提示其作为潜在生物标志物的价值。粪便代谢物分析显示，91种差异代谢物涉及37条代谢通路，包括精氨酸生物合成、酪氨酸代谢、组氨酸代谢、氨酰-tRNA生物合成以及丙氨酸-天冬氨酸-谷氨酸代谢通路。菌群-代谢物互作网络分析表明，菌群与富马酸、L-谷氨酸呈正相关，与龙胆酸、L-多巴及甲基咪唑乙酸呈负相关。

讨论：综上所述，本研究揭示了健康人群与两种MDD亚型（伴快感缺失型与非伴快感缺失型）在肠道菌群及粪便代谢物层面的显著差异，并进一步验证微生物-肠-脑（Microbial - gut - brain axis, MGB）轴在快感缺失型MDD发病机制中的关键作用。尤为重要的是，我们首次报道了一种可有效区分快感缺失型MDD亚型的潜在生物标志物。上述发现深化了对快感缺失病理机制的理解，为开发新型补充性治疗策略提供了科学依据。

关键词 重度抑郁障碍、快感缺失、肠道菌群、粪便代谢物、微生物-肠-脑轴

Machine learning based differential diagnosis of schizophrenia, major depression disorder and bipolar disorder using structural magnetic resonance imaging

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Background: Cortical morphological abnormalities in schizophrenia (SCZ), major depressive disorder (MDD), and bipolar disorder (BD) have been widely reported, yet their utility as objective biomarkers for differential diagnosis remains uncertain due to overlapping neuroanatomical profiles and symptom heterogeneity. Current diagnostic reliance on subjective clinical evaluation underscores the need for data-driven tools to disentangle biological signatures of these disorders. This study aimed to develop a robust machine learning framework using structural MRI (sMRI) to distinguish SCZ, MDD, and BD by integrating multidimensional cortical features and clinical covariates, addressing critical gaps in neuroimaging-based diagnostic specificity.

Methods: Structural MRI data were acquired from 880 participants (220 SCZ, 220 MDD, 220 BD, 220 healthy controls [HC]) across multiple centers using standardized 3 T protocols. Cortical parcellation via FreeSurfer v7.2

extracted 272 morphological features (volume, thickness, surface area, and mean curvature) across 68 bilateral regions, harmonized with clinical covariates (age, gender, illness duration, intracranial volume). To mitigate overfitting, the dataset underwent stratified 70 % – 30 % training–test splitting, Min – Max normalization to [0, 1] range, and principal component analysis (PCA) retaining 95% variance. 9 models were systematically compared, combining 3 feature selection methods (mutual information [MI] for nonlinear associations, univariate ANOVA–based selection [UFS], and recursive feature elimination [RFE] with SVM weights) with 3 probabilistic classifiers (support vector machine [SVM] with radial basis function kernel, Gaussian Naive Bayes [NB], and Gaussian process classification [GPC]). Hyperparameter tuning via 5–fold cross–validated grid search optimized model generalizability, with performance evaluated through accuracy, sensitivity, specificity, F1–score, and macro–average AUC on the held–out test set.

Results: The univariate feature selection – Naive Bayes (UFS–NB) model achieved superior diagnostic performance, with an overall accuracy of 0.66 (95 % CI: 0.61 – 0.71) and macro–average AUC of 0.86, significantly outperforming other combinations. Disorder–specific performance revealed nuanced patterns: SCZ identification attained moderate sensitivity (0.59) but high specificity (0.73, AUC = 0.88), whereas MDD classification balanced sensitivity (0.62) and exceptional specificity (0.90, AUC = 0.85). BD discrimination lagged (sensitivity = 0.58, specificity = 0.79, AUC = 0.76), contrasting with near–perfect HC detection (sensitivity=0.86, specificity = 0.94, AUC = 0.97). Top discriminative features, ranked by importance, included thickness of right isthmus–cingulate cortex (ICC), area of left inferior temporal gyrus, thickness of right superior temporal gyrus, mean curvature of right pars orbitalis, thickness of left transverse temporal cortex, volume of left caudal anterior–cingulate cortex (cACC), area of right banks superior temporal sulcus (bankssts), and thickness of right temporal pole.

Conclusion: This machine learning framework demonstrates that sMRI–derived cortical morphology, particularly cingulate and temporal lobe features, holds promise for augmenting differential diagnosis in psychiatry. The UFS–NB model's superior performance, which is attributable to its compatibility with univariate neuroimaging effect sizes, suggests clinical translatability, though BD's lower accuracy underscores the need for complementary biomarkers. Biological plausibility is reinforced by the prominence of regions governing reality monitoring (cingulate) and social–emotional integration (temporal), implicating distinct pathophysiological pathways. While cross–site harmonization and prospective validation in early–stage cohorts are warranted, these findings mark a critical step toward biologically grounded psychiatric diagnostics, bridging the gap between neuroanatomical research and clinical decision–making.

Key Words schizophrenia, bipolar disorder, major depressive disorder, machine learning, structural MRI

Functional magnetic resonance study of the default mode network in schizophrenic patients with myelin damage

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Objective: Schizophrenia (SZ) is a chronic mental disorder whose precise etiology remains incompletely elucidated. In recent years, accumulating neuroimaging evidence has implicated myelin damage as a potential

structural substrate underlying functional connectivity deficits in SZ. Notably, the Default Mode Network (DMN) has emerged as a central network in which myelin-related disruptions may drive aberrant functional connectivity patterns in the disorder. Therefore, this study examines alterations in DMN functional connectivity among SZ patients with myelin damage (SZ1), while exploring its association with clinical features. The findings aim to elucidate the role of myelin disruption in SZ neurodevelopmental mechanisms and potentially contribute to biological diagnostic subtyping approaches.

Methods: This study included 27 patients with SZ and myelin damage (SZ1), 37 patients with SZ without myelin damage (SZ2), and 38 demographically matched healthy controls (HCs). Structural and functional magnetic resonance imaging (MRI) data were acquired from all participants. Clinical symptom severity in patient groups was assessed using the Positive and Negative Syndrome Scale (PANSS). To examine Default Mode Network (DMN) functional connectivity, we selected four key seed regions: Medial prefrontal cortex (mPFC), Left lateral parietal cortex (LLPC), Right lateral parietal cortex (RLPC), Posterior cingulate cortex (PCC). Functional connectivity analysis was performed using a seed-based correlation approach. Between-group differences in DMN connectivity were evaluated using analysis of covariance (ANCOVA), followed by post-hoc two-sample t-tests where appropriate. Additionally, we conducted correlation analyses between aberrant functional connectivity values in patient groups and their PANSS scores to assess clinical relevance.

Results: Analysis of covariance and two-sample t-test showed that compared with the HCs group, the SZ1 group had weakened functional connectivity between the seed area of the medial prefrontal cortex and the bilateral medial orbital frontal cortex, weakened functional connectivity between the seed area of the posterior cingulate cortex and the bilateral precuneus lobes, and strengthened functional connectivity between the seed area of the posterior cingulate cortex and the left orbitofrontal cortex; in the SZ2 group, the functional connectivity between the seed area of the medial prefrontal cortex and the bilateral medior orbital frontal cortex was weakened, and that of the posterior cingulate cortex was weakened, and the left intermediate cingulate was strengthened. In the SZ2 group, the functional connectivity between the seed area of the medial prefrontal cortex and the bilateral medial orbital frontal cortex was weakened, that between the seed area of the posterior cingulate cortex and the bilateral precuneus and left middle cingulate gyrus was weakened, and that between the seed area of the medial prefrontal cortex and the left orbitofrontal cortex was strengthened, that between the seed area of the left lateral parietal cortex and the right orbitofrontal cortex and the seed area of the posterior cingulate cortex and the bilateral orbitofrontal cortex was strengthened. Correlation analysis showed that functional connectivity in the SZ1 group was significantly positively correlated with positive symptoms, whereas functional connectivity in the SZ2 group was significantly negatively correlated with negative symptoms and total PANSS score.

Discussion: Significant abnormalities in DMN functional connectivity were observed in both SZ1 and SZ2 patient groups, with distinct patterns of dysregulation that correlated with specific clinical manifestations of schizophrenia. Notably, myelin damage appears to preferentially disrupt connectivity between the left lateral parietal cortex and orbitofrontal cortex, demonstrating marked intergroup differences between SZ1 and SZ2 patients. The clinical correlations were particularly revealing: DMN connectivity alterations in SZ1 patients showed positive associations with positive symptoms, while SZ2 patients exhibited negative correlations with negative symptoms. These findings suggest that myelin pathology may contribute differentially to symptom dimensions in schizophrenia subtypes, advancing our understanding of its pathophysiological role. Importantly, the observed connectivity patterns support the potential utility of myelin integrity as a novel biomarker for schizophrenia stratification and diagnosis.

Key Words schizophrenia, myelin, magnetic resonance imaging, default mode network, functional connectivity.

森田心理护理在抑郁症患者护理中应用

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目的：分析森田心理护理在抑郁症患者中的应用效果和对策。

方法：选取本科室2021年1月至2023年11月期间收治的98例患者，以随机数表法划分为对照组和观察组，每组各49例，两组患者均应用抗抑郁药物进行干预治疗，对照组患者应用常规护理方法，观察组应用森田心理护理方法。

结果：观察组治疗有效率为95.92%，对照组治疗有效率为87.76%，观察组临床效果更好（P＜0.05）；观察组患者护理干预前和护理干预45天后HAMD评分低于对照组（P＜0.05）；观察组患者总依从性为91.84%，对照组患者总依从性为83.67%，观察组总依从性更高（P＜0.05）。

讨论：与其他抑郁症心理干预和心理治疗方法相比，森田疗法更加侧重于自然化的心理治疗，以“顺其自然”为主，也就是接受和服从不同事物运行的客观法则，顺其自然地要求患者正视消极体验，并将个人注意力转移到其他事物上，消解患者内心的动机冲突，减轻抑郁症患者的痛苦。此次研究将森田心理护理与常规类型护理干预方法应用于抑郁症患者护理之中，分别按照卧床期、轻作业期、重作业期和社会适应期等不同阶段进行逐层逐级干预，着重强调激发患者生的欲望和本能，将精神能量逐渐转化为行动动力，从日常生活中汲取积极情绪和体验，纠正不良认知。总而言之，森田心理护理在抑郁症患者护理中应用有突出优势，有利于提高临床护理治疗效果，提升患者依从性，帮助患者纠正不良认知，在生活中建立积极体验，恢复社会功能，该干预方法有临床推广应用价值。

关键词 森田心理护理；抑郁症；护理方法；HAMD评分；依从性

护肝调神合剂经多靶点互作网络改善精神分裂症-睡眠障碍共病的协同调控机制研究

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目的：精神分裂症（SCZ）与睡眠障碍（SD）的高共病率提示二者存在潜在共享病理机制，但其分子交互网络及中药复方干预机制尚未阐明。本研究旨在通过跨疾病组学整合与多维度分析，揭示SCZ与SD的共病分子基础，并系统解析复方中药护肝调神合剂（HGTS）治疗SCZ合并SD的潜在机制。

方法：整合GEO数据库中SCZ与SD的转录组数据，采用方向特异性交集分析筛选疾病共有差异基因；通过STRING数据库构建蛋白质互作网络，结合Cytoscape拓扑分析鉴定核心靶点；利用LASSO回归与Logistic回归机器学习算法筛选跨疾病枢纽基因；采用CIBERSORT反卷积算法评估免疫细胞浸润特征，解析基因-免疫互作关系；基于AutoDock Vina对核心成分与靶点进行分子对接验证；构建SCZ-SD共病小鼠模型，通过旷场实验、前脉冲抑制（PPI）及多导睡眠监测等评价行为学改善，结合Western blot和qRT-PCR验证关键通路调控效应。

结果：跨疾病分析筛选出SCZ与SD的25个共有核心靶点，构建的“化合物–靶点”网络揭示槲皮素、β–谷甾醇及ADRB2为关键节点。蛋白质互作网络鉴定HSPB1、THBS1等靶点富集于抗原呈递与PI3K–Akt通路。机器学习锁定HSPB1、ADRB2、GZMM为核心基因，其诊断效能显著（AUC>0.85）。SCZ中静息CD4+记忆T细胞与HSPB1正相关，SD中树突状细胞异常与ADRB2低表达相关。分子对接证实黄芩苷、β–谷甾醇与靶点强结合。动物实验显示HGTS改善神经症状及睡眠结构，并调控HSPB1/ADRB2/BDNF表达。

结论：本研究揭示SCZ与SD共享HSPB1、ADRB2、GZMM核心靶点，其通过调控PI3K–Akt通路及免疫微环境等驱动共病进展。复方HGTS通过槲皮素、β–谷甾醇等多组分协同作用改善神经症状与睡眠节律，为神经精神共病的多靶点精准治疗提供了实验依据与转化策略。

关键词 护肝调神合剂；精神分裂症；睡眠障碍；网络药理学；多靶点

CCL5–CCR5驱动的中性粒细胞浸润在抑郁症中的作用及机制研究

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目的：研究中性粒细胞的中枢浸润在抑郁症发生发展中的作用，发现调控中性粒细胞浸润的分子靶标，为抑郁症治疗和药物研发提供新方向和新策略。

