Objectives: The present study aimed at applying machine learning (ML) algorithms on both grey matter and white-matter voxel-wise data to discriminate MDD suicide attempters (SA) from non-attempters (nSA).

Methods: 91 currently depressed MDD patients (24 SA, 67 nSA) underwent a structural MRI session. T1-weighted images and diffusion tensor imaging scans were respectively pre-processed using Computational Atlas Toolbox 12 (CAT12) and spatial tract-based statistics (TBSS) on FSL, to obtain both voxel-based morphometry (VBM) and fractional anisotropy (FA) measures. Three classification models were built, entering whole-brain VBM and FA maps alone into a Support Vector Machine (SVM) and combining both modalities into a Multiple Kernel Learning (MKL) algorithm. All models were trained through a 5-fold nested cross-validation with subsampling to calculate reliable estimates of balanced accuracy, specificity, sensitivity, and area under the receiver operator curve (AUC).

Table 1. Models' performances.

Input features	Algorithm	Specificity	Sensitivity	Balanced accuracy	AUC
VBM	SVM	55.00%	50.00%	52.50%	0.55
FA	SVM	72.00%	54.00%	63.00%	0.62
VBM and FA	MKL	68.00%	54.00%	61.00%	0.58

Abbreviations: AUC, area under the receiver operator curve; FA, fractional anisotropy; VBM, voxel-based morphometry.

Results: Models' performances are summarized in Table 1.

Conclusions: Overall, although overcoming the random classification accuracy (i.e., 50%), performances of all models classifying SA and nSA MDD patients were moderate, possibly due to the imbalanced numerosity of classes, with SVM on FA reaching the highest accuracy. Thus, future studies may enlarge the sample and add different features (e.g., functional neuroimaging data) to develop an objective and reliable predictive model to assess and hence prevent suicide risk among MDD patients.

Disclosure of Interest: None Declared

EPV1075

Suicide in Schizophrenia: A literature review.

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Introduction: More than 90 percent of patients who attempt suicide have a psychiatric disorder. The diagnosis of schizophrenia is associated with a decrease in life expectancy of about 10 years, with suicide being the most important related factor. Literature suggests that the risk of suicide death in this population has been found to be 10 to 20 times higher than that in the general population

Objectives: To present a case report of a patient with a first psychotic episode and suicide attempt focusing on clinical features and risk factors.

Methods: Presentation of a clinical case supported by a non-systematic review of literature containing the key-words "suicide", "Suicidal ideation", "psychosis" and "schizophrenia".

Results: This is a case report of a male 28-year-old patient, with no known psychiatric history, admitted to our inpatient service after a suicide attempt by precipitation. In a first evaluation, the patient presented psychotic symptoms consisting of paranoid delusions, auditory hallucinations, tendency to social isolation and the appearance of self-harming ideation in the days prior to the episode. After initiation of antipsychotic medication, a significant improvement in positive symptoms was observed. The patient has since had no delusions or hallucinations and is living independently at home.

Contemporary research studies indicate that the lifetime rate of completed suicide in individuals with schizophrenia is between 4% and 13%. Several specific risk factors have been described in the schizophrenia population, such as early stage of the illness, lack of adherence to treatment, recurrent relapses, comorbid depression and the paranoid subtype. The antipsychotic treatments with the most scientific evidence are clozapine, risperidone, olanzapine and quetiapine. Within psychotherapy, cognitive behavioral therapy appears to be the most effective.

Conclusions:
- It is important to know the risk factors that are associated with an increased risk of suicide in patients diagnosed with schizophrenia.
- An early intervention and specific treatment can improve prognosis of this population.

Disclosure of Interest: None Declared

EPV1076

Werther effect in the juvenile population. About a series of cases

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Introduction: Suicide is currently one of the biggest public health problems, it is the third cause of death in the age group between 15 and 29 years (16.36% of young people who died in 2013). The 'Werther effect' refers to the mimetic behavior of the suicidal act, thus making reference to the controversial novel "The Sorrows of Young Werther" by Goethe, in 1774. The population most susceptible to this influence is the most vulnerable and ambivalent, such as they can be adolescents and young people, people with personality disorders and drug use. Durkheim considered that imitation was not due to the contagion effect of making suicides public, but to the social conditions of some places, which were what caused people to commit suicide.