

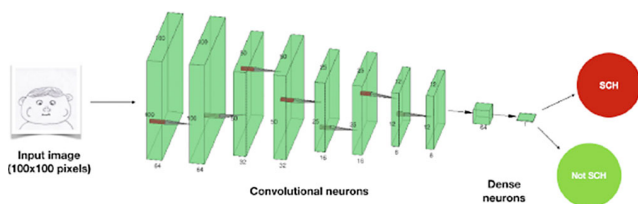
been shown to influence artistic works created by patients. Among the deviations observed in the art works are distinct characteristics like delusional themes, disordered shorter lines, and unique creativity. Such features, along with altered pictorial perceptions and possibly altered motoric function, suggest that it might be possible to differentiate art made by schizophrenic patients from that of healthy individuals. Given the shortcomings of existing diagnostic methods being very long and with a 25% error rate, we proposed a novel neural network model that leverages these artistic markers for classification to support diagnosis.

**Objectives:** To develop and train a neural network model leveraging unique artistic markers for the classification and support of diagnosing schizophrenia.

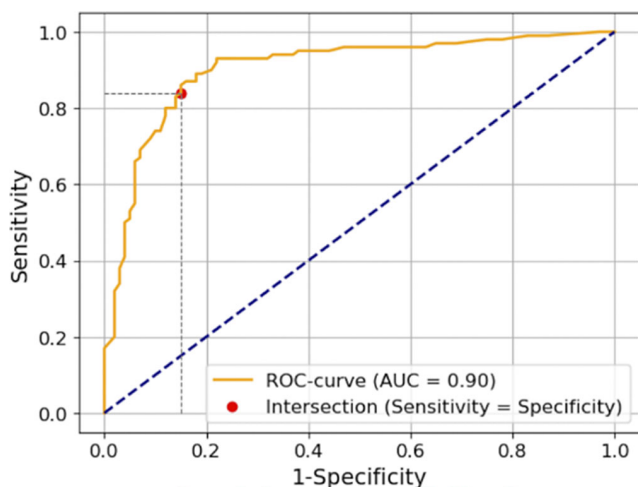
**Methods:** Our study involved 764 participants, 45% diagnosed with schizophrenia, while the others were either healthy or diagnosed with other mental disorders. The average age of the participants was 38.25 years (SD=13.43), and 43.88% of the participants were females. All participants were instructed to draw eight drawings of human faces. These drawings were digitized and categorized based on participants' schizophrenia status to form the initial training dataset for our model. This data was processed using Python and converted into a NumPy array, which served as input for our model developed using the Keras library. The structure of the model is presented (Image 1).

**Results:** We used area under curve (AUC), specificity, and sensitivity as key evaluation metrics for our model. The model achieved an AUC of 0.90 on a test dataset that was new to the model and was not used in the preceding training phase. It exhibited a sensitivity of 0.84 and a specificity of 0.85, indicating its capacity to identify schizophrenic and non-schizophrenic individuals, respectively (Image 2).

**Image:**



**Image 2:**



**Conclusions:** The application of machine learning and AI tools to analyze art created by schizophrenia patients, can offer a promising methodology for exploring the differences between schizophrenic and healthy individuals, as well as a possible support for current diagnostic methods. This approach has the potential to provide an additional fast and more accurate diagnosis, enhancing individualized patient care. Future research will focus on refining and validating the model across diverse populations and various art forms.

**Disclosure of Interest:** None Declared

## EPP0180

### Athens Multifamily Group Therapy Project (A-MFGT) after FEP: Preliminary clinical results

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**Introduction:** The Athens Multifamily Group Therapy Project (A-MFGT) aims to provide systemic multifamily therapy to youths who experienced a first psychotic episode and their families.

**Objectives:** Family interventions have been shown to reduce the likelihood of relapse for individuals across the spectrum of psychosis and are recommended in practice guidelines for psychosis internationally (Mc Farlane, 2016).

**Methods:** A group of 22 young adults who presented a first psychotic episode participated with their families to multi-family group systemic therapy, after discharged from in-patient treatment. Sessions were conducted by three therapists twice a month, for nine months and supervision meetings were provided once a month. Six groups of families have been conducted since 2017. Clinical outcome was assessed through PANSS at baseline, one month later after patient's discharge from in-patient treatment, and one year after, at the end of the multifamily group treatment. Time intervals till relapse were also assessed. Participants' clinical findings were compared with findings from a matched group of 42 patients who did not attend the multifamily therapy program and were treated as usual.

