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Introduction Anorexia nervosa (AN) is the most severe in terms of morbidity psychiatric illness with the highest mortality rate increased by 23 fold. Treatments are limited effectiveness. AN has a strong genetic component with heritability at 70% but despite ~200 studies no major gene was identified. Epigenetics, such as DNA methylation, is another component of heritability that could explain the high heritability. Methylation is poorly studied in AN from small samples, and is focused on few candidate genes among publications. Under publication, a first genome-wide methylation study investigated 10 restrictive type AN patients, 19 bingeing/purging type of AN patients and 15 normal eaters using DNAs from whole blood (Booij, 2015). Of the 480K CpG sites that can be methylated of Infinium Human Methylation450 BeadChip Kit, authors focused on 24,000 sites located close to genes and they identified candidate genes with a different profile of methylation between AN and controls.

Objectives Our work is to replicate the results of Booji and also to investigate the AN remitters.

Aims Our goal is to identify epigenetic signatures of the AN disorder and the prognostic of remission.

Methods Twenty-four AN patients, 24 AN remitters will be compared to 48 healthy control women for methylation using the Infinium Human Methylation450.

Results As Booji et al., we will compare methylation for 24,000 sites located close to genes for 24 AN, 24 remitters and 48 controls.

Conclusions We expected to replicate the published results of Booji and to identify genes with a methylation signature specific of the AN remission.

Disclosure of interest The authors have not supplied their declaration of competing interest.

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Whole-genome epigenetic changes genome regarding childhood maltreatment in patients with borderline personality disorder or depression

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Early life adversity plays a critical role in the emergence of borderline personality disorder (BPD) and this could occur through epigenetic programming. In this perspective, we aimed to determine whether childhood maltreatment could durably modify epigenetic processes by the means of a whole-genome methylation scan of BPD subjects. Using the Illumina Infinium[®] Human Methylation450 BeadChip, global methylation status of DNA extracted from peripheral blood leucocytes was correlated to the severity of childhood maltreatment in 96 BPD subjects suffering from a high level of child adversity and 93 subjects suffering from major depressive

disorder (MDD) and reporting a low rate of child maltreatment. Several CpGs within or near the following genes (*IL17RA*, *miR124-3*, *KCNQ2*, *EFNB1*, *OCA2*, *MFAP2*, *RPH3AL*, *WDR60*, *CST9L*, *EP400*, *A2ML1*, *NT5DC2*, *FAM163A* and *SPSB2*) were found to be differently methylated, either in BPD compared with MDD or in relation to the severity of childhood maltreatment. A highly relevant biological result was observed for cg04927004 close to *miR124-3* that was significantly associated with BPD and severity of childhood maltreatment. *miR124-3* codes for a microRNA (miRNA) targeting several genes previously found to be associated with BPD such as *NR3C1*. Our results highlight the potentially important role played by miRNAs in the etiology of neuropsychiatric disorders such as BPD and the usefulness of using methylome-wide association studies to uncover such candidate genes. Moreover, they offer new understanding of the impact of maltreatments on biological processes leading to diseases and may ultimately result in the identification of relevant biomarkers.

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European alliances against depression: 4-level interventions targeting depression and suicidal behaviour

S42

Community-based 4-level approach: Background, implementation and evidence for efficacy

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The community-based 4-level-intervention concept developed within the “European Alliance against Depression” (<http://www.eaad.net/>) combines two important aims: to improve the care and treatment of patients with depression and to prevent suicidal behavior. It has been shown to be effective concerning the prevention of suicidal behavior [1–4] and is worldwide the most broadly implemented community-based intervention targeting depression and suicidal behavior. The 4-level intervention concept comprises training and support of primary care providers (level 1), a professional public relation campaign (level 2), training of community facilitators (teacher, priests, geriatric caregivers,