方法：应用抑郁症患者血液样品进行单细胞测序，发现变化显著的免疫细胞类型；采用C57BL/6小鼠制备慢性社交挫败应激（Chronic Social Defeated Stress，CSDS）和慢性温和不可预知应激（Chronic Unpredictable Mild Stress，CUMS）抑郁症模型；流式细胞分析（flow cytometry, FCM）和免疫荧光检测抑郁症模型小鼠脑内浸润迁移的免疫细胞类型及主要浸润的脑区；构建CD45.1骨髓嵌合小鼠的抑郁症模型，流式细胞分析检测脑内CD45.1阳性的中性粒细胞数量比例，证实中性粒细胞从外周循环向脑内浸润迁移；应用中和抗体（Anti–Ly6G）耗竭中性粒细胞，通过社交趋避（Social Interaction，SI）、糖水偏好实验（Sucrose Preference Test, SPT）、悬尾实验(Tail Suspension Test, TST)、强迫游泳实验(Force Swimming Test, FST)和开场试验(Open Field Test, OFT)观察耗竭中性粒细胞对小鼠抑郁样行为的影响。

收集抑郁症模型小鼠脑内的中性粒细胞，进行高通量SMART–seq测序发现并证实中性粒细胞CCR5信号显著增强；应用多重免疫组化检测CCR5的配体–CCL5主要表达在星形胶质细胞；通过给予CCR5拮抗剂马拉维诺(Maraviroc, MVC)、构建Ccr5–/–骨髓嵌合小鼠和海马脑区特异性敲减星形胶质细胞CCL5（AAV–GFAP–CCL5 shRNA）等手段，靶向抑制星形胶质细胞CCL5–中性粒细胞CCR5信号通路，观察其对小鼠抑郁样行为和中性粒细胞中枢浸润的影响；应用WB（Western Blot）、免疫荧光（Immunofluorescence, IF）、高尔基体染色、透射电镜（Transmission electron microscope，TEM）、膜片钳技术检测中枢浸润的中性粒细胞对海马脑区突触数量和形态、突触传递及神经元电位活动的影响。

结果：1. 单细胞RNA测序显示抑郁症患者中性粒细胞数量增加　抑郁症患者外周血单细胞测序结果表明中性粒细胞数量显著升高。

2. 抑郁症模型小鼠外周循环及海马脑区中性粒细胞数量比例显著增加　抑郁症模型（CSDS和CUMS）小鼠脑内和外周循环的髓系细胞数量比例显著增加，其中中性粒细胞数量增加最为显著。

3. 抑郁症中中性粒细胞从外周循环向海马脑区浸润迁移　构建CD45.1骨髓嵌合小鼠的抑郁症模型，

流式细胞术研究发现脑内可检测到从外周循环向脑内浸润的CD45.1免疫阳性的中性粒细胞。

4. 耗竭中性粒细胞显著缓解小鼠抑郁样行为 CSDS模型制备过程中及模型制备成功后分别给予中性粒细胞中和抗体（Anti-Ly6G），系统性耗竭中性粒细胞均可显著缓解小鼠抑郁样行为。

5. 抑郁症模型小鼠星形胶质细胞CCL5-中性粒细胞CCR5信号增强 抑郁症模型小鼠海马脑区中性粒细胞SMART-seq测序结果表明CCR5趋化因子受体表达上调，多重免疫组化发现CCR5的配体CCL5表达同步上调，且主要表达在海马脑区星形胶质细胞，提示星形胶质细胞CCL5-中性粒细胞CCR5信号可能参与调控中性粒细胞的海马浸润。

6. CCR5小分子拮抗剂抑制中性粒细胞的脑内浸润并改善小鼠抑郁样行为 给予CCR5拮抗剂治疗后，小鼠抑郁样行为改善，脑内浸润的中性粒细胞数量比例减少，海马区突触丢失现象显著缓解。

7. CCR5敲除抑制中性粒细胞的脑内浸润并缓解小鼠抑郁样行为 构建Ccr5-/-骨髓嵌合小鼠的抑郁症模型，Ccr5-/-髓系细胞移植WT受体小鼠后可显著改善小鼠抑郁样行为，减少脑内海马浸润的中性粒细胞数量与比例，缓解海马神经元突触丢失现象，增强微小兴奋性突触后电流（miniature excitatory postsynaptic currents，mEPSC）和神经元的电活动。

8. 星形胶质细胞CCL5敲减抑制中性粒细胞脑内浸润并改善小鼠抑郁表型 星形胶质细胞条件性敲减CCL5显著缓解小鼠抑郁样行为，减少脑内浸润的中性粒细胞数量比例，抑制海马神经元突触丢失，增强mEPSC频率和幅度及神经元电活动。

讨论：海马浸润的中性粒细胞在抑郁症发生发展中发挥重要作用。星形胶质细胞CCL5-中性粒细胞CCR5通路驱动抑郁症中中性粒细胞的海马浸润。浸润的中性粒细胞吞噬神经元树突棘，抑制突触传递和神经元电活动，引发小鼠抑郁样表型。抑制CCL5-CCR5信号轴可抑制中性粒细胞向海马迁移浸润，减轻中性粒细胞的病理损伤作用，缓解小鼠抑郁样表型。

关键词 中性粒细胞，抑郁症，CCL5,CCR5,星形胶质细胞

大学生睡眠质量与自伤行为的关联

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目的：探讨大学生昼夜节律倾向、睡眠质量与自伤行为及抑郁的关联。

方法：采用横断面研究设计，2024年4月至9月，通过问卷星平台收集712名大学生数据，使用抑郁症状量表（PHQ-9）、匹兹堡睡眠质量指数（PSQI）、清晨-夜晚型自评量表（MEQ）及Beck自杀意念表等工具进行心理健康评估；根据“过去一年内，您曾经是否有过自我伤害行为？”问题将大学生分为自伤组和非自伤组；通过SPSS 22.0进行统计分析，方法包括卡方检验、双样本t检验、曼-惠特尼检验、Pearson相关性分析及中介效应分析。

结果：（1）共收集成年大学生有效问卷544份，有抑郁占比69.9%，无抑郁占比30.1%，提示抑郁情绪困扰着近70%的成年初显期大学生；（2）清晨型节律占比5.5%，中间型节律占比44.3%，夜晚节律占比50.2%，低睡眠质量占比29%，高睡眠质量占比71%，提示大学生群体多倾向于晚睡晚起，近3成学生睡眠质量差；（3）有自伤行为占比10.3%，无自伤行为占比89.7%；与无自伤行为组相比，有行为组PHQ-9（20.36 ± 6.52 vs. 16.85 ± 6.01, P<0.001）、PSQI（6.54 ± 3.37 vs. 5.19 ± 3.38, P=0.006）显著升高；（4）中介分析显示抑郁情绪在睡眠质量与自伤行为间起部分中介作用（间接效应占比76.32%，P=0.0056）。

讨论：本研究提示大学生睡眠质量下降可能通过加剧抑郁情绪，间接增加自伤行为。未来需更加重视大学生心理健康问题，关注大学生生活作息改善睡眠质量。进一步开展前瞻性研究及扩大样本量，以更深入地探究这些因素间的关系，为大学生心理健康干预提供更坚实的依据。

关键词 睡眠质量；抑郁；自伤行为

Neural signatures of major depressive disorder with insomnia: evidence from resting-state magnetoencephalography

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Background:Insomnia is one of the most distressing symptoms in patients with major depressive disorder (MDD) that exacerbates disease severity and worsens clinical outcomes. However, research focusing on the neurobiological mechanisms of insomnia in MDD remains limited, and objective biomarkers are still lacking. Investigating the specific mechanisms associated with insomnia in depressed patients may offer more precise insights into the underlying pathophysiology of MDD. Therefore, we employed magnetoencephalography (MEG) to explore distinct neural patterns associated with MDD patients with insomnia.

Methods:A total of 206 participants were recruited for this study, including 104 healthy controls (HCs) and 102 MDD patients (42 with high level insomnia and 60 with low level insomnia). Demographic information, clinical assessments, and resting-state MEG data were collected. Cluster-based permutation tests identified spectral differences across three groups at the source level, followed by functional connectivity (FC) analyses. Significant FC alterations were subsequently correlated with clinical symptoms. Finally, support vector machine (SVM) models were employed to explore the effectiveness of these neuroimaging features in distinguishing MDD patients with different levels of insomnia.

Result:Significant group differences were exclusively observed in the low gamma frequency band, with abnormal FC changes involving 6 regions and 5 connections within three groups' comparison. Among them, only the FC between the left insula (INS.L) and right postcentral gyrus (PoCG.R) was significantly negatively associated with insomnia severity in MDD patients ($r = -0.36$, $q = 0.002$). SVM classification analysis demonstrated effective discriminative ability of these neuroimaging features, achieving an accuracy of 78.43%, a sensitivity of 83.33%, a specificity of 75.00%, and an area under the curve (AUC) of 0.733 in distinguishing MDD patients with different level of insomnia. Notably, the FC between the PoCG.R and INS.L contributed most to the classification performance.

Conclusion:Our results identify aberrant low gamma oscillations and PoCG.R - INS.L connectivity as distinctive neural signatures of MDD with insomnia, providing novel and objective biomarkers to improve diagnostic

precision and inform individualized interventions of MDD patients.

Key Words major depressive disorder, insomnia, magnetoencephalography, oscillation, functional connectivity, support vector machine

Oxidative Stress, Social Dysfunction, and Cognitive Impairment in Deficit Schizophrenia: A Cross-Sectional Study

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Objective: This study aimed to investigate oxidative stress markers, social functioning, and cognitive function in male patients with deficit schizophrenia (DS). Specifically, serum levels of superoxide dismutase (SOD), total antioxidant capacity (TAOC), reduced glutathione (GSH), and nitric oxide (NO) were examined in patients with DS and compared to those with non-deficit schizophrenia (NDS) and healthy controls (HC).

Methods: A cross-sectional study was conducted, including 45 patients with DS, 49 with NDS, and 46 HC. Serum SOD, TAOC, GSH, and NO levels were measured using enzyme-linked immunosorbent assay (ELISA). Clinical symptoms were assessed using the Brief Psychiatric Rating Scale (BPRS), Scale for the Assessment of Positive Symptoms (SAPS), and Scale for the Assessment of Negative Symptoms (SANS). Social functioning was evaluated with the Social Skills Performance Inventory (SSPI) and the Social Adaptive Functioning Evaluation (SAFE), while cognitive function was assessed using the Mini-Mental State Examination (MMSE) and the Mattis Dementia Rating Scale. Correlations between oxidative stress markers and clinical, social, and cognitive measures were analyzed.

Results: Compared to HC, DS patients exhibited significantly lower SOD (18.86 [17.83, 20.00] vs. 21.69 [20.76, 22.46] U/L, $P < 0.05$) and TAOC levels (0.77 [0.67, 0.88] vs. 0.89 [0.79, 1.03] mmol/L, $P < 0.05$), while both DS and NDS had reduced GSH (20.05 ± 8.17 vs. 24.60 ± 7.47 μmol/L, $P < 0.05$). NO was lower in NDS than in DS and HC (1.19 [0.95, 1.43] vs. 1.43 [1.19, 1.91] μmol/L, $P < 0.05$).Clinically, DS patients had more severe negative symptoms (SANS: 54.37 ± 9.94 vs. 40.23 ± 8.91, $P < 0.05$), poorer social function (SAFE: 28.82 ± 5.72 vs. 24.08 ± 5.48, $P < 0.05$), and greater cognitive impairment (MMSE: 24.46 ± 2.85 vs. 26.92 ± 2.41, $P < 0.05$) compared to NDS.Correlations revealed that GSH was negatively associated with negative symptoms in DS ($r = -0.346$, $P = 0.023$), while TAOC was positively correlated with initiation/persistence ability ($r = 0.343$, $P = 0.024$). In NDS, NO was negatively correlated with MMSE ($r = -0.399$, $P = 0.005$) and Mattis subdomains (attention: $r = -0.283$, $P = 0.049$; memory: $r = -0.289$, $P = 0.044$).

Conclusions: Deficit schizophrenia is characterized by marked oxidative stress imbalance, significant social dysfunction, and profound cognitive impairment. The observed alterations in oxidative stress markers suggest that oxidative stress may play a crucial role in the pathophysiology and cognitive deficits associated with schizophrenia, particularly in the deficit subtype.

Key Words Deficit schizophrenia; oxidative stress; social function; cognitive function

Altered Gut Microbiota Profiles in Deficit Schizophrenia

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Background:Dysbiosis of the gut microbiota has been increasingly implicated in psychiatric disorders through the gut–brain axis. However, the specific microbial signatures associated with schizophrenia subtypes characterized by negative symptoms remain underexplored.

Objective:This study aimed to investigate the compositional and functional alterations of the gut microbiota in schizophrenia patients with primary negative symptoms (DS group) compared to those without primary negative symptoms (NDS group).

Methods:Fecal samples were collected from DS and NDS patients. 16S rRNA gene sequencing was conducted to assess microbial profiles. Venn diagrams were constructed to explore operational taxonomic unit (OTU) composition differences. Alpha diversity indices (Observed species, Chao1, ACE, Shannon, Simpson, Coverage) were calculated. Linear discriminant analysis effect size (LEfSe) was used to identify discriminatory taxa. Functional potentials were predicted using PICRUSt2 and annotated with KEGG pathways.

Results:The Venn analysis revealed substantial differences in OTU composition between the DS and NDS groups, with 3804 unique OTUs in NDS, 2484 unique OTUs in DS, and 1776 shared OTUs. No significant differences were observed in alpha diversity indices ($p > 0.05$). LEfSe analysis identified enrichment of inflammatory–associated taxa such as Synergistetes and Synergistaceae in the DS group, whereas beneficial short–chain fatty acid (SCFA)–producing genera such as Coprococcus and Butyricicoccus were more abundant in the NDS group. KEGG–based functional predictions revealed group differences in metabolic pathways, particularly those involved in amino acid metabolism and chemotaxis signaling, suggesting potential disruptions in gut–brain axis interactions.

Conclusions:Our findings indicate distinct microbial and metabolic profiles between schizophrenia subtypes defined by negative symptom severity. These alterations may contribute to the pathophysiology of negative symptoms via gut–brain axis mechanisms, providing a novel perspective for targeted microbiome–based interventions.

