levels of depression. Of the participants 19.8% indicated no sign of distress, 26% mild distress, 37.3% average distress and 16.9% high depression. There was no statistical association of distress between female and male students (P=0.198). However, significant associations were Sedative drugs, parents level and occupation, Study Field, Future Career and Financial situation with depression (P<0.05).

Conclusions: Overall, the prevalence of depression was higher among students compared with general population. Providing programs for improving student's mental health is suggested.

Keywords: Student; Depression; Beak test; Isfahan

EPP0530

How effective are ketamine or esketamine in treatment-resistant depression?

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Introduction: Globally, depression affects millions of individuals. A third of depression patients meet the criteria for treatment-resistant depression (TRD). The N-methyl-D-aspartate receptor antagonist, ketamine, improved depressive symptoms in a span of 24-hours. Recently, the FDA approved esketamine, an enantiomer of ketamine for TRD.

Objectives: To determine the effectiveness of ketamine and esketamine in TRD, and observe their role in suicidality.

Methods: Individual systematic searches were conducted on the PubMed database following the PRISMA protocol (Figure 1). Inclusion criteria included randomized clinical trials (RCT). Search strings were (i) "ketamine" OR "esketamine" AND "treatment-resistant depression" (ii) "ketamine" OR "esketamine" AND "suicide." Eleven studies were included for depression and five studies for suicidality (Table 1). Comparison analysis for suicide appeared trivial because of only one inclusion eligible esketamine RCT. This review was submitted for registration at PROSPERO. Randomized odds ratios, 95% confidence interval (CI), and heterogeneity were obtained.

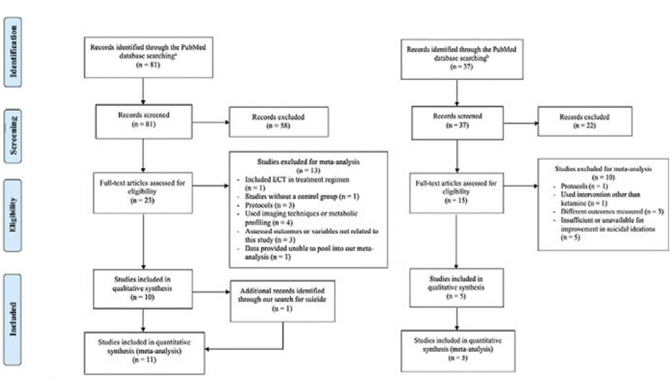

Figure 1. Prisma flow chart
a. Prisma flow chart for treatment resistant depression
b. Prisma flow chart for suicide

Results: The comprehensive meta-analysis, version 3.0, was used for analysis. Ketamine improved TRD symptoms and reduced suicidality by a nine-fold and three-fold odds, respectively (OR 9.01, CI 4.89–16.6, p<0.001 and OR 2.9, CI 1.67–5.06, p<0.001). Esketamine also improved TRS symptoms (OR= 2.61, 95% CI= 1.56–4.37, p<0.001). The heterogeneity ranged from 11% to 60% between the three groups. Sensitivity analysis did not alter the results.

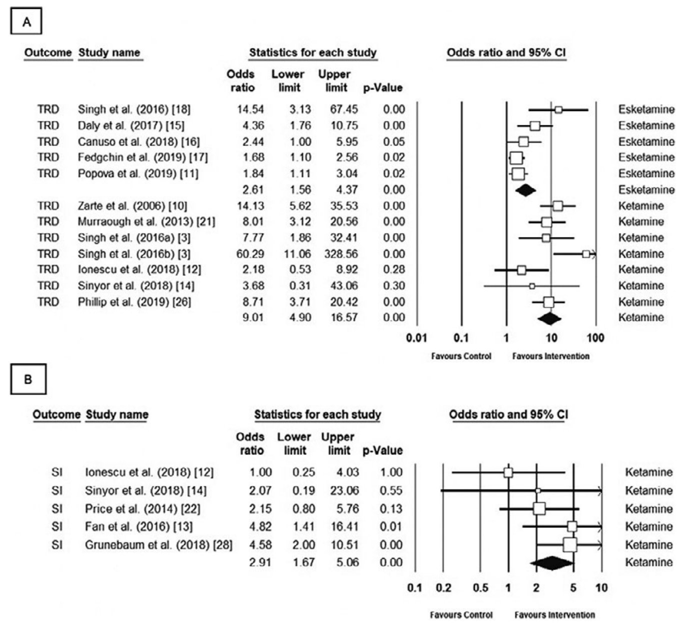

Figure 2. Forest plot analysis
A. Ketamine and esketamine impact on treatment resistant depression
B. Ketamine's impact on reducing suicidal ideations

