

to the methods of processing data obtained using psychometric scales used to evaluate the effectiveness of interventions within PSR. The proof of the non-numerical nature of ranks was obtained by J. Pfanzagl (1968). Incorrect processing of rank information obtained in the framework of psychosocial research leads to contradictions in the assessment of the patient's condition. Consequently, rank processing does not allow classical mathematical operations (summation, average), which makes it impossible to correctly estimate the effectiveness of PSR numerically.

**Objectives:** Development of algorithms for numerical evaluation of PSR efficiency based on rank information processing using the analytic hierarchy process (AHP) [1].

**Methods:** Clinical, psychometric, AHP algorithms

**Results:** The analysis of the problems of assessing the patient's conditions on the basis of categorical and psychometric (rank) scales and subscales shows that these problems can be presented in the form of appropriate hierarchies, the structure of which must be taken into account when processing the initial information.

According to the results of the analysis of the data of preliminary studies, the main areas of impaired functioning of patients affecting the evaluation of the effectiveness of PSR have been identified. Rank estimates of changes in the relevant areas of the patient's dysfunction after the PSR program compared to the initial level are the basis for the conclusion about the effectiveness of the PSR components. Algorithms of the AHP normative approach were used to translate rank information into numerical information [2]. The weight of the areas of the patient's functioning disorders was used in the formation of integral estimates of the effectiveness of PSR.

The fundamental difference between AHP-based assessments and rank assessments is due to the fact that numerical estimates of the weight of the criteria and the corresponding changes in the patient's condition are obtained, which depend on the qualifications of specialists, the characteristics of the scales used to measure violations in the relevant areas and the procedures of the PSR.

**Conclusions:** Obtaining the results of processing rank information in a numerical scale allows to obtain the correct integration of the patient's personal characteristics when considering PSR procedures and to obtain correct prognostic models of the patient's condition. 1. Saaty T. European Journal of Operational Research.1990; 48(1):9-26. [https://doi.org/10.1016/0377-2217\(90\)90057-I](https://doi.org/10.1016/0377-2217(90)90057-I) 2. Mitikhin V.G., Solokhina T.A. et al. Psychiatry, 2022; 20(2): 51-59. DOI: 10.30629/2618-6667-2022-20-2-51-59

**Disclosure of Interest:** None Declared

## EPP0213

### Personalized assessment of the effectiveness of psychosocial rehabilitation: an innovative approach based on the process of analytical hierarchy

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doi: 10.1192/j.eurpsy.2024.410

**Introduction:** In psychosocial rehabilitation (PSR), rank scales are widely used to assess the severity of functional disorders in patients. The main problem of evaluating the effectiveness of PSR is related to the methods of processing data obtained using psychometric scales used to evaluate the effectiveness of interventions within PSR.

J. Pfanzagl (1968) obtained the proof of the non-numerical nature of ranks. Incorrect processing of rank information obtained in the framework of psychosocial research leads to contradictions in the assessment of the patient's condition. Consequently, rank processing does not allow classical mathematical operations (summation, average), which makes it impossible to correctly estimate the effectiveness of PSR numerically.

**Objectives:** Development of algorithms for numerical evaluation of PSR efficiency based on rank information processing using the analytic hierarchy process (AHP) [1].

**Methods:** Clinical, psychometric, AHP algorithms.

**Results:** The analysis of the problems of assessing the patient's conditions on the basis of categorical and psychometric (rank) scales and subscales shows that these problems can be presented in the form of appropriate hierarchies [2], the structure of which must be taken into account when processing the initial information. According to the results of the analysis of the data of preliminary studies, the main areas of impaired functioning of patients affecting the evaluation of the effectiveness of PSR have been identified. Rank estimates of changes in the relevant areas of the patient's dysfunction after the PSR program compared to the initial level are the basis for the conclusion about the effectiveness of the PSR components. Algorithms of the AHP normative approach were used to translate rank information into numerical information [2]. The weight of the areas of the patient's functioning disorders was used in the formation of integral estimates of the effectiveness of PSR.

The fundamental difference between AHP-based assessments and rank assessments is due to the fact that numerical estimates of the weight of the criteria and the corresponding changes in the patient's condition are obtained, which depend on the qualifications of specialists, the characteristics of the scales used to measure violations in the relevant areas and the procedures of the PSR.

**Conclusions:** Obtaining the results of processing rank information in a numerical scale allows to obtain the correct integration of the patient's personal characteristics when considering PSR procedures and to obtain correct models of the patient's state. 1. Saaty T. European Journal of Operational Research.1990; 48(1):9-26. [https://doi.org/10.1016/0377-2217\(90\)90057-I](https://doi.org/10.1016/0377-2217(90)90057-I) 2. Mitikhin V.G., Solokhina T.A. et al. Psychiatry, 2022; 20(2): 51-59. DOI: 10.30629/2618-6667-2022-20-2-51-59

**Disclosure of Interest:** None Declared

## Depressive Disorders

### EPP0215

#### HERV-E $\lambda$ 4-1 activation in peripheral blood mononuclear cells of the recurrent depression patients under the influence of human recombinant IL-1 $\beta$

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doi: 10.1192/j.eurpsy.2024.411

**Introduction:** Mental disorders represent complex phenotypes and are the leading causes of global disease burden. Human endogenous

retroviruses (HERVs) are ancient retroviral DNA sequences established into germline. Their tight regulation is mainly achieved by epigenetic mechanisms, which can be altered by environmental factors - viral infections, inflammation, leading to HERV activation. The aberrant expression of HERVs associates with neurological diseases and mood disorders. We showed earlier that HERV-E  $\lambda$  4-1 activation is associated with the recurrent depression stage of exacerbation and are accompanied by a pronounced increase in the proinflammatory activity of the peripheral blood mononuclear cells (PBMC).