Key Words Deficit Schizophrenia, Gut Microbiota, LEfSe Analysis, Inflammatory Pathways

AI创新助力心理咨询新服务模式探索

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目的：随着社会发展和生活节奏的加快，心理健康问题在各类人群中愈发普遍，尤其是在年轻群体、职场人士、青少年及老年人中，心理健康问题的发生率较高，需求日益迫切，而目前负责此类疾病的精神专科医院工作人员，难以满足日益增长的服务需求。鉴于此迫切需要提升心理健康服务的覆盖面

与质量，尤其是通过引入AI与大数据技术，进一步提升服务效率和精准度，以有效应对日益严峻的心理健康问题。

方法：AI技术可以在心理咨询的初期阶段进行辅助，智能聊天机器人能够为用户提供24小时的情绪疏导与心理安抚，减少心理健康危机的发生。同时，AI还能够帮助心理咨询师更精准地进行问题诊断，为后续的治疗方案提供数据支持，提升治疗效果和效率。

结果：结合AI与大数据技术对心理咨询行业的深度融合，能够在提升服务效率、扩大服务覆盖面的同时，为行业发展注入了新的活力。通过该新型服务模式的实施，不仅能够弥补当前心理咨询服务资源不足的问题，还能通过智能化手段提升心理干预的精准度和个性化服务水平。

讨论：该新型服务模式将促进医院与技术企业的深度合作，通过整合医疗与科技资源，共同推动智能心理健康服务模式的创新。这不仅有助于推动医疗行业的数字化转型，也能为心理健康服务的普及与优化做出积极贡献。此外，通过对AI技术在心理咨询领域的深入探索与应用，将为实现“健康中国2030”的目标提供有力支持，推动心理健康服务的智能化、普及化、个性化发展，为人民群众提供更加便捷、精准的心理健康服务。

关键词 AI创新；心理咨询；新服务模式；心理健康

伴非自杀性自伤成年早期抑郁症患者自发脑活动的局部一致性改变

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目的：非自杀性自伤（NSSI）在重度抑郁障碍（MDD）患者中具有较高的发生率，NSSI行为的出现常预示着抑郁症状的加重及潜在的自杀风险。局部一致性（ReHo）是衡量脑区内局部神经元活动同步性的重要指标，已被用于研究多种精神疾病的神经机制。本研究旨在探讨MDD伴NSSI患者的ReHo变化及其与自伤频率的关系，从而为理解NSSI行为的神经生物学基础提供新的视角。

方法：本研究招募了南京脑科医院精神科从2017年7月至2019年12月入院的18–30岁的抑郁症患者。根据是否伴有NSSI，抑郁症患者被分成伴NSSI的抑郁症组（MDD/NSSI），和不伴NSSI的抑郁症组（sMDD）。一共纳入54名MDD/NSSI患者和68名sMDD患者及66名年龄、性别、受教育年限匹配的健康被试。所有参与者均接受了静息态功能磁共振成像（rsfMRI）扫描。数据预处理包括去除前10个时间点、头动校正、时间层次校正、空间标准化到Montreal Neurological Institute (MNI)空间，并重新采样到3mm的各向同性体素。ReHo计算使用了基于Kendall’s coefficient of concordance (KCC)的方法，测量每个体素与其邻近体素之间的同步性。在DPABI软件中进行ReHo计算，并在SPM12中进行统计分析。首先使用方差分析（ANOVA）比较三组被试间的ReHo差异，并使用GRF方法进行多重比较校正（单个体素$p<0.001$，连续体素≥ 50）。然后进行事后检验（post–hoc T检验）对三组进行两两比较。最后，采用Pearson相关分析评估ReHo值与自伤频率之间的关系。

结果：与 sMDD 组相比，MDD/NSSI患者在右侧额上回（SFG）、右侧中颞回（MTG）和左侧中枕回（MOG）的ReHo值显著降低（$P<0.05$）。右侧SFG的ReHo值与最近自伤次数呈显著正相关（$r=0.28$，$P<0.05$），表明右侧SFG区域的功能异常可能是评估自伤频率的重要生理标志。

结论：MDD伴NSSI患者的右侧SFG区域ReHo值的降低与自伤频率密切相关。该研究揭示了NSSI行为

的神经生物学基础，提示右侧SFG区域的局部一致性异常可作为NSSI频率评估的重要指标，为未来的临床干预和自伤行为管理提供了新思路。

关键词 非自杀性自伤；重性抑郁障碍；局部一致性；rsfMRI

Effects of Theta Burst Stimulation on cognitive function and characteristics of blood oxygen alterations based on near-infrared spectroscopy in chronic schizophrenia

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Background To explore the efficacy of theta burst stimulation (TBS) on the cognitive function of chronic schizophrenia, and to analyze the effect of TBS on brain function by functional near-infrared spectroscopy (fNIRS).

Methods One hundred stable chronic schizophrenia patients were selected and divided into the experimental group (50 cases) and control group (50 cases). The experimental group received real stimulation with TBS for 4 weeks, while the control group received sham stimulation of the same site. The Mini-mental State Examination (MMSE) and Mattis-dementia Rating Scale Second Edition (MDRS-2) were used to assess cognitive function. fNIRS was used to detect the changes in hemoglobin signal values during the verbal fluency task (VFT) before and after TBS intervention.

Results Repeated measures analysis of variance showed that the interaction effect of group-by-time had a significant impact on MMSE, MDRS-2 total scores, MDRS-2 attention, MDRS-2 initiation/sustain, MDRS-2 concept formation, and MDRS-2 memory subscale scores for both groups of patients. Test of within-subjects effects showed that significant improvement in scores of MMSE, MDRS-2 total scores, and MDRS-2 attention, memory subscale were found between the experimental group and control group after TBS, as well as in the experimental group before and after TBS. Multiple factor stepwise regression analyses found that the improvement of MDRS-2 total scores after the intervention was positively correlated with age in the experimental group. Based on fNIRS-VFT, the experimental group showed significantly decreased deoxyhemoglobin signal values in channel 47 (left dorsolateral prefrontal) before and after the intervention.

Conclusions TBS can effectively improve brain activity by enhancing the blood oxygen consumption of the stimulation target, and ultimately improving the cognitive function of patients with chronic schizophrenia. Whereas the age of the patients may be the independent influence in predicting the treatment effect.

Key Words Repetitive transcranial magnetic stimulation; Chronic schizophrenia; Cognitive function; Functional near-infrared spectroscopy

The Status and Influencing Factors of Death Anxiety among Chinese College Students under the COVID-19 Pandemic: A Cross-Sectional Study

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Background: To comprehend the current state of death anxiety among Chinese college students during the COVID-19 pandemic, analyze its influencing factors, and provide recommendations for mitigating death anxiety among these students.

Methods: From March to May 2023, utilizing a cluster sampling method, students from three universities in Changzhou, Jiangsu, were selected as research participants. The investigation employed a general information questionnaire, the PTSD Checklist for DSM-5 (PCL-5), the Chinese Version Templer-Death Anxiety Scale (CT-DAS), and the brief version of the Big Five Inventory (BFI-10). Multivariate linear regression analysis was performed to examine the factors influencing death anxiety among Chinese college students during the COVID-19 pandemic.

Results: The total average score of death anxiety among the college students in this study was 44.35 ± 8.21. There was a positive correlation between death anxiety scores and both PTSD symptoms scores and neuroticism (r=0.134, 0.255, both P<0.01), and a negative correlation between death anxiety scores and extraversion, agreeableness, conscientiousness, and age (r=-0.135, -0.049, -0.172, -0.093, all P<0.01). Multivariate linear regression analysis indicated that gender, age, place of origin, COVID-19 infection, PTSD symptoms scores, neuroticism, extraversion, and conscientiousness were significant factors influencing death anxiety among college students (all P<0.05).

Conclusions: Death anxiety among Chinese college students during the COVID-19 pandemic is relatively high and is associated with age, place of origin, COVID-19 infection, PTSD symptoms scores, and personality traits. Appropriate intervention strategies can be formulated based on these influencing factors.

Key Words Death anxiety; Post-traumatic stress disorder; Personality traits; Influencing factors

家庭信任能力量表（青少年版）的编制及验证

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目的：本研究旨在编制家庭信任能力量表（青少年版），并对其信效度进行检验，以期为青少年家庭信任能力的评估提供科学、可靠的测量工具。

方法：以霍夫兰和卢森堡的三要素学说理论为基础，通过文献回顾、半结构式访谈构建量表条目

池，使用德尔菲专家函询构建和优化一个初始量表。于2024年5月–2024年12月选取江苏省常州市2所初中、2所高中、2所大学的共计530名学生作为调查对象进行问卷调查，2周后抽取其中120名学生进行重测，以检验重测效度；采取项目分析、探索性因子分析以及信度分析的数据分析方法对数据进行分析，形成正式版量表。

结果：家庭信任能力量表（青少年版）最终保留30个条目，包含认知信任感知，情感信任体验、行为信任表现3个维度。探索性因子分析提取3个公因子，累计方差贡献率为63.024%；验证性因子分析结果表明，该量表具有良好的结构效度，模型拟合指标符合心理测量学要求（χ2/df值为2.906，RMSEA=0.048，SRMR=0.049，GFI=0.925，AGFI=0.909，IFI=0.957，TLI=0.931，CFI=0.917)。量表的Cronbach’s α系数为0.912，折半信度为0.896，重测信度为0.836，表明该量表具有较高的内部一致性和稳定性。此外，量表总分及各维度与相关效标呈显著相关（P<0.05），表明其具有较好的效标关联效度。

讨论：本研究编制的家庭信任能力量表（青少年版）在理论构建、条目筛选及量表验证过程中均严格遵循心理测量学原则。研究结果表明，该量表具有良好的信度和效度，可作为评估青少年家庭信任能力的有效工具。本量表的应用可为未来家庭教育指导、青少年心理健康干预及相关研究提供重要支持。然而，本研究仍存在一定局限性，如样本来源局限于江苏省常州市，可能影响量表的推广应用，未来研究可进一步扩大样本范围，并结合纵向研究以验证其稳定性。此外，可探讨该量表在不同文化背景及特殊群体（如问题青少年、单亲家庭青少年）中的适用性，以增强其实用价值。

关键词 家庭信任能力，青少年，量表编制，信效度

基于家庭信任能力提升的家庭教育指导干预在青少年抑郁症患者应用效果

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目的：探讨基于家庭信任能力提升的家庭教育指导干预对青少年抑郁症患者的心理健康状况、家庭功能及社会适应能力的影响，为青少年抑郁症的综合干预提供科学依据。

方法：选取2024年3月—2025年3月在常州市德安医院接受治疗的青少年抑郁症患者80例，采用随机数字表法分为对照组（40例）和观察组（40例）。对照组接受常规心理治疗及心理健康教育；观察组在常规心理治疗的基础上接受为期9周的家庭教育指导干预，以提升家庭信任能力。干预内容包括父母课堂（教授建立家庭信任的心理学知识）、家庭访谈（分析家庭信任问题并制定改进方向）、家庭教育指导（依次开展家庭界限设定、家庭感情培养、情感表达练习及积极互动经验积累），最后通过父母沙龙巩固干预效果。于干预前、干预结束后，评估两组患者的心理健康状况抑郁自评量表、焦虑自评量表、家庭信任能力评分、及社会适应能力评分，比较两组干预前后的变化。

结果：干预结束后，观察组焦虑、抑郁评分均较干预前显著降低，且低于对照组（P＜0.05），表明其抑郁、焦虑症状得到明显改善；家庭信任能力评分较干预前显著升高，且高于对照组（P＜0.05），提示观察组患者的家庭信任能力明显提升；社会适应评分较干预前显著升高，且高于对照组（P＜0.05），表明其社会适应能力得到改善。

结论：基于家庭信任能力提升的家庭教育指导干预能有效缓解青少年抑郁症患者的抑郁、焦虑症状，提高其家庭信任水平，增强社会适应能力。该干预模式在促进青少年心理健康康复方面具有重要的

临床应用价值，为青少年抑郁症的家庭干预提供了新的实践路径。

关键词 青少年抑郁症；家庭信任能力；家庭教育指导；社会适应能力

Relationship between cognitive impairments and psychopathological symptoms in female schizophrenia subsequent to 8 weeks treatment with antipsychotic drugs

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Background: Changes in cognitive impairments and their relationship with psychopathological symptoms during treatment in schizophrenia remain debatable. Especially, there is few studies specifically focusing on female patients. Further exploration of the characteristics of female schizophrenia patients can offer valuable sex-related considerations for clinicians in diagnosis and interventions.

Methods: Our study involved 94 female patients with drug-naïve or drug-withdrawal schizophrenia who received antipsychotic drug for 8 weeks, along with 71 age-matched female healthy controls. The MATRICS Consensus Cognition Battery was used to assess cognition in the healthy controls at baseline and in the schizophrenia patients before and after 8 weeks of treatment. The Positive and Negative Syndrome Scale (PANSS) was employed to evaluate the psychopathological symptoms of the patients before and after 8 weeks of treatment.

Results: After antipsychotic treatment, 90.43% of the patients showed a reduction rate of more than 25% in their PANSS scores. Psychopathological symptoms and overall cognitive functioning improved significantly ($p<0.05$), with the exception of verbal learning and social cognition ($p>0.05$). Most cognitive dimensions were negatively correlated with positive symptoms, negative symptoms, and general psychopathological symptoms ($p<0.05$, Bonferroni correction), while verbal learning and social cognition were only correlated with negative symptoms ($p<0.05$, Bonferroni correction). Multivariate linear regression analysis revealed that improvements in positive symptoms and negative symptoms can predict the improvement in visual learning ($p<0.05$) and overall cognitive composite scores ($p<0.05$), improved positive symptoms can predict the improvement in the speed of processing ($p<0.05$), reasoning and problem-solving($p<0.05$), and improvement in negative symptoms can predict the improvement in attention/vigilance ($p<0.05$).