Author	Design	Sample Size[a,b,c,d]	Intervention Regimen	Control Regimen[e]	Concomitant Therapy[f]	Primary Endpoint	Diagnosis[h]	Assessment Scale[i]
				Ketamine				
Zarte et al. (2006) [10]	Cross-over	17	0.5 mg/kg IV	Placebo	None	110 minutes[g]	TRD	21 item HAM-D
Murrough et al. (2013) [21]	Parallel	I: 47 C: 25	0.5 mg/kg IV	Midazolam	None	24 hours	TRD	MADRS
Price et al. (2014) [22]	Parallel	I: 36 C: 21	0.5 mg/kg IV	Midazolam	Information not provided.	24 hours	Anti- suicidal effect	BSS
Fan et al. (2016) [13]	Parallel	I: 20 C:17	0.5 mg/kg IV	Midazolam	Information not provided.	24 hours	Anti- suicidal effect	BSI
Singh et al. (2016) [3]	Parallel	2w: I: 16 C: 15 3w: I: 13 C: 16	0.5 mg/kg IV	0.9% Sodium Chloride IV	Antidepressants	15 days	TRD	MADRS
Ionescu et al. (2018) [12]	Parallel	26	0.5 mg/kg IV	Saline	None	21 days[g]	TRD; Anti-suicidal effect	28 item HAM-D; C-SSRS
Sinyor et al. (2018) [14]	Parallel	I: 5 C: 4	0.5 mg/kg IV	Midazolam	TAU	42 days	MDD; Anti-suicidal effect	C-SSRS; SSI; MADRS
Grunebaum et al. (2018) [28]	Parallel	I: 40 C: 40	0.5 mg/kg IV	Midazolam	Antidepressants	24 hours	Suicidal Ideation	SSI
Phillip et al. (2019) [26]	Cross-over	41	0.5 mg/kg IV	Midazolam	Antidepressants	24 hours	TRD	MADRS
				Esketamine				
Singh et al. (2016) [18]	Parallel	I: 20[b] C: 10	0.20 mg/kg or 0.40 mg/kg IV	Placebo	Information not provided.	24 hours	TRD	MADRS
Daly et al. (2017) [15]	Parallel	I:34[c] C: 33	28 mg, 56, and 84 mg	Placebo	Antidepressants	8 days	TRS	MADRS
Canuso et al. (2018) [16]	Parallel	I: 34 C: 31	84 mg	Placebo	Antidepressants	4 hours	TRS; Anti-suicidal effect	MADRS; MADRS-SI
Fedgchin et al. (2019) [17]	Parallel	I: 209[d] C: 108	56 mg or 84 mg	Placebo	Antidepressants	28 days	TRS	MADRS
Papova et al. (2019) [11]	Parallel	I: 101[d] C: 100	56 or 84 mg	Placebo	Antidepressants	28 days	TRS	MADRS

Table 1. Characteristics of Included Randomized Clinical Trials of Ketamine and Esketamine for TRD and Suicidality.
a. I=Intervention group sample size; C=control group sample size; 2w= two-week group; 3w= three-week group
b. Esketamine 0.20 mg/kg IV sample size = 9; Esketamine 0.40 mg/kg IV sample size = 11. Results were combined for our analysis.
c. Esketamine 28 mg/kg sample size = 11; Esketamine 56 mg/kg sample size = 11; Esketamine 84 mg/kg sample size = 12. Results were combined for our analysis.
d. Results were reported as combined findings (56 mg plus 84 mg).
e. Midazolam was chosen as the active placebo agent
f. TAU= Treatment as usual, participants were allowed to continue current medications any contraindicated medications; participants were allowed to continue their previous antidepressants
g. Authors of the study did not indicate the primary end point. Thus, the authors of this study selected these primary end points. 21 days was taken for Ionescu et al. (2018), which is at the sixth infusion.
h. TRD= treatment resistant depression; MDD= Major depressive disorder
i. HAM-D= Hamilton Depression Rating Scale; MADRS= The Montgomery–Asberg Depression Rating Scale; BSS/BSI= Beck's Scale for Suicide Ideation; C-SSRS= Columbia Suicide Severity Rating Scale; SSI= Scale of Suicide Ideation; MADRS-SI= The Montgomery–Asberg Depression Rating Scale-Suicidal Ideation

Conclusions: Findings must be cautiously interpreted as the primary endpoint differed. The primary endpoint was set at 24-hours and 28-days for ketamine and esketamine, respectively. Esketamine's effectiveness over 28 days appears promising for TRD. Current aim should consist of structured guidance for clinicians in esketamine administration.

