



QEEG Clinical Report

BrainLens V0.4

Report Description



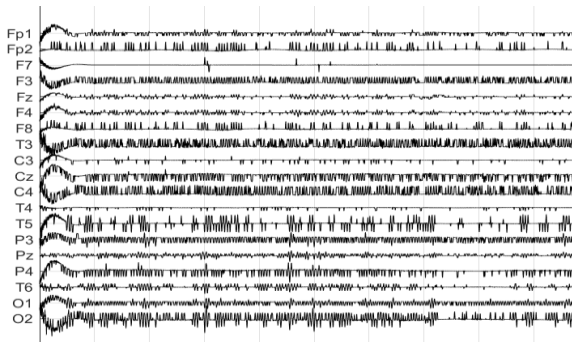
Personal & Clinical Data

Name	Navid Kamyab	Date of Recording	22-Oct-2023
Date of Birth - Age	04-Oct-1992 - 31.05	Gender	Male
Handedness(R/L)	Right	Source of Referral	Dr Saemi
Initial Diagnosis	Bipolar-Depression with OCD		
Current Medication	Medication Free		

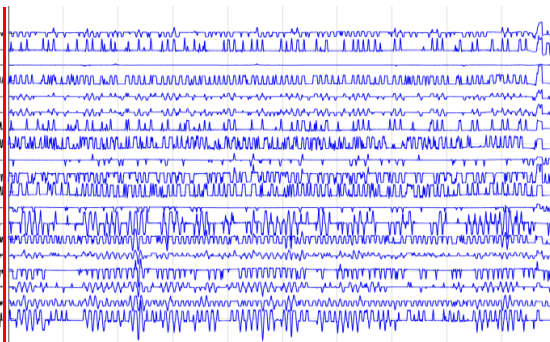
Dr Saemi

Denoising Information (EC)