Conclusions: Verbal learning and social cognition may serve as core independent cognitive impairments in female schizophrenia. Improvements in the overall cognitive function, along with most cognitive dimensions, appeared to be secondary to the improvement in positive and negative symptoms during the acute stages of antipsychotic treatment.

Key Words Schizophrenia; antipsychotic drug; cognitive impairment; positive symptoms; negative symptoms; female

Effects on Multimodal Connectivity Patterns in Female Schizophrenia During 8 Weeks of Antipsychotic Treatment

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Background and hypothesis:Respective abnormal structural connectivity (SC) and functional connectivity (FC) have been reported in individuals with schizophrenia. However, transmodal associations between SC and FC following antipsychotic treatment, especially in female schizophrenia, remain unclear. We hypothesized that increased SC-FC coupling may be found in female schizophrenia, and could be normalized after antipsychotic treatment.

Study design:Sixty-four female drug-naive patients with first-diagnosed schizophrenia treated with antipsychotic drugs for 8 weeks, and 55 female healthy controls (HCs) were enrolled. MRI data were collected from HCs at baseline and from patients at baseline and after treatment. SC and FC were analyzed by network-based statistics, calculating nonzero SC-FC coupling of the whole-brain and altered connectivity following treatment. Finally, an Elastic-net logistic regression analysis was employed to establish a predictive model for evaluating the clinical efficacy treatment.

Study results:At baseline, female schizophrenia patients exhibited abnormal SC in cortico-cortical, frontal-limbic, frontal-striatal, limbic-striatal, and limbic-cerebellar connectivity compared to HCs, while FC showed no abnormalities. Following treatment, cortico-cortical, frontal-limbic, frontal-striatal, limbic-striatal, temporal-cerebellar, and limbic-cerebellar connectivity were altered in both SC and FC. Additionally, SC-FC coupling of altered connectivity was higher in patients at baseline than in HC, trending toward normalization after treatment. Furthermore, identified FC or/and SC predicted changes in psychopathological symptoms and cognitive impairment among female schizophrenia following treatment.

Conclusions:SC-FC coupling may be a potential predictive biomarker of treatment response. Cortico-cortical, frontal-limbic, frontal-striatal, limbic-striatal, temporal-cerebellar, and limbic-cerebellar could represent major targets for antipsychotic drugs in female schizophrenia.

Key Words Female schizophrenia, antipsychotic drug, structural/functional connectivity, network, multimodal

精神分裂症复发患者静息态功能磁共振比率低频振幅研究

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目的：通过比较精神分裂症复发（Relapsed Schizophrenia, RS）与首诊未服药精神分裂症（First-

Diagnosed Schizophrenia, FDS）患者的大脑功能活动，探讨精神分裂症复发的神经影像标记。

方法：本研究共纳入85名RS患者、75名FDS患者和82名对照组进行磁共振扫描，采用比率低频振幅（fractional amplitude of low-frequency fluctuation, fALFF）评估大脑功能活动。使用阳性与阴性症状量表（Positive and Negative Syndrome Scale, PANSS）评估患者组临床症状。分析比较三组被试fALFF差异及患者组异常fALFF值与临床症状的关系。

结果：与FDS组相比，RS组阴性症状更显著（$P<0.05$）。与对照组相比，FDS组小脑蚓部-4/5和右侧壳核fALFF值升高，右侧中央前回/中央后回、双侧楔前叶和右侧中央旁小叶fALFF值降低（GRF校正）；RS组左侧小脑-9/10、双侧小脑6/8/Crus I、右侧颞下回、右侧颞中回、右侧额下回眶部和右侧壳核fALFF值升高，双侧距状裂周围皮层/楔叶、左侧内侧额上回、右侧楔前叶/楔叶、双侧楔前叶和右侧中央前回/中央后回fALFF值降低（GRF校正）。与FDS组相比，RS组右侧小脑Crus I fALFF值升高（GRF校正）。相关分析显示，FDS组患者双侧楔前叶fALFF值与阴性症状分、一般精神病理症状分和PANSS总分存在负相关（$P<0.05$），而在RS组患者中未发现这种相关性（$P>0.05$）。

结论：精神分裂症复发患者的阴性症状更加突出，表现为更广泛的脑功能损伤。

关键词 精神分裂症；复发；功能磁共振；比率低频振幅；阴性症状

TMEM106B参与抑郁症的发生和机制研究

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目的：抑郁症（MDD）是一种以显著而持久的情绪低落、兴趣减退、快感缺失为主要表现的常见精神疾病。2019年流行病学调查数据显示我国MDD终身患病率达3.4%，已成为困扰人类身心健康的重大精神疾患，给患者、家庭和社会带来沉重负担。MDD的病因机制至今仍未完全阐明，但大量的研究表明遗传因素在其发生发展中发挥重要作用，遗传力为37%～40%。将大脑和外周血蛋白质和转录组与GWAS数据整合的研究发现TMEM106B是仅有的一个在中枢和外周多层面，蛋白质和转录组多水平均有一致证据的MDD风险基因。TMEM10B分布在大脑的多个区域，尤其是海马脑区高表达，海马中TMEM106B的水平与额颞叶痴呆、阿尔茨海默病、帕金森病和海马硬化症等密切相关但是TMEM106B在MDD中的扮演什么样的角色还未明确，TMEM106B调控神经元的机制尚未阐明。

方法：1.构建抑郁小鼠模型并进行抑郁症相关行为学的评估，检测多脑区TMEM106B的差异表达。2.探索敲低背侧海马TMEM106B对小鼠的影响，构建TMEM106B条件敲除小鼠，探就是否诱发抑郁样行为。3.探究敲低TMEM106B对原代神经元可塑性的影响，解析TMEM106B参与MDD发生的机制。

结论：TMEM106B作为MDD潜在致病风险基因，通过设计进行实验，发现在CUMS小鼠的mPFC和dHip等脑区表达下调，敲低海马脑区TMEM106B诱发小鼠抑郁样行为，并引起突触相关蛋白表达异常，敲低原代神经元TMEM106B影响神经元可塑性，进一步提示TMEM106B参与MMD发生的机制。

关键词 抑郁症，TMEM106B，神经元

母体免疫激活致子代精神分裂症模型大鼠背侧纹状体神经功能紊乱的研究

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背景：母体免疫激活（maternal immune activation, MIA）模型是研究精神分裂症（schizophrenia, SCZ）的重要模型之一，该模型被广泛的用于SCZ病理生理学机制的研究。既往关于MIA模型的研究多集中在与SCZ相关的分子和行为学上，对该模型神经功能的研究有限。纹状体是SCZ研究中的重要脑区，其神经元活动和功能状态与多巴胺D2受体（D2R）密切相关。对纹状体神经功能的解析有助于全面深入的了解MIA模型本身的机制机理，拓展其应用领域。

目的：研究MIA致子代SCZ模型大鼠背侧纹状体神经功能活动，补充MIA模型中与神经功能相关的研究数据；进一步探讨MIA致子代SCZ模型大鼠背侧纹状体神经功能变化的分子机制。

方法：1. 首先制备MIA模型，在SD大鼠孕9.5天时尾静脉注射聚肌胞苷酸（polyinosinic: polycytidylic acid, Poly I:C）（模型组）或等体积生理盐水（对照组）；在子鼠成年期，利用十字高架迷宫、开放旷场、Y迷宫和前脉冲抑制等行为学评价子代大鼠焦虑、空间记忆和感觉门控功能；利用在体多通道电生理记录技术检测子鼠成年期背侧纹状体神经功能的变化；利用免疫印迹和Q-PCR检测子鼠不同发育阶段纹状体中D2R的表达变化。

2. 以MIA子代大鼠为研究对象，腹腔注射D2R的抑制剂氟哌啶醇（干预组）或等体积的生理盐水（模型组和对照组），检测不同组别子鼠成年期的行为学、背侧纹状体功能状态以及纹状体D2R的分子表达变化。

3. 利用GraphPad Prism 8.0、NeuroExplorer 5.0和OriginPro 8.5软件作图，SPSS 22.0进行统计学分析。

结果：1. 孕鼠血浆结果显示：模型组血浆炎症因子IL-6 和TNF-α 表达水平显著升高。

2. 成年期行为学特点：在开放旷场实验中，两组别无差异；在高架十字迷宫实验中，模型组进入开放臂的时间和次数显著减少；Y迷宫实验中，模型组进入新异臂的时间和次数降低；在前脉冲抑制实验中，模型组在72dB、77dB和82dB 中抑制率均显著降低。

3. 成年期背侧纹状体功能：静息状态下，模型组背侧纹状体delta、theta、 alpha、beta波的功率和能量值均显著高于对照组。

4. 纹状体D2R表达：模型组D2R蛋白表达水平在离乳期和成年期均升高。

5. 氟哌啶醇干预后成年期行为学：在开放旷场实验中，对照组、模型组和干预组无差异；在高架十字迷宫实验中，模型组进入开放臂的时间减少，药物干预后进入开放臂的时间恢复正常；Y迷宫实验中，模型组进入新异臂的时间降低，药物干预后进入新异臂的时间恢复正常；在前脉冲抑制实验中，模型组在72dB、77dB和82dB中抑制率均显著降低，干预后，三个分贝下的抑制率均恢复至正常。

6. 氟哌啶醇干预后成年期背侧纹状体功能：静息状态下，与对照组相比，模型组背侧纹状体delta、theta、 alpha、beta波的功率和能量均显著升高，干预后，异常升高的能量和功率均恢复到正常水平。

7. 氟哌啶醇干预后成年期纹状体多巴胺系统表达：基因水平和蛋白水平的结果显示，模型组纹状体D2R和酪氨酸羟化酶（tyrosine hydroxylase, TH）表达水平均高于正常组，干预后恢复至正常水平。

8. 纹状体低频振荡与行为学的相关性：低频（delta、theta、 alpha）振荡与前脉冲抑制率成显著负

相关，与其他行为学无相关性。

结论：本研究证明了MIA致子代SCZ模型大鼠背侧纹状体神经功能紊乱，背侧纹状体静息态低频振荡异常升高；且背侧纹状体功能紊乱可能与D2R异常升高有关。

关键词 多巴胺；背侧纹状体；在体电生理；精神分裂症；母体免疫激活

多基因风险评分在抑郁症风险评估中的应用：基于东亚人群的表型分析

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研究背景：抑郁症（Major Depressive Disorder, MDD）是一种受多基因影响的复杂精神疾病，对全球公共健康构成重大挑战。多基因风险评分（Polygenic Risk Score, PRS）作为一种新兴的遗传学工具，已被广泛用于评估个体的疾病风险及比较不同个体之间的风险差异。本研究旨在通过PRS方法探讨其对抑郁症的风险预测能力。

研究方法：本研究初始纳入1000名符合DSM-Ⅳ抑郁症诊断标准的抑郁症患者和2000名健康对照者。以PGC（Psychiatric Genomics Consortium）东亚人群研究中MDD及精神分裂症（Schizophrenia，SCZ）表型的汇总统计数据，以及BBJ（Biobank Japan）研究中失眠（insomnia）及身体质量指数（BMI）表型的汇总统计数据作为base数据集，利用PLINK v1.90软件对数据进行严格的质量控制，并采用PRSice 2.3.5软件为通过质量控制的949名患者和1283名健康对照生成4种表型的最佳PRS。此外，通过PRSet功能计算基于基因本体（Gene Ontology, GO）基因集的通路PRS，以评估不同通路PRS与MDD的关联。在验证数据的正态性和方差齐性后，使用R 4.3.0软件进行独立样本t检验，比较MDD患者与健康对照者之间不同表型PRS的差异。随后，以性别为协变量，对各表型及通路PRS进行Logistic回归分析，以评估PRS对表型变异的解释能力。

研究结果：结果显示，MDD-PRS和insomnia-PRS在MDD患者与健康对照者之间存在显著差异，且MDD患者的PRS整体趋势高于健康对照者。SCZ-PRS在两组之间同样存在差异，但健康对照者的PRS整体趋势高于MDD患者。而BMI-PRS在两组之间未表现出显著差异。同表型特征预测分析表明，在最佳p值阈值（PT=0.00240005）下，MDD-PRS预测MDD患病状态模型的伪R^2值为0.131094。跨表型特征PRS预测分析显示，基于SCZ、insomnia和BMI表型的PRS构建的预测模型均未达到统计学显著性水平（SCZ-PRS Empirical-P=0.207079；insomnia-PRS Empirical-P=0.0209979；BMI-PRS Empirical-P=0.733027）。此外，通路PRS的模型解释效力高于单表型特征预测模型。其中，生物过程（Biological Process, BP）发现43个基因集、细胞组分（Cellular Component, CC）发现26个基因集、分子功能（Molecular Function, MF）发现16个基因集与MDD表型存在显著关联。

研究结论：本研究证实，MDD-PRS对MDD疾病状态具有预测价值。进一步的通路PRS分析显著提升了模型的解释效力，不仅增强了疾病预测的准确性，还为深入理解抑郁症的病理生理机制提供了新的研究方向。未来研究可进一步探索PRS在抑郁症精准医学中的应用潜力。