**Objectives:** The purpose of the study was to evaluate the activity of HERV-E  $\lambda$  4-1 on PBMCs of patients with recurrent depression in remission, including under the influence of recombinant human IL-1 $\beta$ .

**Methods:** The study included 30 patients with an established diagnosis of recurrent depression (F 33.0) aged 26–45 years. PBMC were isolated using the Ficoll density gradient method and further cultured in the presence or absence of 1 mkg/ml of recombinant human IL-1 $\beta$  for 24 hours. HERV-E  $\lambda$  4-1 env gene expression was determined by the PCR. Cells proliferative activity was determined by H<sup>3</sup>-thymidine incorporation. Cytokines content in culture supernatants was assessed by ELISA.

**Results:** It was shown that in all samples of PBMC cultured without IL-1 $\beta$  the HERV-E  $\lambda$  4-1 env expression was not determined. After the PBMC cocultivation with recombinant human IL-1 $\beta$ , HERV-E  $\lambda$  4-1 env gene expression was determined in 86,7% of cases. The HERV-E  $\lambda$  4-1 activation in PBMC after IL-1 $\beta$  influence was accompanied by increased cells proliferative activity and production of IL-1 $\beta$ , IL-6.

**Conclusions:** Our data indicate that the HERV-E  $\lambda$  4-1 env expression in PBMC of recurrent depression patients in the stage of remission induced by the influence of proinflammatory cytokines, such as IL-1 $\beta$ . This mechanism may be one of the possible regulators of HERV-E  $\lambda$  4-1 activation in recurrent depression.

**Disclosure of Interest:** None Declared

## EPP0216

### Depression and Medierranean diet: analysis of the PREDIDEP randomised trial

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doi: 10.1192/j.eurpsy.2024.412

**Introduction:** Unipolar depression is a growing global Public Health challenge. During last years, life factors such as diet, have been identified as a target for the development of adjunctive treatment that could reduce the rates of depression. The Mediterranean Diet (MD) is one of the most studied dietary factors that has been inversely associated with depression (Rahe et al. Eur J Nutr. 2014;53:997–1013). The PREDIDEP study is an ongoing secondary prevention trial aimed at assessing the effect of a MD enriched with extra virgin olive oil (EVOO) on depression recurrence (Sánchez-Villegas et al. BMC Psychiatry. 2019 Feb 11;19(1):63).

**Objectives:** This study aims to assess the effectiveness of a remote Mediterranean diet-based nutritional intervention in the context of a trial of depression.

**Methods:** The PREDIDEP study is a 2-year multicenter, randomized, single-blinded trial designed to analyse the effect of the MD enriched with extra virgin olive oil (EVOO) on the prevention of depression recurrence. The intervention group received phone contacts with dietist and had access to web-based information, and the control group had usual care for depressed patients. The 14-item MD Adherence Screener (MEDAS) questionnaire and a semiquantitative food frequency questionnaire (FFQ) were collected by dietitians at baseline and at 1-year and 2-year of follow-up. We used mixed effects linear models to assess changes in nutritional variables according to the group of intervention. The trial was registered at ClinicalTrials.gov NCT03081065.

**Results:** We observed that participants in the MD group increased their adherence to MD (between-group difference: 2.50; 95% CI 1.88-3.12; p<0.001) after one and two years (between-group difference: 2.57; 95% CI 1.93-3.22; p<0.001) of intervention compared with control group.

MEDAS questionnaire	Control, mean (95% CI)	Intervention, mean (95% CI)	Between group difference, mean (95% CI)	P value
Baseline	6.96 (6.54-7.39)	7 (6.63-7.39)	N/A	N/A
1 year	7.2 (6.82-7.58)	9.74 (9.3-10.18)	N/A	N/A
1-year change	0.23 (-0.19-0.65)	2.74 (2.28-3.19)	2.50 (1.88-3.12)	<0.001
2 years	7.06 (6.66-7.46)	9.68 (9.28-10.07)	N/A	N/A
2-years change	0.10 (-0.38-0.58)	2.67 (2.24-3.1)	2.57 (1.93-3.22)	<0.001

Calculated using mixed-effect models with center as random factor.

P value between group intervention difference.

N/A: not applicable.

MEDAS: Mediterranean Diet Adherence Screener

**Conclusions:** We found that this multifaceted remote nutritional intervention is a useful tool kit to maintain the quality of the diet according to the goals of the MD among patients at risk of depression.

**Disclosure of Interest:** None Declared

## EPP0217

### Progressive grey matter atrophy in adolescents with major depressive disorder revealed by causal structural covariance network

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doi: 10.1192/j.eurpsy.2024.413