and Abuse (CECA.Q) and the Retrospective Bullying Questionnaire (RBQ). Clinical assessment was conducted by trained psychiatrists or psychologists, who confirmed the diagnosis of FEP, including non-affective (schizophrenia spectrum and other psychoses) vs. affective FEP (type I bipolar disorder or major depressive disorder with psychotic symptoms), using the Semi-structured Diagnostic Interview for DSM-IV-TR Axis I Disorders (SCID-I) or the Spanish version of the Kiddie Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime version (K-SADS-PL). General linear models (GLMs), controlling for sex and age, were performed to assess the interactive effects of CAs and FEP on cortical thickness

Results: Among 166 participants, 83 individuals with FEP (71.6%) and 83 HCs (84.7%) reported exposure to at least one CA. In individuals with non-affective FEP (but not in affective FEP or HCs) exposure to neglect (β=-0.23 [-0.41, -0.05], p=.012) and overall maltreatment (β=-0.13 [-0.20, -0.06], p=.043) in childhood was associated with significantly reduced cortical thickness in the right medial orbitofrontal region.

Conclusions: Our finding suggests neural markers of CA in brain regions involved in decision-making and reward mechanisms, potentially underlying the association between CA and psychosis. This provides new insights into the specific effects of CAs on the neurobiological mechanisms of early psychosis.

References

[1] Dragioti E, Radua J, Solmi M, et al. Global population attributable fraction of potentially modifiable risk factors for mental disorders: a meta-umbrella systematic review. Mol Psychiatry. 2022;27(8):3510-3519. doi:10.1038/s41380-022-01586-8 [2] Arango C, Dragioti E, Solmi M, et al. Risk and protective factors for mental disorders beyond genetics: an evidence-based atlas. World Psychiatry. 2021;20(3):417-436. doi:10.1002/wps.20894 [3] Fares-Otero NE, Alameda L, Pfaltz MC, Martinez-Aran A, Schäfer I, Vieta E. Examining associations, moderators and mediators between childhood maltreatment, social functioning, and social cognition in psychotic disorders: a systematic review and meta-analysis. Psychological Medicine. Published online July 17, 2023:1-24. doi:10.1017/S0033291723001678 [4] Yang W, Jin S, Duan W, et al. The effects of childhood maltreatment on cortical thickness and gray matter volume: a coordinate-based meta-analysis. Psychological Medicine. 2023;53(5):1681-1699. doi:10.1017/S0033291723000661 [5] Pigoni A, Dwyer D, Squarcina L, et al. Classification of first-episode psychosis using cortical thickness: A large multicenter MRI study. Eur Neuropsychopharmacol. 2021;47:34-47. doi:10.1016/j.euroneuro.2021.04.002 [6] Pina-Camacho L, Martinez K, Diaz-Caneja CM, et al. Cortical thinning over two years after first-episode psychosis depends on age of onset. Schizophrenia (Heidelb). 2022;8(1):20. doi:10.1038/s41537-021-00196-7

No conflict of interest

https://doi.org/10.1016/j.nsa.2024.104246

P1167

NEUROSCIENCE APPLIED 3 (2024) 104245

PSYCHOMETRIC EVALUATION OF THE LITHUANIAN VERSION OF THE BRIEF NEGATIVE SYMPTOMS SCALE – A PROCESS IN PROGRESS

J. Montvidas [1], E. Zauka [1], V. Zajankauskas [1], V. Adomaitienė [1]. [1] *Lithuanian University of Health Sciences, Psychiatry, Kaunas, Lithuania*

Introduction. The Brief Negative Symptoms Scale (BNSS) is a semi-structured negative symptom assessment interview comprising 13 items and six subscales [1]. BNSS is gaining increasing acceptance as the first choice tool for negative symptom assessment [2]. In our pursuit to enhance the quality of mental health care in Lithuania, our study group aimed to translate and validate the Lithuanian version of BNSS.