关键词 抑郁症；多基因风险评分；通路多基因风险评分

结合遗传标记利用机器学习构建抑郁症的发生风险预测模型

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目的：抑郁症是一种常见的心理疾病，据WHO预计，到2030年抑郁症将成为中国疾病负担的第二大疾病，在全球疾病负担中升至第一名。抑郁症的诊断主要依赖于临床医生的经验判断、患者的自述症状以及标准化的评估工具，这一过程耗时且可能受到主观因素的影响。抑郁症的发生受到多种因素影响，其中包括遗传因素。因此，开发一种基于遗传信息的、客观且高效的抑郁症预测模型，对于提高诊断的准确性和效率具有重要意义。机器学习算法能够帮助分析与抑郁症相关的基因变异，并进一步理解这些变异如何影响个体的患病风险。本研究旨在利用机器学习技术，结合个体的遗传信息，构建并优化一个能够有效预测抑郁症发生风险的模型。

方法：本研究共招募了929名抑郁症患者和489名健康人。所有受试者均采集一般人口学资料，采集外周血液样本。研究基于KEGG通路数据库，围绕MDD病因假说和发病机制以及抗抑郁作用相关通路共筛选1309个候选基因，通过Illumina MiSeq平台完成测序，使用PLINK软件筛选高质量SNP，剔除缺失率大于20%、最小基因频率低于5%的SNP标记。将数据集按7：3拆分为训练集和测试集，采用二分类logistic回归方法评估特征变量对结局二分类变量（抑郁症/健康对照）的影响。在模型评估方面，首先利用ROC曲线分析模型的诊断性能，计算AUC值来评估模型的区分能力。为了进一步优化和可视化预测结果，采用列线图展示各特征的贡献，并通过校准曲线评估模型的拟合优度。最终，我们通过以上可视化手段，深入分析模型的预测准确性与稳定性。

结果：最终数据集共纳入913名抑郁症患者和489名健康对照，共有22个特征变量被纳入，分别为2个人口统计学特征（性别、年龄）、20个SNPs（rs10937954、rs77472678、rs56039629、rs1049524、rs2229850、SNV21814、rs539785、rs3780519、rs2236380、rs58982257、SNV69068、rs12301635、SNV89829、rs12437474、rs2587763、rs138501838、rs1051319、rs5844366、rs5997703、rs5749135）。ROC曲线分析显示，模型在训练集中的AUC值为0.83（95% CI: 0.80–0.86），表明该模型具有较好的区分能力。测试集中的AUC值为0.73（95% CI: 0.68–0.78），模型在测试集上也表现出良好的稳定性和有效性。

结论：本研究针对抑郁症诊断，结合遗传因素，利用机器学习技术构建并优化了预测模型。通过深入的数据挖掘和模型验证，我们成功筛选了与抑郁症发病风险显著相关的基因标记，并构建了基于这些标记的预测模型，为抑郁症诊断及风险预测提供了新的视角和方法。未来我们将通过进一步的研究和探索，不断优化和完善模型，为抑郁症诊断和风险预测提供更加精准和有效的支持。

关键词 抑郁症；单核苷酸多态性；机器学习；遗传；风险预测

基于外周血全转录组测序探讨重度抑郁症的转录组学特征

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目的：重度抑郁症是一种严重的精神疾病，据世界卫生组织公布，全球约有10亿人正在遭受精神障碍的困扰，其中抑郁症患者超过3.5亿人，预估到2030年，抑郁症将成为全球第一致残诱因。但是抑郁症的发病机制仍然不清，抑郁症存在一定遗传易感性，本研究旨在基于全转录组测序和生物信息学技术，筛选重度抑郁症患者与健康人群的差异表达基因，分析重度抑郁症发生发展过程中可能存在的信号通路，为后续研究提供分子生物学基础。

方法：本研究共招募了50名重度抑郁症患者及性别、年龄和文化程度相匹配的50名健康人。所有受试者均采集外周血样本，利用DNBSEQ测序平台完成真核生物转录组测序。基于R语言下的 R Studio集成开发环境，对两组样本实施主成分分析（Principal Component Analysis, PCA）以系统解析基因表达数据的内在结构特征，识别组间整体表达模式差异。采用DESeq2筛选出重度抑郁症患者与健康人群之间的差异表达基因（differentially expressed genes, DEGs）。基于基因表达水平对差异表达基因进行基因本体论（Gene Ontology, GO）和京都基因与基因组百科全书（Kyoto Encyclopedia of Genes and Genomes, KEGG）功能富集分析。

结果：PCA分析图谱显示MDD组与对照组在基因表达谱层面存在整体性差异（PC1: 22% variance，PC2: 9% variance）。以|log2FC|≥0.5 且 $p<0.05$ 为筛选标准，共鉴定出1086个显著的差异表达基因，其中表达上调基因435个、表达下调基因651个。差异表达基因的GO富集分析显示，差异表达基因能够参与淋巴细胞分化、单核细胞分化、细胞激活参与免疫反应等生物学过程；KEGG通路富集分析显示，差异表达基因主要富集于T细胞受体信号、破骨细胞分化、脂质与动脉粥样硬化等信号通路。

结论：本研究通过全转录组测序技术和生物信息学分析方法，系统地筛选出重度抑郁症组与健康对照组之间的差异表达基因，并运用功能富集分析深入剖析了这些差异表达基因在生物学过程及信号通路上的富集情况，阐明这些基因能够通过多种途径参与重度抑郁症的发生发展，为重度抑郁症的诊断和发病机制的研究提供了理论参考。

关键词 重度抑郁症、全转录组、差异表达基因、功能富集分析

长期用药的慢性精神分裂症患者心脏传导功能受损的影响因素分析

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目的：精神分裂症是一种严重的精神疾病，其患者发生心血管死亡和心源性猝死的风险高出一般人群5倍。数据显示相较于健康人群，精神分裂症患者的心血管疾病发生率增加了近一倍。已有研究发现精神分裂症患者存在心脏传导功能异常，且心电图对严重精神病患者的心脏风险评估作用也已被证实。

因此，本文旨在通过对慢性精神分裂症患者的心电图异常的影响因素进行全面分析，从而对临床早期的识别和干预起到作用，最终实现改善精神分裂症患者的心脏疾病方面的预后。

方法：本研究共招募233名慢性精神分裂症患者。收集资料包括人口学资料、临床特征、血液及代谢指标、心血管指标。研究数据按心电图正常或心电图异常分为两组，其分类标准参考明尼苏达编码制定，并录入SPSS 27.0软件进行统一计算。采用t检验、卡方检验进行差异性分析；不满足正态性时，采用秩和检验。对其中存在统计学差异的变量进一步作斯皮尔曼相关；再将其中具有显著相关性的变量纳入二元logistic回归分析，并采用ROC曲线分析某因素和心电图异常结局的相关程度。

结果：以心电图是否异常为分组条件，将入组精神分裂症患者分为心电图正常组（164人）和心电图异常组（69人）。最终我们发现两组在舒张压（p=0.018），甘油三酯（p=0.033），是否使用利培酮（p=0.031），苯海索当量（p=0.002），右肱踝脉搏波传导速度、左肱踝脉搏波传导速度（p=0.003），有无颈动脉多发斑块（p=0.046），左侧颈动脉斑块厚度（p=0.040）上有统计学差异。进一步采用斯皮尔曼相关，分析以上存在差异的变量和心电图之间的相关性，上述变量均表现出显著相关性，因此进一步通过二元logistic回归分析，分析上述变量与心电图异常之间的具体回归方程。其中舒张压（p=0.035）和苯海索当量（p=0.011）具有显著性，表示舒张压越高越容易造成精神分裂症患者心电图异常；苯海索当量越高，精神分裂症患者出现心电图异常的可能性越小。随后通过ROC曲线绘制舒张压和苯海索当量对精神分裂症心电图异常结局的影响曲线。舒张压和苯海索当量的曲线下面积分别为0.604、0.603。

结论：慢性精神分裂症患者的心脏传导损伤可能与其舒张压升高、甘油三酯异常以及其全身血管情况相关，这一点提示了精神分裂症患者心脏传导受损和心血管损伤之间可能存在一定的联系；另外苯海索和利培酮作为两种药物相关的保护性因素，为临床治疗过程中制定和改进药物方案提供了依据。

关键词 精神分裂症；心血管疾病；心电图

抑郁障碍患者执行抑制相关脑网络功能连接的改变

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研究背景：抑郁症（MDD）常伴随执行功能障碍，尤其在反应抑制过程中表现突出。执行控制受损已被认为与特定神经网络异常密切相关，但不同抑制任务下的脑功能连接特征尚不清晰。本研究通过Go/No-Go任务和停止信号任务（Stop Signal Task）对比探讨MDD患者与健康对照在执行抑制网络中的功能连接变化。

研究方法：本研究由2017年起于南京脑科医院住院及门诊招募符合入组标准MDD患者95人、健康对照65人完成SST任务，Go/No-Go任务纳入MDD患者42人、健康对照35人。并采集核磁共振与脑磁图数据。研究采用基于节点间连接强度的网络分析，比较任务激活窗口与基线期、以及组间的功能连接差异。

研究结果：健康对照组在两项任务中均揭示脑区间高度激活，两项任务激活期间均观察到FC显著增强（$p < 0.05$），主要涉及运动前区、下额回和岛叶等区域的连接增强。相比之下，MDD患者在两任务中均表现出明显的FC下降（$p < 0.05$），涉及额叶-岛叶、顶叶-基底节等重要执行控制通路。

研究结论：MDD患者在执行抑制任务中存在广泛的脑功能连接削弱，提示其执行功能障碍可能源于跨区域网络整合能力受损。健康对照脑网络的有效整合，MDD脑网络整合能力下降，反应抑郁症中存在异常执行控制障碍。研究结论在不同任务下的一致性异常支持功能连接作为抑郁症神经生物学标志物的潜力。

关键词 抑郁症、脑磁图、脑网络、功能连接、反应抑制、停止信号任务

Preliminary investigation of neural oscillation patterns in mixed depressive patients: a resting-state magnetoencephalography study

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Background: Depression with mixed features (DMX) is characterized by the co-occurrence of depressive and hypomanic symptoms and lacks robust neurobiological markers. Although gamma oscillations (30 – 80 Hz) are implicated in cognitive and emotional integration, their role in DMX remains unexplored. This study investigated low-gamma band (30 – 60 Hz) source-level activity and network connectivity patterns across depression with mixed features (DMX), depression without mixed features (nDMX), and healthy controls (HC).

Methods: Resting-state magnetoencephalography (MEG) data from 197 participants (DMX: n=35, nDMX: n=76, HC: n=86) were analyzed. Source-reconstructed time-frequency analysis (low-gamma: 30 – 60 Hz) identified 19 regions of interest (ROIs) with significant group differences. Network-Based Statistics (NBS) compared functional connectivity (FC) across groups, controlling for age, sex, and education.

Results: Groups were matched in age and sex, and the two patient groups were matched in illness severity. The functional connectivity strength in the left precentral gyrus – left triangular inferior frontal gyrus was lower in DMX than in nDMX ($P = 0.035$). NBS t-tests between the two patient subgroups found that DMX exhibited stronger functional connectivity than nDMX in the left precentral gyrus – left opercular inferior frontal gyrus ($p<0.05$), right precentral gyrus – left opercular inferior frontal gyrus ($p<0.001$), and left precentral gyrus – left central operculum ($p<0.05$), with significant differences.

Conclusion: Compared with healthy controls, both groups showed common frontal hypoconnectivity, reflecting the disease characteristics of impaired cognitive-emotional integration in depression. However, DMX showed hyperconnectivity in the sensorimotor-linguistic network, which may be associated with psychomotor agitation and mixed symptoms. These findings position low-gamma oscillations as a key biomarker for DMX subtyping and neuromodulation targeting.

Key Words depression; mixed features; low-gamma band; magnetoencephalography

基于脑电图的失眠患者检测研究进展

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目的：本文旨在综述基于脑电图（EEG）的失眠检测技术的研究进展，探讨脑电图特征提取方法、失眠患者的脑电图表现以及基于脑电图的诊断模型，以期为失眠的早期检测与个性化治疗提供理论依据。

方法：通过文献综述的方法，收集和分析近年来关于基于脑电图的失眠检测技术的研究。重点介绍了脑电图特征提取方法、失眠患者的脑电图表现以及基于脑电图的诊断模型。通过分析现有文献，探讨了脑电图在失眠临床诊断中的应用前景，并提出了未来可能的研究方向。

结果：失眠患者的脑电图表现通常与健康人群有所不同，包括增加的α波活动、减少的θ波活动、REM期的异常变化以及慢波睡眠（SWS）缺失。脑电图特征提取与分析方法包括时域特征、频域特征和时频域特征。基于脑电图的失眠检测模型，如支持向量机（SVM）、卷积神经网络（CNN）和循环神经网络（RNN）等，能够有效识别失眠患者的脑电活动异常。

结论：基于脑电图的失眠检测技术在失眠症的早期诊断、病因分析及个性化治疗中具有重要应用前景。通过脑电图特征的提取与分析，结合机器学习和深度学习模型，可以有效识别失眠患者的脑电活动异常，帮助临床医生做出准确的诊断。未来的研究应进一步完善失眠检测算法，提高其准确性和实时性，同时探索脑电图在失眠治疗中的反馈机制，为失眠患者提供更加精准的治疗方案。

关键词 脑电图，失眠，睡眠障碍，EEG特征提取，诊断模型，生物标志物

Causal Relationships Between different modes of exercise and schizophrenia: A Two - sample Mendelian Randomization Study

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Objective：To explore the potential causal link between different modes of exercise and schizophrenia, using the two-sample Mendelian randomization (MR) analysis.

Method:This study was based on the summary data of the genome-wide association study (GWAS) on nine exercise modes and schizophrenia in the Europen population. The same single nucleotide polymorphisms (SNPs) sites were matched to closely associate SNPs with the exposure phenotype as instrumental variables. Two-sample MR analysis was conducted to evaluate the causal relationship between ween different modes of exercise and schizophrenia.