**Results:** Two-way mixed ANOVA was conducted to assess PANSS scores change over time (t1: at base line, t2: at one month and t3: one year), while differences were investigated between the two groups of patients and interactions were checked. Regarding PANSS-positive scale and PANSS-general scale, no differences were found between the two groups in neither of the three time points. Regarding PANSS-negative scale, patients attending MFGT presented statistically significantly lower scores in t3 than patients treated as usual, but not in t1 and in t2 (i.e., prior to therapy). Moreover, both patients' group showed improvement from t1 to t2, but only patients attending MFGT further improved from t2 to t3. Among patients attending MFGT, two (9.1%) had a relapse compared to nine (22.5%) of the patients treated as usual, however this comparison did not reach statistical significance ( $p = 0.300$ ).

**Conclusions:** In term to provide early intervention in psychosis, A-MFGT seems to be a viable way to support the patient as well as the whole system facing psychosis, with the aim of preventing relapse and improved quality of life for all the participants.

**Disclosure of Interest:** None Declared

## EPP0181

### Association of oral health related subjective quality of life and severity of negative symptoms of treatment-resistant schizophrenia: a cross-sectional study in Croatia

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**Introduction:** Patients diagnosed with schizophrenia, particularly those with severe negative symptoms (NS) and treatment resistant schizophrenia (TRS), have poorer oral health than the general population, which can have serious consequences beyond oral and dental problems, but remains poorly addressed in psychiatric clinical practice and mental health research.

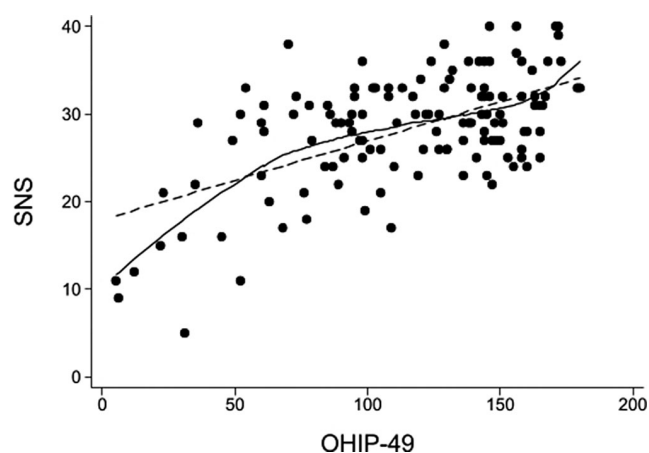
**Objectives:** To investigate the association between oral health-related subjective quality of life (OHR-sQoL) and severity of NS in TRS.

**Methods:** We conducted a cross-sectional study in a tertiary psychiatric clinic in Croatia during 2022-2023. The target population were patients diagnosed with TRS with more pronounced NS. The outcome was the Self-Evaluation of Negative Symptoms (SNS) scale and its five dimensions. Exposure was OHR-sQoL measured by the Oral Health Impact Profile questionnaire (OHR-sQoL). We tested the hypothesis using multivariable linear hierarchical regression analysis.

**Results:** We enrolled 130 participants with a median (interquartile range) age of 43 (36-51) years, with an equal number of women and men. Total SNS and OHR-sQoL scores were found to be significantly associated in both bivariate and multivariable analysis adjusted for a large number of covariates ( $R^2$  increase over the effect of covariates = 0.22;  $p < 0.001$ ; false discovery rate < 5%). Total SNS score was significantly associated with the functional limitation dimension of the OHIP-49, as well as diminished emotional range with psychological discomfort, physical and psychological disability, and anhedonia with functional limitation.

**Figure 1.** Scatter plot of the correlation between the total score of the Self-evaluation of Negative Symptoms (SNS) and the Oral Health Impact Profile (OHIP-49); the solid line represents the 80% smoothed local polynomial regression curve; the dashed line represents the linear regression line (n = 130)

**Image:**



**Conclusions:** NS of TRS are relatively strongly associated with OHR-sQoL, especially with functional limitations. The robustness of this association was confirmed by controlling for a large number of covariates. If the relationship between NS and OHR-sQoL is bidirectional, which should be verified by future studies, perhaps for further progress in solving the serious problems of NS and TRS it will be necessary to include the comorbidity with oral diseases and oral functional disorders and OHR-sQoL.

**Disclosure of Interest:** None Declared

## EPP0182

### Hormones and Psychosis: The Role of Estrogen in Schizophrenia

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**Introduction:** Schizophrenia is a complex psychiatric disorder in which biological sex differences, have been extensively documented and researched. What is less well described, is what motivates these differences. Of the various proposed and explored reasons, estrogen appears to be one that has maintained some interest and promise. An increase in symptoms of schizophrenia has been observed to correspond with decreasing levels of estrogen in menopausal women, this, allied to the later symptom onset, culminated in the interest in this hormone and its role in psychotic illness.

**Objectives:** The authors aim to briefly explore the current evidence on the association between estrogen and schizophrenia. Its relevance in symptom onset, protective status and eventual therapeutic applications will also be discussed.

**Methods:** The authors conducted a brief non-structured narrative literature review using articles published in the Medline/Pubmed, ScienceDirect and Google Scholar databases. The keywords used