Methods. We performed a double translation from English into Lithuanian. The back-translation version of BNSS was corrected according to the comments of the authors. Two experienced professors of psychiatry performed clinical validation and approved the final version. Four clinicians conducted psychometric validation in a sample of patients diagnosed with Schizophrenia, schizotypal, and delusional disorders according to ICD-10. The psychometric tools used were BNNS, Positive and Negative Symptoms Scale (PANSS), Montgomery Asperger Depression Rating Scale (MADRS), and Calgary Depression Scale for Schizophrenia (CDSS). We calculated the reliability of the 13 items and six subscales of BNSS. Convergent and discriminant validity were calculated by applying BNSS in clinical practice with other psychometric tools for negative symptoms assessment and tools for positive, depressive symptoms, and cognitive deficits. We calculated the convergent and discriminant validities using Pearson and Spearman correlations.

Results. We have included 84 patients from an inpatient ward diagnosed with schizophrenia so far. Great internal consistency was observed for the 13 items (alpha = 0,944) and the six subscales (alpha = 0,874) of BNSS. Good convergent validity is illustrated by strong Pearson correlations with the PANSS negative subscale (r= 0.74, p<0,001) and the PANSS Marder negative factor (r= 0,726, p<0,001). Adequate discriminant validity is shown by a weak Pearsons correlation with PANSS positive subscore (r= 0,238, p=0,028), non-significant correlation with PANSS Marder positive factor (r= 0,207, p = 0,057), Marder depression-anxiety factor (r= 0,35, p = 0,749) and by a non-significant Spearman's correlation with CDSS total score (r= 0,163, p=0,138) and weak correlation with MADRS total score (r= 0,23, p=0,034).

Discussion. We have reported data from an ongoing validation study. We plan to include up to 200 patients; therefore, the results might change. The weak positive Pearson's correlation between the BNSS total score and PANSS positive subscore might be present because of known content validity flaws of the original PANSS positive subscore [3]. This is supported by the non-significant correlation between the BNSS total score and the PANSS Marder positive factor, which has reduced content validity flaws compared to the original PANSS positive subscore. The weak positive correlation between BNSS and MADRS total scores is in line with findings from other researchers [4]. Also, the sample size is too small to perform factor analysis, which would enhance the psychometric validation process.

Conclusions. The Lithuanian version of BNSS is proving to be a psychometrically sound tool for the assessment of negative symptoms. Further data collection is needed to solidify the validation process.

References

1. Kirkpatrick, B., Strauss, G. P., Nguyen, L., Fischer, B. A., Daniel, D. G., Cienfuegos, A., & Marder, S. R. (2011). The brief negative symptom scale: Psychometric properties. Schizophrenia Bulletin, 37(2), 300–305. https://doi.org/10.1093/schbul/sbq059 2. Galderisi, S., Mucci, A., Dollfus, S., Nordentoft, M., Falkai, P., Kaiser, S., Giordano, G. M., Vandevelde, A., Nielsen, M. Ø., Glenthøj, L. B., Sabé, M., Pezzella, P., Bitter, I., & Gaebel, W. (2021). EPA guidance on assessment of negative symptoms in schizophrenia. European Psychiatry, 64(1). https://doi.org/10.1192/j.eurpsy.2021.11 3. Garcia-Portilla, M. P., Garcia-Alvarez, L., Saiz, P. A., Al-Halabi, S., Bobes-Bascaran, M. T., Bascaran, M. T., Muñiz, J., & Bobes, J. (2015). Psychometric evaluation of the negative syndrome of schizophrenia. In European Archives of Psychiatry and Clinical Neuroscience (Vol. 265, Issue 7, pp. 559–566). Dr. Dietrich Steinkopff Verlag GmbH and Co. KG. https://doi.org/10.1007/s00406-015-0595-z 4. Tatsumi, K., Kirkpatrick, B., Strauss, G. P., & Opler, M. (2020). The brief negative symptom scale in translation: A review of psychometric properties and beyond. In European Neuropsychopharmacology (Vol. 33, pp. 36–44). Elsevier B.V. https://doi.org/10.1016/j.euroneuro.2020.01.018