Result：This study found that “Types of physical activity in last 4 weeks: Heavy DIY (eg: weeding, lawn

mowing, carpentry, digging)" was negative correlated with schizophrenia (P=6.74E-04), "Job involves mainly walking or standing" was negative correlated with schizophrenia (P=2.16E-03). There is no significant causal relationship between other exercise modes and schizophrenia (P>0.05).

Conclusion: "Types of physical activity in last 4 weeks: Heavy DIY (eg: weeding, lawn mowing, carpentry, digging)" is related to the risk reduction of schizophrenia [IVW(MRE)method: OR=0.079, 95%CI(0.018,0.341), P=6.74E-04]. "Job involves mainly walking or standing" is related to the risk reduction of schizophrenia[IVW(MRE)method:OR=0.460, 95%CI(0.280,0.756), P=2.16E-03].

Key Words Exercise;schizophrenia;Mendelian randomization

The Protective Effect of Mangiferin on Formaldehyde-Induced HT22 Cell Damage and Cognitive Impairment

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Formaldehyde (FA) has been found to induce major Alzheimer's disease (AD)-like features including cognitive impairment, Aβ deposition, and Tau hyperphosphorylation, suggesting that it may play a significant role in the initiation and progression of AD. Therefore, elucidating the mecha_x0002_nism underlying FA-induced neurotoxicity is crucial for exploring more comprehensive approaches to delay or prevent the development of AD. Mangiferin (MGF) is a natural C-glucosyl-xanthone with promising neuroprotective effects, and is considered to have potential in the treatment of AD. The present study was designed to characterize the effects and mechanisms by which MGF protects against FA-induced neurotoxicity. The results in murine hippocampal cells (HT22) revealed that co-treatment with MGF significantly decreased FA-induced cytotoxicity and inhibited Tau hyper_x0002_phosphorylation in a dose-dependent manner. It was further found that these protective effects were achieved by attenuating FA-induced endoplasmic reticulum stress (ERS), as indicated by the inhibition of the ERS markers, GRP78 and CHOP, and downstream Tau-associated kinases (GSK-3β and CaMKII) expression. In addition, MGF markedly inhibited FA-induced oxidative damage, in_x0002_cluding Ca2+ overload, ROS generation, and mitochondrial dysfunction, all of which are associated with ERS. Further studies showed that the intragastric administration of 40 mg/kg/day MGF for 6 weeks significantly improved spatial learning ability and long-term memory in C57/BL6 mice with FA-induced cognitive impairment by reducing Tau hyperphosphorylation and the expression of GRP78, GSK-3β, and CaMKII in the brains. Taken together, these findings provide the first evidence that MGF exerts a significant neuroprotective effect against FA-induced damage and ameliorates mice cognitive impairment, the possible underlying mechanisms of which are expected to provide a novel basis for the treatment of AD and diseases caused by FA pollution.

Key Words :Alzheimer's disease; formaldehyde; mangiferin; Tau hyperphosphorylation; endoplasmic reticulum stress; glycogen synthase kinase-3β; calmodulin-dependent protein kinase II

内感受在抑郁症患者社会支持和社交能力转换机制中的研究

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目的：内感受功能障碍对抑郁症的发生及发展有着重要的影响。对于内感受在社会支持向社交能力转换过程中发挥了何种作用的研究较少。本研究意在探究社会支持和社交能力的心理转换机制，确认内感受是否为该转换过程的中介因素。

方法：本研究最终纳入符合DSM-5的MDD患者292例及健康对照257例，选用PHQ-9、MAIA-2、SSRS和TSBI评估抑郁、内感受、社会支持以及社交能力，建立社会支持、内感受八个维度（注意、不分心、不担心、注意调节、情绪觉察、自我调节、躯体聆听、信任）以及社交能力的中介分析模型，比较两组的中介变量及中介占比。

结果：通过偏相关分析及中介分析，发现社会支持、内感受、社交能力之间存在两两相关。MDD组中，情绪觉察、自我调节、躯体聆听和信任为中介变量；HC中，注意调节、情绪觉察、自我调节和信任为中介变量。两组人群均有四个中介变量，且有三个相同的中介变量，相较于健康人，相同的中介变量在MDD组的中介比例下降。

结论：内感受是社会支持和社交能力转换机制的中介变量，内感受的损伤和该转换机制的破坏是影响抑郁症疾病进展的一个重要因素。后续的研究应该关注于如何调节内感受从而改善该转换过程，进而改善抑郁症的症状及预后。

关键词 抑郁症，内感受，社会支持，社交能力

不同阶段抑郁症的内感受障碍特征的研究

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目的：重度抑郁障碍（major depressive disorder，MDD）的复杂病理生理机制需要开发能够反映情感、身体和认知因素复杂相互作用的综合早期指标。尽管内感受在满足这些标准方面具有潜力，但在MDD中的研究仍不充分。本研究旨在通过评估不同MDD阶段的内感受缺陷及其与抑郁症状谱的复杂关联，探讨内感受在转变MDD临床实践中的潜力。

方法：本研究包括431名健康个体、206名亚临床抑郁个体和483名MDD患者。采用PHQ-9和MAIA-2评估抑郁症状和内感受功能。协方差分析比较各阶段MDD内感受损伤的差异。典型相关分析探讨内感受和抑郁9大核心症状之间的关系。预测模型用于评估内感受在MDD临床实践中的应用潜力。

结果：内感受功能障碍在MDD的前临床阶段已经出现，并在临床阶段进一步扩大。抗抑郁治疗在改善内感受方面显示出有限的疗效，甚至可能损害某些维度。内感受维度可能预测抑郁症状，主要是通过增强负面思维模式。基于内感受的预测模型经过随机分割验证，表现出良好的区分和预测性能，能够识

别MDD。

结论：在前临床阶段的早期变化、与抑郁症状的多变量关联，以及良好的区分和预测性能，突显了内感受在MDD管理中的重要性，指出了诊断和治疗方法的范式转变。

关键词 抑郁障碍；病理生理机制；内感受；抑郁前临床阶段；PHQ-9；MAIA-2

童年虐待经验与知觉解耦揭示弹性机制

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目的：虽然一些遭受童年期虐待(CM）的个体利用心理弹性来对抗成人抑郁障碍(aMDD)，但其潜在的保护机制尚不清楚。本研究旨在确定遭受童年期虐待的健康个体(HCcms)的保护因素，并提出潜在的干预策略。

方法：这项横断面研究于2023年5月至2024年6月进行，包括694名年龄在30至55岁之间的参与者，其中包括195名HCcms, 246名遭受童年期虐待的成人抑郁障碍 (MDDcms)和253名未遭受童年期虐待的健康对照(HCs)。回顾性自我报告用于评估CM的特征，包括严重程度、类型、主观童年知觉(SCP)、CM的影响(ECM)以及潜在的保护因素。

结果：CM完全通过SCP增加aMDD的风险(总效应: β = 0.004, 95% CI: 0.000 ~ 0.006, p = 0.004;间接效应: β = 0.003, 95% CI: 0.000 ~ 0.009, p < 0.001;直接效应: β = 0.000, 95% CI: −0.005 − 0.001, p = 0.624)。与HCs (β = −0.06, 95% CI: −0.09 − 0.04, p < 0.001)和MDDcms (β = −0.05, 95% CI: −0.06 − 0.04, p < 0.001)相比，HCcms在CM和SCP之间表现出明显的分离(β = −0.01, 95% CI: −0.02 − 0.00, p = 0.059)。使用Boruta算法，确定了四个关键因素:主观支持、回避、高唤醒和睡眠质量。在调整逃避(β = −0.17, 95% CI: −0.30 − −0.03, p = 0.019)和睡眠质量(β = −0.14, 95% CI: −0.28 − −0.01, p = 0.039)后，HCcms患者出现CM和SCP之间的显著关联。

讨论：CM与SCP之间的分离是遭受CM的个体对抗aMDD的保护机制。良好的睡眠质量和减少逃避行为促进了这种分离模式，减轻了aMDD的风险。

关键词 童年期虐待 主观童年知觉 抑郁障碍 经验性回避

大语言模型构建知识模块在心身疾病诊疗中的应用

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目的：随着社会加速发展，心身疾病的发病率显著增加，成为全球健康问题的重大挑战。由于心身疾病背景复杂，临床信息繁复，这迫切需要一种创新的知识体系和分析方法来辅助诊断和治疗。

方法：针对中大医院心身医学科住院患者262例病历，我们使用 BERT 模型和 LoRA 微调的大语言模型进行命名实体识别，建立本体模型和实体类型，构建了具有 9668 个三元组的知识图谱。

结果：通过分析心身症状、疾病诊断和治疗模块之间的网络距离，我们发现疾病之间更近的网络距

离以预测其临床策略、治疗方法和心理机制的更大相似性，而症状之间的距离越近表明它们更有可能同时发生。通过比较邻近 d 和邻近 z 评分，我们发现初步诊断关系中的症状–疾病对比诊断关系中的症状–疾病对具有更强的关联性和更高的参考价值。

结论：研究结果揭示了心身症状群、诊断和治疗策略相似性之间的潜在联系，为心身疾病的诊断和治疗提供了新的视角，并为未来的心身健康研究和实践提供了有价值的信息。

关键词 心身疾病，知识图谱，人工智能，图结构，网络距离

MiRNAs of exosomal in Common Mental Disorders: Mechanisms, Biomarker Potential, and Therapeutic Implications

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To illustrate the mechanisms of exosomal miRNAs in common mental disorders, and explore their promising as diagnostic biomarkers and therapeutic targets. Through a systematic literature search, the relevant studies on exosomal miRNAs in mental disorders were collected. Data from cell experiments, animal models, and clinical studies were analyzed and combined to study the mechanisms and roles of exosomal miRNAs in different mental disorders. Mechanism researches have shown that exosomal miRNAs, such as miR–146a, miR–223, miR–125b and miR–451a, affect Alzheimer's disease (AD) formation by regulating key pathways such as TLR4 and PI3K/Akt, respectively. MiR–146a–5p regulates the occurrence of schizophrenia through the Notch pathway. TLR4 regulates miR–146a and miR–155 in major depressive disorder (MDD), and miR–144–5p regulates the disease through PI3k/Akt. Exosomal miR–484, miR–652–3p, miR–142–3p, miR–21a–3p, and miR–21–5P regulate key pathways in bipolar disorder (BD), autism spectrum disorder (ASD), and rett syndrome (RTT) diseases (e.g., TLR4, PI3K/Akt, and Epha4/TEK) and have influence on mental disorders. Exosomal miRNAs are involved in the occurrence of mental disorders through TLR4, PI3K/Akt, and Epha4/TEK pathways, which bring clearer understanding for disease cognition. Among them, TLR4 and PI3K/Akt pathways play a role in AD, MDD and neurodevelopmental disorders, which can be used as an effective breakthrough in the study of mental disorders. And it could serve as a diagnostic biomarker and therapeutic target, providing new insights into precise interventions for mental disorders.

Key Words Exosomal miRNAs, Common mental disorders, Mechanism, Signal pathway, Diagnostic biomarker, Therapeutic target

家庭结构不良对青少年中学生心理健康的影响

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目的：不良家庭结构可能会导致青少年中学生面临更高的心理压力和较少的社会支持，从而更容易出现心理健康障碍。本研究通过比较不同家庭结构的青少年中学生的心理健康状况，探讨青少年中学生心理健康的危险因素。

方法：整群抽样淮安某中学1038名青少年中学生为研究对象，以单亲家庭、父母离异、父母离异后重组等家庭结构的研究对象为家庭结构不良组，其余为普通家庭结构组。以烟酸皮肤潮红反应中学生和心理健康量表（MSSMHS）作心理健康评估，并对评估结果进行两组间比较。

结果：（1）家庭结构不良组184人，计：单亲家庭28人，父母离异73人，重组家庭64人，孤儿或弃养19人。普通家庭结构组854人。

（2）与普通家庭结构组比较，家庭结构不良组中独生子女比例显著偏高、出生时父母年龄显著偏低，差异具有统计学意义（$p<0.05$）；而性别、年龄、年级、班干部、居住地等社会人口学比较，差异无统计学意义（$p>0.05$）。

（3）比较两组研究对象的烟酸皮肤潮红反应结果，发现：6.7 mmol/L烟酸浓度下的第5、6、7、8分钟末，不良家庭结构组的皮肤红晕面积相比于普通家庭结构组显著减弱，差异具有统计学意义（$p<0.05$）；而其它浓度和时点，两组研究对象间皮肤红晕面积的比较，未发现有统计学有意义的差异（$p>0.05$）。

（4）比较两组研究对象的心理健康量表评估结果，发现：不良家庭结构组MSSMHS量表的人际关系紧张与敏感、适应不良和情绪不平衡等三个因子分显著高于普通家庭结构组，差异具有统计学意义（$p<0.05$）；其它因子分比较未发现有统计学意义的差异（$p>0.05$）。

结论：家庭结构不良会对青少年中学生的心理健康会造成负面影响，体现在不良家庭结构下成长起来的青少年中学生更容易出现人际关系紧张与敏感、适应不良或情绪不平衡，且抑郁风险更高。

关键词 家庭结构，青少年，心理健康，中学生心理健康量表，烟酸皮肤潮红反应

Voxel-based alterations in spontaneous brain activity among very-late-onset schizophrenia-like psychosis: A preliminary resting-state functional magnetic resonance imaging study

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BACKGROUND: Very late-onset schizophrenia-like psychosis (VLOSLP) is a subtype of schizo-phrenia spectrum disorders in which individuals experience psychotic symptoms for the first time after the age of 60. The

incidence of VLOSLP shows a linear relationship with increasing age. However, no studies have reported alterations in spontaneous brain activity among VLOSLP patients and their correlation with cognitive function and clinical symptoms.