Keywords: TRD; Ketamine; treatment-resistant depression; esketamine

EPP0532

Health anxiety in patients with depression with somatic symptoms and psychodermatological disorders

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Introduction: As significance of medically unexplained symptoms increases in general practice it is important to discuss psychopathological comorbidity regarding the impact of health anxiety indicating sufferers excessive care use.
Objectives: To study the impact of health anxiety in depression with somatic symptoms.
Methods: 50 patients with depression with somatic symptoms compared to 79 patients with psychodermatological disorders with complaints of pathological skin sensations completed the Hospital Anxiety and Depression Scale (HADS) and the Short Health Anxiety Inventory (SHAI). The Mann-Whitney U-Test was applied. The psychosemantic method "Classification of sensations" was used to differentiate patients' bodily experience. Factor analysis was performed.
Results: Scores on HADS-anxiety and SHAI were significantly higher in depression (U=645, p=0.009; U=89.5; p=0.036), although there were no significant differences on HADS-depression. Factor analysis showed a polarization of bodily experience categories in depression as the first factor (38% of total variance) included negative emotions with somatic sensations of exhaustion and the second factor (10% of total variance) included pleasant sensations and positive emotions with the negative sign of factor loadings. In psychodermatological disorders the first factor (31% of total variance) was quite similar, however the second factor (12% of total variance) included skin and general somatic sensations illustrating the higher concern with somatic symptoms.
Conclusions: Higher health anxiety in depression with somatic symptoms compared to psychodermatological disorders (more concerned with bodily experience) could be associated with patients' complaints of emotional state indicating differences in psychological mechanisms. The research was supported by Russian Foundation for Basic Research with the Grant 20-013-00799.

Keywords: health anxiety; depression with somatic symptoms; psychodermatological disorders

EPP0533

Features of the influence of hereditary factors on the clinical manifestations of depressive disorders

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Introduction: The urgency of the problem of depression is due to their high prevalence and severity of consequences. At present, the pathogenetic role of heredity in the course of depressive disorders remains unclear. Therefore, studies related to this problem are designed to identify the relationship between hereditary factors and the characteristics of the clinic of depression.
Objectives: The aim was to study the features of the influence of hereditary factors on the clinic of depressive disorders.
Methods: clinical-psychopathological, psychometric, genealogical, statistical.
Results: Based on the study of clinical, psychometric (Hamilton scale (HDRS)), genealogical data of 87 patients with depression, a high level of family burden of depression at all levels of kinship in the pedigree of patients (73.56%), alcohol abuse (39.08%), the presence of hypertension (54.02%), heart disease (42.53%) and endocrine pathology (14.94%) were identified. Moreover, in the pedigree of the examined most often this pathology was found in relatives of I and II degree of kinship. When comparing the factors of heredity with the clinical structure and features of depression revealed the proportion of correlations of such factors as: observation by a psychiatrist of I and II degree of relatedness ($p \leq 0.01$), depressive disorders mainly by II degree of relatedness ($p \leq 0.05$), suicidal behavior according to I and II degree of kinship ($p \leq 0.005$), alcohol dependence mainly on I degree of kinship ($p \leq 0.03$). Selected leading symptom complexes: depressive, asthenic, apathetic, anxiety-phobic, somato-vegetative, hypochondriac.
Conclusions: The data obtained should be taken into account in diagnostic and preventive measures.

Keywords: depression; hereditary factors

EPP0534

Personalized warning signals for depressive relapse: A qualitative study

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Introduction: An important aspect of depression relapse prevention programs is identifying personalized warning signals (PWS). These PWS are typically defined as depressive symptoms. Yet, no study has investigated to what extend PWS fit within the diagnostic classification framework, and how this compares to a more transdiagnostic, integrative approach towards depression.
Objectives: To examine how well PWS reflect depressive symptoms, describe the remaining PWS, and examine how well PWS can be assigned to domains of an existing transdiagnostic and integrative framework, the positive health concept.
Methods: 162 PWS of 66 individuals with a history of depression were labeled as one or more symptoms of depression or to a residual category. The same process was repeated for labeling the domains of the positive health model. Labeling was done by three independent reviewers (inter-rater percent agreement: symptoms: 0.83 & positive health domains: 0.73). Disagreements were resolved by discussion.