No conflict of interest

https://doi.org/10.1016/j.nsa.2024.104245

P1168

NEUROSCIENCE APPLIED 3 (2024) 104246

CHILDHOOD PSYCHOTIC-LIKE EXPERIENCES ARE PRIMARILY CORRELATED WITH EMOTIONAL STATE, LIFESTYLE HABITS, AND ENVIRONMENTAL STRESSORS

M. Simon [1], G. Scantamburlo [2]. [1] *CHU de Liège, Child and Adolescent Psychiatry Department, Liège, Belgium;* [2] *CHU de Liège, Psychiatry Department, Liège, Belgium*

Background: Psychotic-type experiences (PLEs) are common during childhood and are most often transient. Although they are not precursors of a psychotic disorder, they are associated with an increased risk of psychopathological disorders in adolescence and adulthood. PLEs are also correlated with a poorer academic achievement and increased health care costs. Due to the possibly unfavorable prognosis of this health phenomenon, it appears important to implement an appropriate therapeutic or preventive intervention. Understanding the origins of PLEs therefore seems essential.

For this purpose, a literature review of risk factors for PLEs in children under 12 years of age was performed.

Methods: This narrative review was performed following the SANRA quality criteria. The bibliographic searches were conducted on 18th August 2023 and on 2nd February 2024 on PubMed, Scopus, and PsycINFO. The following search terms were used: “psychotic-like experience*” OR “psychotic experience*” OR “unusual experience*” AND “child*”. The search was limited to articles

published between 2014 and 2024. The search on databases found 1611 studies. After duplicates were removed, 710 articles remained. Titles and abstracts were screened using eligibility criteria. To be considered, articles had to be quantitative research articles concerning risk factors for PLEs in children strictly under 12 years of age, not presenting a psychotic disorder, and selected from a representative sample of the general population. The articles also had to be written in English or French and to be peer-reviewed. Irrelevant papers were discarded, leaving 106 full texts to be reviewed for eligibility. The final sample consists of 25 articles covering 30 studies meeting the search criteria for this review.

Results: The studies included between 925 and 44,326 participants aged between 9 and 11 years old. The participants were recruited from four cohorts: the Generation R cohort, the Adolescent Brain Cognitive Development cohort, the Danish National Birth Cohort, and the Tokyo Teen Cohort. The study designs were longitudinal (6/30) or cross-sectional (24/30).

This review highlighted several risk factors for PLEs such as morphologic and functional brain characteristics, hereditary factors, gestational history, current or past personal history of emotional, behavioral or cognitive disorders, current or past environmental stressors, live habits, and postnatal exposure to toxic substances. However, studies have mostly shown small or very small effect sizes.

The most significant effect sizes were found for gestational diabetes, history of abuse, experiences of discrimination, school bullying, presence of comorbid internalized symptoms, and time spent on screens. These risk factors are not specific to PLEs. They are in fact also correlated with various psychopathological and developmental disorders.

Conclusions: Except for exposure to gestational diabetes, the most relevant risk factors for PLEs in childhood are postnatal. They are also not specific to psychotic phenomena. The most relevant interventions seem to focus on current affective symptoms, stressors, particularly interpersonal ones, and lifestyle habits such as screen use.

No conflict of interest

https://doi.org/10.1016/j.nsa.2024.104246

P1169

NEUROSCIENCE APPLIED 3 (2024) 104247

BLOOD METABOLOMICS OF TREATMENT-RESISTANT SCHIZOPHRENIA PATIENTS TREATED WITH CLOZAPINE: AN EXPLORATORY ANALYSIS

M.T. Avella [1], O. Godin [2,3], B. Chaumette [1,4,5], F. Berna [3,6], P.M. Llorca [3,7], F. Schürhoff [2,3,8], C.L. Wu [2,3], R. Tamouza [2,3,8], E. Chu-Van [9], F. Castelli [9], F. Fenaille [9], M. Leboyer [2,3,8], C. Junot [9], A. Frajerman [10], E. Thévenot [9].