AIM：To explore VLOSLP brain activity and correlations with cognitive function and clinical symptoms using resting-state functional magnetic resonance imaging.

METHODS：This study included 33 VLOSLP patients and 34 healthy controls. The cognitive assessment utilized the Mini Mental State Examination, Montreal Cognitive Assessment, and the Repeatable Battery for the Assessment of Neuropsychological Status (RBANS). Clinical characteristic acquisition was performed via the Positive and Negative Syndrome Scale (PANSS). All participants were scanned via resting-state functional magnetic resonance imaging, and the data were processed using amplitude of low-frequency fluctuations (ALFF), fractional ALFF (fALFF), regional homogeneity, and voxel-mirrored homotopic connectivity (VMHC).

RESULTS：The VLOSLP group presented decreased ALFF values in the left cuneus, right precuneus, right precentral gyrus, and left paracentral lobule; increased fALFF values in the left caudate nucleus; decreased fALFF values in the right calcarine fissure and surrounding cortex (CAL) and right precuneus; increased regional homogeneity values in the right putamen; and decreased VMHC values in the bilateral CAL, bilateral superior temporal gyrus, and bilateral cuneus. In the VLOSLP group, ALFF values in the right precuneus were negatively correlated with Mini Mental State Examination score and PANSS positive subscale score, and VMHC values in the bilateral CAL were negatively correlated with the RBANS total score, RBANS delayed memory score, and PANSS positive subscale score.

CONCLUSION：The changes of brain activity in VLOSLP are concentrated in the right precuneus and bilateral CAL regions, which may be associated with cognitive impairment and clinically positive symptoms.

Key Words Very-late-onset schizophrenia-like psychosis; Schizophrenia; Resting-state functional magnetic resonance imaging; Amplitude of low-frequency fluctuations; Fractional amplitude of low-frequency fluctuations; Regional homogeneity; Voxel-mirrored homotopic c

精神分裂症面部情绪识别功能的神经相关性：一项ERP研究

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目的：精神分裂症患者的面部情绪识别障碍与其社会功能结局密切相关。本研究采用情绪强度识别任务对精神分裂症患者的面部情绪识别功能进行系统评估，并结合事件相关电位（Event-Related Potentials, ERPs）技术，探索其异常面部情绪加工过程中的神经机制，以期为理解精神分裂症患者的面部情绪识别障碍提供更为全面的神经生理学依据。

方法：本研究共纳入33名符合《精神障碍诊断与统计手册第五版》（DSM-V）诊断标准的精神分裂症患者和35名与其在人口学特征相匹配的健康正常人。使用《阳性和阴性症状量表》评估精神分裂症患者的精神病性症状严重程度。所有被试均在完成情绪强度识别任务的同时接受脑电图记录。研究采用重复测量方差分析方法，对被试的行为学数据以及ERPs指标（波幅与潜伏期）进行统计分析。最后，采用

Pearson相关分析法探索ERPs指标与临床症状之间的潜在关联。

结果：行为学结果表明与厌恶面孔相比，精神分裂症患者对悲伤面孔的反应时间更长，且准确性低于健康对照组。此外，精神分裂症患者对厌恶、惊讶、愤怒和恐惧情绪面孔的识别准确率均低于健康对照组。ERPs结果显示，N100、P200和N250的波幅和潜伏期不具有显著的组间差异；然而，对于悲伤和愉快面孔，精神分裂症组在额叶和中央叶的LPP波幅均小于健康对照组；愤怒和恐惧面孔诱发的LPP波幅也均低于健康对照组，主要集中在额叶、中央叶和顶叶；对于惊喜面孔，与精神分裂症患者相比，健康对照组在中央叶和顶叶有着更高的 LPP 波幅。相关性结果提示，精神分裂症患者在悲伤、惊讶、愤怒面孔中的LPP波幅与其阳性因子评分呈负相关关系。

结论：精神分裂症患者存在显著的面部情绪识别障碍，主要发生于面部情绪加工的晚期阶段，而非早期或中期阶段，并具有情绪特异性，包括对悲伤、愉快、惊讶、愤怒和恐惧面孔的识别困难。这一结果反映了精神分裂症患者对面部情绪刺激的认知资源分配减少，提示LPP波幅可能是精神分裂症面部情绪识别功能损害的敏感性指标。此外，研究发现精神分裂症患者的面部情绪识别功能受其阳性症状的影响。

【关键词】事件相关电位,面部情绪识别，精神分裂症,社会认知,情绪强度识别任务

抑郁症与记忆功能损伤

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抑郁症以持续的情绪低落、兴趣减退、反复出现的死亡念头及躯体认知症状为特征。作为最常见且严重的精神障碍之一，抑郁症的心理和生理表现共同加剧疾病严重程度与不良预后。Godlewska与Harmer的认知神经心理学理论指出，认知功能障碍是抑郁症的核心病理特征，表现为负性认知偏向、记忆损害和执行功能受损。记忆是大脑对客观事物的编码、存储与提取的过程，作为执行控制系统的核心，记忆功能通过海马–前额叶整合环路介导信息加工，支持实时决策与适应性行为。既往研究表明，记忆障碍存在于抑郁急性期与缓解期，且随复发累积性恶化，显著损害社会功能；记忆系统是抑郁病理的核心枢纽（而非伴随现象），当记忆相关神经环路代偿能力耗竭时，可触发急性发作。海马体（HPC）与大脑皮层主导记忆的编码、提取、激活和巩固过程。神经层面上，抑郁症涉及海马激活降低、前额叶执行控制功能障碍、情绪调节脑区活动减弱、扣带回功能连接异常及杏仁核病变。记忆损害不仅与抑郁症本身相关，也可能源于躯体疾病引发的系统性炎症——后者可破坏中枢神经系统功能并导致认知缺陷。为阐明抑郁症记忆损伤机制并指导认知康复的精准治疗，我们系统整合了近期关于抑郁症记忆功能障碍的研究证据。

关键词：记忆；损伤；抑郁症；躯体疾病；海马；前额叶皮层

Discriminative analysis of schizophrenia and major depressive disorder using fNIRS

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Objective:To elucidate the shared and distinct brain dysfunctions in patients with schizophrenia (SCZ) and major depressive disorder (MDD) and improve the existing diagnostic system, the objective of this study mainly includes two parts: (1) quantifying and compare the brain function in patients with SCZ, MDD, and HCs using functional near-infrared spectroscopy(fNIRS); and (2) extracting features from fNIRS with ML for differential diagnosis of patients with SCZ, MDD, and HCs. This study may extend the understanding of the pathophysiological mechanisms underlying SCZ and MDD and optimize existing diagnostic systems.

Methods:A general linear model was used for analysis of brain activation following task-state fNIRS from 131 patients with SCZ, 132 patients with MDD and 130 healthy controls (HCs). Subsequently, seventy-seven timefrequencyanalysis methods were used to construct new features of fNIRS, followed by the implementation of ffve machine learning algorithms to develop a differential diagnosis model for the three groups. This model was evaluated by comparing it to both a diagnostic model relying on traditional fNIRS features and assessments made by two psychiatrists.

Results:Brain activation analysis revealed signiffcantly lower activation in Broca's area, the dorsolateral prefrontal cortex, and the middle temporal gyrus for both the SCZ and MDD groups compared to HCs. Additionally, the SCZ group exhibited notably lower activation in the superior temporal gyrus and the subcentral gyrus compared to the MDD group. When distinguishing among the three groups using independent validation datasets, the models utilizing new fNIRS features achieved an accuracy of 85.90 % (AUC = 0.95). In contrast, models based on traditional fNIRS features reached an accuracy of 52.56 % (AUC=0.66).The accuracies of the two psychiatrists were 42.00 % (AUC=0.60) and 38.00 % (AUC = 0.50), respectively.

Conclusion:This investigation brings to light the shared and distinct neurobiological abnormalities present in SCZ and MDD, offering potential enhancements for extant diagnostic systems.

Key Words Functional near-infrared spectroscopy Schizophrenial; Major depressive disorder;Machine learning;Differential diagnosis;

The potential diagnostic accuracy of urine formaldehyde levels in Alzheimer's disease: A systematic review and meta-analysis

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Background: Formaldehyde (FA), a toxic aldehyde, has been shown to be associated with a variety of cognitive disorders, including Alzheimer's disease (AD). There is increasing evidence that FA levels are significantly increased in AD patients and may be involved in the pathological process of AD. The aim of this study was to assess the potential diagnostic value of urine FA levels in AD using meta-analysis techniques. Methods: Original reports of morning urine FA levels in AD patients and healthy controls (HCs) were included in the meta-analysis. Standardized mean differences (SMD) were calculated using a random-effects model, heterogeneity was explored using methodological, age, sex difference and sensitivity analyses, and receiver operating characteristic (ROC) curves were constructed to assess the diagnostic value of urine FA levels in AD. Results: A total of 12 studies were included, and the urine FA levels of 874 AD patients and 577 HCs were reviewed. Compared with those in HCs, the FA levels were significantly increased in AD patients. The heterogeneity of the results did not affect their robustness, and results of the area under the curve (AUC) suggested that urine FA levels had good potential diagnostic value. Conclusion: Urine FA levels are involved in AD disease progression and are likely to be useful as a potential biomarker for clinical auxiliary diagnosis. However, further studies are needed to validate the results of this study.

Key Words Alzheimer's disease, meta-analysis, formaldehyde, biomarkers, diagnosis

Research on the Mechanism of Insula-related Genetic Factors that Regulate Major Depressive Disorder

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Objective: This study aimed to explore the differential expression of insula-related genes in peripheral blood of patients with Major Depressive Disorder (MDD), and to analyze the mechanism of insula-related genetic factors regulating MDD based on bioinformatics and molecular biology. This study provides new insights into important biological pathways in the occurrence and development of MDD.

Methods: (1) The gene expression profile data of peripheral blood and insula tissue samples of MDD patients and healthy controls were collected from GEO database based on bioinformatics, and Differentially Expressed Genes (DEGs) were screened out, and receiver operating characteristic (ROC) curves were further constructed to analyze the accuracy of these genes in diagnosing MDD. (2) Peripheral blood samples of MDD patients who met the

diagnostic criteria of the Diagnostic and Statistical Manual of Mental Disorders-5th Edition (DSM-5) were collected, and RT-qPCR experiments were performed to validate Hub genes. (3) C57 mice were randomly divided into three groups, including blank control group, Hub knockout group and Hub knockout+fluoxetine (10mg/kg) group, with 10 males in each group. The effects of Hub gene on depression-like behavior in mice were observed by open field experiment, tail suspension experiment and sugar water preference experiment, and the molecular mechanism of depression regulated by genetic factors related to insula was further studied by means of serum corticosterone level, RT-qPCR, Western blot and immunocytochemistry et al.

Results:(1) In the GSE102556 and GSE182183 datasets, a total of 6 genes significantly expressed in the insula and blood in depression were screened: HIST1H4D, LRIT3, GYPC, ALOX15, SPATC1L, PLVAP, among which the Area Under Curve (AUC) of LRIT3 and HIST1H4D was greater than 0.9, showing good diagnostic accuracy. (2) RT-qPCR analysis showed that the expression level of LRIT3 in peripheral blood of MDD patients was significantly lower than that of healthy controls ($P<0.05$). (3) Compared with the blank control group, the LRIT3 knockout mice showed significantly decreased movement distance in open field test, prolonged immobility time in tail suspension test, decreased sucrose preference and increased serum corticosterone level. Further studies showed that these effects were associated with regulation of the CGMP-PKG signaling pathway.

Conclusion:(1) Insula-related genes are involved in the regulation of MDD. (2) Insula-related genes LRIT3 and HIST1H4D are differentially expressed in peripheral blood of MDD patients. The genes have the potential to become biological markers for the diagnosis of MDD in the future. (3) LRIT3 knockout could induce depression-like behavior in mice, which might be related to CGMP-PKG signaling pathway.

Key Words Major Depressive Disorder; Insula

基于结构连接的杏仁核亚区分区及其在临床抗抑郁药物选择上的应用

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目的：临床常用的两种抗抑郁药物包括选择性5-羟色胺再摄取抑制剂（Selective Serotonin Reuptake Inhibitor，SSRI）以及血清素和去甲肾上腺素再摄取抑制剂（Serotonin-Norepinephrine Reuptake Inhibitor，SNRI）。为了探究杏仁核对外纤维束连接与这两种不同抗抑郁药物选择之间的关联，以揭示杏仁核在个体化抗抑郁药物治疗中的潜在作用。

方法：利用抑郁症患者的大脑弥散张量数据（Diffusion Tensor Imaging，DTI），结合概率性纤维束追踪算法，对杏仁核到不同大脑皮层的纤维束连接进行追踪，追踪终点包括额叶、顶叶、颞叶、边缘叶、枕叶5个大脑皮层。在此过程中，记录每个杏仁核体素至各个大脑皮层的纤维束连接数量，并依此构建纤维束连接矩阵。随后采用“赢家通吃”的方法对每个体素进行区域归属标记，最终将整个杏仁核分为5个对应不同皮层的簇群，计算每个簇群的各向异性指数（Fractional Anisotropy，FA）值，并在SSRI用药患者和SNRI用药患者之间进行比较。利用到达不同大脑皮层的纤维束数量对体素进行赋值，生成对

应于5个不同皮层的杏仁核图谱，并将其配准到蒙特利尔标准空间。在标准空间中，使用“赢家通吃”算法对每个受试者的5张杏仁核图谱进行求平均，得到一张组平均杏仁核图谱。对该图谱进行聚类，确定杏仁核亚区。

结果：研究结果发现，杏仁核可以分为3个不同的亚区，即浅表杏仁核亚区（Superficial Amygdala Nucleus，SupAMY）、外侧杏仁核亚区（Lateral Amygdala Nucleus，LateralAMY）和内侧杏仁核亚区（Medial Amygdala Nucleus，MedialAMY）。研究结果表明，外侧杏仁核亚区到额叶的纤维束连接对鉴别SSRI和SNRI用药具有显著意义。通过分析该连接与基因转录谱之间的相关性，我们发现外侧杏仁核亚区主要富集的细胞类型为少突胶质细胞和少突胶质前体细胞，并且与髓鞘的形成有关。结合外侧杏仁核亚区到额叶的纤维束FA值在两组中的比较结果，我们发现外侧杏仁核亚区到额叶的纤维束连接完整性，在SSRI用药患者和SNRI用药患者之间存在显著差异性。

讨论：抑郁症患者杏仁核包含了提示抗抑郁用药倾向性的三个亚区。其中，外侧杏仁核到前额叶之间的纤维束连接可以用于区分SSRI用药和SNRI用药两种不同的用药类型。且杏仁核外侧核富集的细胞类型主要是少突胶质细胞和少突胶质前体细胞，并且与髓鞘形成有关。本研究提出的杏仁核亚区分割方法可以为抑郁症患者药物治疗选择提供一个精细的治疗靶点，促进未来实现临床个体化治疗决策。

关键词 抑郁症、抗抑郁药物、杏仁核、临床决策

Spatiotemporal Dynamic Research on the Whole-Brain Network in Implicit Negative Emotional Processing of Depression

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Background: Major depressive disorder (MDD) is increasingly recognized as a disorder involving abnormal interactions within distributed brain networks. This study used magnetoencephalography (MEG) to investigate the dynamic spatiotemporal interactions of whole-brain networks during implicit negative emotion processing in MDD patients.

Methods: 90 MDD patients and 74 healthy controls (HCs) underwent MEG scans while performing an implicit emotional face processing task. Dynamic functional connectivity was analyzed in four frequency bands (Theta, Alpha, Beta, Gamma) using a sliding window approach.

Results: MDD patients showed slower reaction times and lower accuracy in identifying emotional faces compared to HCs. Specifically, MDD patients had slower reaction times (1110.90 ± 26.90ms vs. 1006.09 ± 28.11ms, $F(1,135) = 7.19$, $P = 0.008$) and lower accuracy for happy faces (0.426 ± 0.016 vs. 0.293 ± 0.016, $F(1,135) = 33.15$, $P < 0.001$). MDD patients exhibited decreased connectivity in the dorsal attention network (DAN) and fronto-limbic networks in the Beta and Gamma bands during early stages (100-200ms) and in the fronto-temporal networks in later stages (200-400ms).

Conclusions: Our findings reveal significant spatiotemporal abnormalities in whole-brain network dynamics during implicit negative emotion processing in MDD. These alterations may reflect underlying pathophysiological mechanisms and could serve as potential biomarkers for early diagnosis and treatment.

Key Words Major depressive disorder, Implicit emotional processing, Dynamic functional connectivity, Magnetoencephalography

Association study of oxytocin pathway gene methylation and facial emotion recognition function in schizophrenia

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Objective: To explore the association between methylation levels of the oxytocin (OXT) pathway genes and facial emotion recognition function in schizophrenia.

Methods: This study included 54 first-episode, untreated patients with schizophrenia and 58 healthy controls. Facial Emotional Valence Discrimination Task (FEDT) was used to evaluate facial emotion recognition ability. Peripheral venous blood samples were collected to extract genomic DNA from both schizophrenia (SZ) and healthy control (HC) groups. Bisulfite pyrosequencing was employed to detect the methylation levels of CpG sites in the promoter regions of the oxytocin receptor gene (OXTR) and the structural gene for oxytocin (OXT). Based on literature research, two CpG-enriched regions of the OXTR gene were selected: OXTR1 (chr3: 8,810,729-8,810,845; GRCh37/hg19) and OXTR2 (chr3: 8,809,281-8,809,534; GRCh37/hg19), with 3 CpG sites in OXTR1 and 8 CpG sites in OXTR2 chosen for analysis. Similarly, 9 CpG sites in the promoter region of the OXT gene (chr20:3,052,266-3,053,162; hg19) were selected based on literature: chr20:3052098/3052100 (CpG3,4), chr20:3052115 (CpG5), chr20:3052147 (CpG6), chr20:3052157 (CpG8), chr20:3052253 (CpG13), chr20:3052262 (CpG14), chr20:3052296 (CpG17), chr20:3052307 (CpG18).

Results: Patients with schizophrenia showed significantly lower accuracy in recognizing happy faces ($t=-2.510$, $p=0.015$), neutral faces ($t=-2.353$, $p=0.022$), and overall ($t=-2.295$, $p=0.025$) compared to healthy controls. The methylation levels of CpG6 ($t=-2.030$, $p=0.045$), CpG13 ($t=-2.098$, $p=0.038$), CpG14 ($t=-2.076$, $p=0.040$), and CpG17 ($t=-2.076$, $p=0.040$) in the promoter region of the OXT gene were significantly lower in patients with schizophrenia than in healthy controls. Correlation analysis revealed significant associations between methylation levels of certain CpG sites in the OXT pathway gene promoter region and the recognition accuracy of specific facial expressions in patients with schizophrenia. Specifically, CpG5 ($r=0.380$, $p=0.038$), CpG6 ($r=0.619$, $p<0.001$), CpG13 ($r=0.572$, $p=0.001$), CpG18 ($r=0.537$, $p=0.002$), CpG22 ($r=0.448$, $p=0.015$), and the average methylation level of the OXT gene promoter region ($r=0.524$, $p=0.003$) were positively correlated with disgust recognition accuracy. The methylation level of CpG14 ($r=0.392$, $p=0.032$) was positively correlated with fear recognition accuracy, while the methylation level of CpG3 ($r=-0.418$, $p=0.022$) was negatively correlated with surprise recognition accuracy. Additionally, the methylation level of CpG8 in the OXTR gene promoter region ($r=-0.380$, $p=0.039$) showed a significant negative correlation with disgust recognition accuracy.

Conclusion: There are abnormalities in the facial emotion recognition function of patients with schizophrenia, and the methylation of OXT pathway genes is related to the facial emotion recognition function of patients with schizophrenia.

Key Words schizophrenia, facial emotion recognition function, oxytocin pathway genes, methylation

结合Deepseek大模型人工智能（AI）与腾讯IMA知识库呈现一种新的知识获取利用方式利弊初探

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目的：探讨结合Deepseek大模型与腾讯IMA知识库在医疗领域（以感染与精神疾病相关性为例）的新型知识获取与利用方式的优势与局限性，分析其在提升诊疗效率、优化临床决策中的作用，并针对潜在问题提出解决方案。

方法：通过构建腾讯IMA知识库（包含2544个权威医学文献、指南及药品说明书等），结合Deepseek R1大模型进行多轮测试提问（如感染与精神疾病相关性、抗生素禁忌症等），评估生成内容的准确性、逻辑性及实用性。同时，对比不同大模型（如腾讯混元、Deepseek）的生成效果，分析数据质量、效率及幻觉问题，并总结优化策略。

结果：1. 高效知识整合：IMA知识库结合Deepseek大模型能够快速生成结构清晰、引用规范的综述内容（如感染与精神疾病的机制、临床案例及治疗建议），显著减少传统检索时间。

2. 精准回答：针对专业问题（如抗生素禁忌症），生成结果基于权威文献，逻辑严谨，错误率低，且支持多模态内容解读与溯源。

3. 局限性：存在幻觉风险（如虚构文献）、数据隐私隐患及版权争议，需通过提示词优化、多模型交叉验证和人工复核降低风险。

讨论：该模式在医疗领域具有显著价值，但需解决以下问题：

1. 数据安全与伦理：需遵循《生成式人工智能服务管理暂行办法》等法规，避免敏感数据泄露。

2. 技术优化：通过分步验证、逻辑链可视化等方法提升生成内容可靠性。

3. 多学科协作：医学、计算机科学及伦理学合作可推动AI工具的合规应用。未来，本地化部署与高质量数据集构建将进一步释放AI在医疗中的潜力。

关键词 精神病；Deepseek；ima知识库；人工智能；精神疾病

多模态AI表情和情绪识别在精神科诊疗价值的综述

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目的：探讨多模态人工智能（AI）情绪识别技术在精神科诊疗中的应用价值，分析其通过整合面部表情、语音、文本等多模态数据提升精神疾病评估与诊断准确性的潜力，并总结当前实践中的技术进展与挑战。

方法：通过文献综述与临床实践案例，系统梳理多模态AI技术的核心原理（如Transformer架构、数据融合策略）及其在精神科的应用场景。结合常州市德安医院的实际项目（如基于CapsWriter的语音情绪识别、面部表情分析系统开发），评估多模态AI在抑郁、焦虑、强迫症等疾病中的辅助诊断效果，并

与传统量表评估方法进行对比。

结果：1. 技术有效性：多模态AI通过融合面部表情（如Ekman六类基本情绪识别）、语音特征及文本分析，显著提升情绪状态判读的客观性。例如，抑郁识别准确率达85%以上（Rana et al., 2019），且能捕捉细微表情变化（如强迫症患者情绪调节异常）。

2. 临床实践：本地化部署的AI系统（如“精卫之心”知识库）已实现语音转录、药物副作用快速检索等功能，并初步开发表情识别模块用于锥体外系不良反应预警。

3. 局限性：数据隐私、模型泛化性及跨文化表情差异仍是主要挑战，需结合生理参数（如心率、皮肤电导）提升特异性。

讨论：多模态AI为精神科诊疗提供了标准化、高频率的客观评估工具，但其应用需关注以下方向：

1. 技术优化：开发轻量化模型以适应基层医疗场景，并通过多中心数据共享解决样本偏差问题。

2. 伦理合规：遵循《生成式人工智能服务管理暂行办法》，确保患者数据匿名化处理与本地化存储。

3. 跨学科合作：联合计算机科学、心理学等领域，推动多模态生物标志物研究，最终实现个性化治疗。未来，该技术有望缓解精神科资源不足问题，提升诊疗效率与患者体验。

关键词 多模态人工智能；情绪识别；精神科诊疗；面部表情分析；语音处理

人工智能在精神卫生领域的应用综述

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精神卫生既是重大的公共卫生问题,更是重要的民生问题[1]。精神病学是一门复杂而动态的学科，涉及对心理健康问题的评估、诊断和治疗[2]。近年来，随着人工智能（AI）技术的快速发展[3]，AI在精神病学领域的潜在应用得到了广泛关注[4]。AI通过其强大的数据处理能力和模式识别能力，为精神病学领域提供了新的工具，有助于提高诊断的准确性、优化治疗方案，并推动个性化医疗的发展。2025年1月国产人工智能大模型Deepseek的横空出世，突破了国外大模型的限制[5]，以较小的算力达到了优秀的生成和推理效果，国内外各大机构，特别是医疗机构，纷纷基于Deepseek大模型部署了本单位的AI系统，截至2025年3月23日，全国已有420多家医疗机构自主部署，主要用于辅助诊断、报告解读、智能导诊、病历质控、病历生成、智能问答等[6]。本综述将探讨人工智能在精神病学领域的主要应用、面临的挑战以及未来的发展方向。

关键词 人工智能；AI；精神卫生；Deepseek；大模型

精神分裂症的元认知与自知力的综述

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精神分裂症是一种以广泛认知缺陷为特征的重性精神障碍，其核心症状之一为自知力缺失，即患

者难以意识到自身疾病及症状的存在。研究表明，约50%患者存在自知力损伤，这不仅导致治疗依从性差、社会功能损害，还与高复发率及不良预后密切相关。David提出的自知力三维学说（对疾病的认识、症状的理性分析及治疗需求）为评估自知力提供了理论框架。尽管药物治疗是主要干预手段，但传统抗精神病药对认知功能障碍和自知力的改善效果有限，第二代药物虽与自知力部分相关，仍存在显著不足。

近年研究发现，元认知（即个体对自身认知过程的监控与调节能力）缺陷与精神分裂症的自知力受损密切相关。元认知训练（MCT）作为新型心理干预方法，通过8个模块（如归因、移情、轻率下结论等）帮助患者修正认知偏倚，改善对疾病的认知。多项研究证实，MCT可有效提升自知力、减轻精神症状并促进社会功能恢复，已被部分国家纳入治疗指南。然而，目前关于元认知与自知力的具体关联机制、训练的长期效果及文化适应性仍需进一步探索。本文通过综述现有证据，强调整合元认知干预与药物治疗的重要性，并提出未来研究亟需深化对精神分裂症患者认知损害机制的理解，以优化多维度治疗策略。

关键词 元认知；自知力；精神分裂症；心理治疗

肠道菌群与精神分裂症联系的综述

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本文探讨了肠道菌群与精神分裂症之间的联系，揭示了肠道菌群在精神分裂症发病机制中的重要作用。研究发现，精神分裂症患者的肠道菌群组成与健康人群存在显著差异，表现为菌群丰富度降低和特定菌属数量的变化。肠道菌群通过影响神经递质、免疫反应和代谢途径，与大脑相互作用，可能参与精神分裂症的发病过程。此外，肠道菌群失调可能导致神经递质变化、免疫反应异常和代谢紊乱，共同作用于精神分裂症的发病机制。未来研究方向包括肠道菌群的多样性研究、精神分裂症的个性化治疗、肠道菌群与药物反应、益生菌的应用、整合多学科干预以及多学科交叉的研究方法等。通过深入研究肠道菌群与精神分裂症之间的关系，有望为精神分裂症的预防和治疗提供新的思路和方法。

关键词 肠道菌群；精神分裂症；菌群失调；发病机制