[1] *Université Paris Cité, Institute of Psychiatry and Neuroscience of Paris IPNP-INSERM U1266, Paris, France;* [2] *Université Paris Est Créteil- INSERM- IMRB, Translational Neuropsychiatry, Créteil, France;* [3] *Fondation FondaMental, Hôpital Albert Chenevier- Pôle de psychiatrie, Créteil, France;* [4] *McGill University, Department of Psychiatry-, Montreal, Canada;* [5] *GHU-Paris Psychiatrie et Neurosciences, Hôpital Sainte Anne, Paris, France;* [6] *Hôpitaux Universitaires de Strasbourg- Université de Strasbourg, INSERM U1114- Fédération de Médecine Translationnelle de Strasbourg, Strasbourg, France;* [7] *University of Clermont Auvergne- CMP-B CHU- CNRS- Clermont Auvergne INP, Institut Pascal, Clermont-Ferrand, France;* [8] *AP-HP- Hôpitaux Universitaires Henri Mondor, Département Médico-Universitaire de Psychiatrie et d'Addictologie DMU IMPACT- Fédération Hospitalo-Universitaire de Médecine de Précision en Psychiatrie FHU ADAPT, Créteil, France;* [9] *Université Paris-Saclay- CEA- INRAE, Département Médicaments et Technologies pour la Santé DMTS- MetaboHUB, Gif-sur-Yvette, France;* [10] *MOODS Team- INSERM- CESP- Université Paris-Saclay, Faculté de Médecine Paris-Saclay, Le Kremlin Bicêtre, France*

Introduction: Treatment-resistant schizophrenia (TRS) is defined by no significant improvement in positive symptoms of schizophrenia (SZ) after treatment with $\geq$ 2 different non-clozapine antipsychotic medications at adequate dose, duration, and documented adherence, with clozapine being the gold-standard treatment[1]. Although TRS affects approximately 30% of SZ patients and is associated with a poor outcome and metabolic comorbidities, also related to clozapine treatment[2], TRS remains understudied. Here we study for the first time the biochemical modifications in TRS patients by using a metabolomics approach.

Patients and methods: We analyzed plasma samples from 321 SZ outpatients from the FondaMental Academic Centers of Expertise for Schizophrenia cohort (FACE-SZ), receiving stable medication for more than 4 weeks[3]. Metabolomics data acquisition was performed using a combination of hydrophilic interaction liquid chromatography and reverse phase columns coupled to high-resolution mass spectrometry (LC-HRMS). The Workflow4Metabolomics platform [4] was used for data preprocessing, while metabolite annotation was performed with our in-house database by matching experimental accurate masses, retention times, and MS/MS spectra to those of pure standards. Statistical analyses were performed with the R software (version 4.2.2).

Results: Included subjects were mostly males (76%) and showed a mean age of 29 $\pm$8 years; 20% of patients were resistant to treatment and therefore treated with clozapine. No significant differences emerged between responders and TRS for BMI, chlorpromazine equivalent and PANSS Scores, except for smoking, which unexpectedly was more prevalent among responders compared to TRS (56% vs 39%, p = 0.02). ROC Analysis revealed that metabolic profiles were significantly different between the two groups (AUC = 0.98). T-tests (followed by correction for multiple testing) showed that plasma levels of 10 metabolites were significantly upregulated and 3 downregulated in the TRS compared to responders, with 5-hydroxytryptophol being the most relevant in terms of statistical significance and fold-change, followed by phenylacetylglutamine and aminoadipic acid (all 3 metabolites being upregulated in the TRS group). When adjusting for covariates using ANCOVA (BMI, chlorpromazine equivalent, smoking, age and sex) differences between the two groups remained significant, with six metabolites being related only to treatment response (Table 1).

Conclusion: 5-hydroxytryptophol and phenylacetylglutamine are catabolites of serotonin and glutamic acid, respectively. Interestingly, phenylacetylglutamine increase has previously been reported in SZ patients[5]. Our findings suggest that 5-hydroxytryptophol and phenylacetylglutamine may reflect the pharmacologic action of clozapine on neurotransmission. The characterization of specific markers of treatment resistance needs to be further analysed with a cohort including clozapine-naïve patients.

Metabolites	Responder, N = 257	TRS, N = 64	q-value[1]
Phenylacetylglutamine*	7.21±0.39	7.49±0.45	<0.001
Aminoadipic acid*	6.20±0.09	6.28±0.25	0.015
Eicosenoic acid	6.85±0.28	6.98±0.31	0.015
Jasmonic acid*	5.86±0.26	5.73±0.28	0.014
L-Cystine	8.02±0.08	8.05±0.06	0.015
Methyl-hexadecanoic acid*	7.34±0.22	7.45±0.20	0.009
Methyl-tetradecanoic	7.40±0.23	7.52±0.22	0.014
Myristic acid	8.22±0.26	8.35±0.27	0.014
N-acetyltryptophan	5.09±0.21	4.98±0.21	0.014
2-Hydroxy-3-methylbutyric acid	8.41±0.17	8.33±0.14	0.036
2-Hydroxycaproic acid	7.38±0.14	7.32±0.13	0.015
3-aminooctanoic acid*	7.15±0.21	7.28±0.19	<0.001
5-Hydroxytryptophol*	5.07±0.51	5.70±0.37	<0.001

[1]Benjamini-Hochberg correction applied

* Metabolites associated only with treatment resistance

References

1. Kane JM, Agid O, Baldwin ML, Howes O, Lindenmayer JP, Marder S, Olfson M, Potkin SG, Correll CU. Clinical Guidance on the Identification and Management of Treatment-Resistant Schizophrenia. J Clin Psychiatry. 2019 Mar 5;80(2):18com12123. 2.Quek YF, See YM, Yee JY, Rekhi G, Ng BT, Tang C, Lee J. Metabolic syndrome and cardiovascular risk between clozapine and non-clozapine antipsychotic users with schizophrenia. Asian J Psychiatr. 2022 Aug;74:103192. 3.Leboyer M, Godin O, Terro E, Boukouaci W, Lu CL, Andre M, Aouizerate B, Berna F, Barau C, Capdevielle D, Clauss-Kobayashi J, Chereau I, D Amato T, Dubertret C, Dubreucq J, Fond G, Laouamri H, Leignier S, Lancon C, Llorca PM, Mallet J, Le Corvoisier P, Misdrahi D, Passerieux C, Rey R, Pignon B, Urbach M, Szoke A, Schürhoff F, Tamouza R; FACE-SZ (FondaMental Academic Centers of Expertise for Schizophrenia) Groups. Immune Signatures of Treatment-Resistant Schizophrenia: A FondaMental Academic Centers of Expertise for Schizophrenia (FACE-SZ) Study. Schizophr Bull Open. 2021 Apr 27;2(1):sgab012. 4.Giacomoni F, Le Corguillé G, Monsoor M, Landi M, Pericard P, Pétéra M, Duperier C, Tremblay-Franco M, Martin JF, Jacob D, Goulitquer S, Thévenot EA, Caron C. Workflow4Metabolomics: a collaborative research infrastructure for computational metabolomics. Bioinformatics. 2015 May 1;31(9):1493-5. 5. Okamoto N, Ikenouchi A, Watanabe K, Igata R, Fujii R, Yoshimura R. A Metabolomics Study of Serum in Hospitalized Patients With Chronic Schizophrenia. Front Psychiatry. 2021 Dec 15;12:763547.

No conflict of interest

https://doi.org/10.1016/j.nsa.2024.104247