Raw EEG



Denoised EEG



Flat Channels

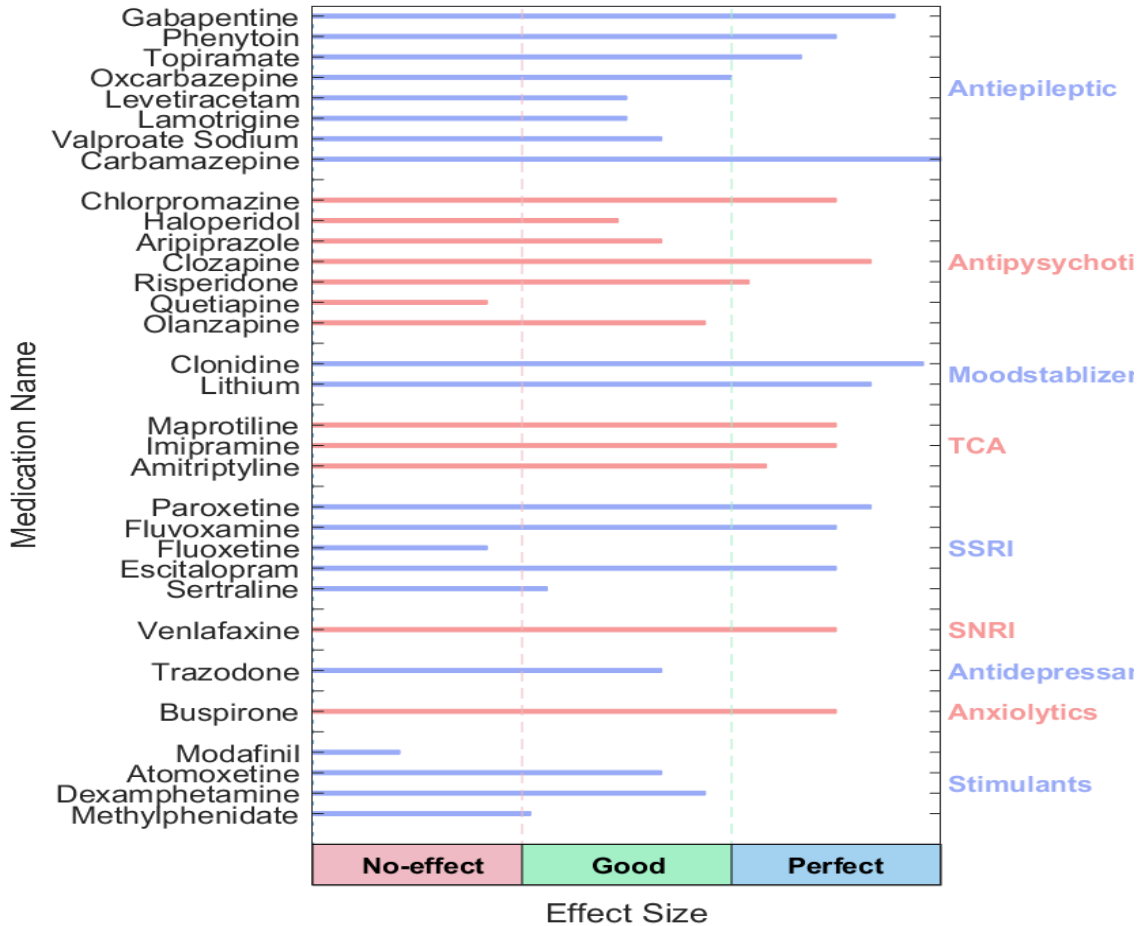


Rejected Channels



Number of Eye and Muscle Elements				Low Artifact Percentage	
Eye	0	Muscle	0		
Total Artifact Percentage				High Artifact Percentage	
EEG Quality		good		Total Recording Time Remaining	241.21 sec

QEEG based predicting medication response



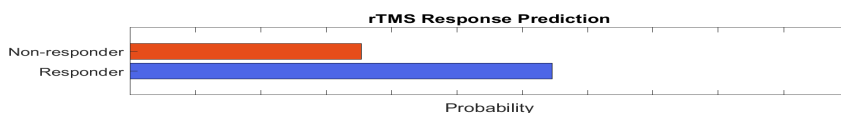
Explanation

Medication Recommendation

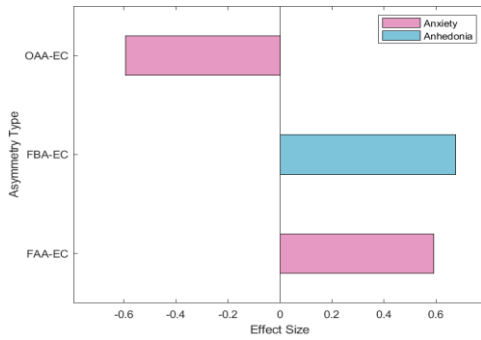
These two tables can be considered the most important finding that can be extracted from QEEG. To prepare this list, the NPCIndex Article Review Team has studied, categorized, and extracted algorithms from many authoritative published articles on predict medication response and Pharmacoelectric studies. These articles are published between 1970 and 2021. The findings extracted from this set include 85 different factors in the raw band domains, spectrum, power, coherence, and loreta that have not been segregated to avoid complexity, and their results are shown in these diagrams. One can review details in NPCIndex.com .

These two charts, calculate response probability to various medications, according only to QEEG indicators. Blue charts favor drug response and red charts favor drug resistance. The longer the bar, the more evidence there is in the articles. Only drugs listed in the articles are listed. These tables present the indicators reviewed in the QEEG studies and are not a substitute for physician selection.

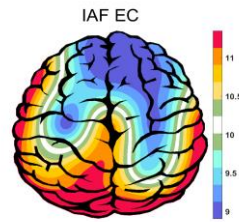
QEEG based predicting rTMS response



Alpha Asymmetry(AA)



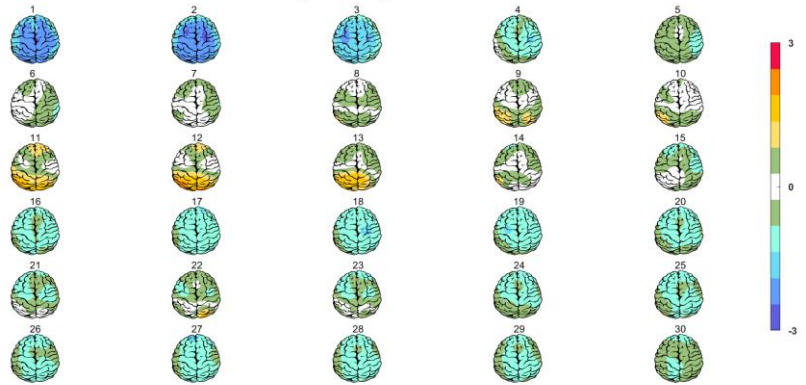
IAF(EC)



Eye Close IAF= 11.00

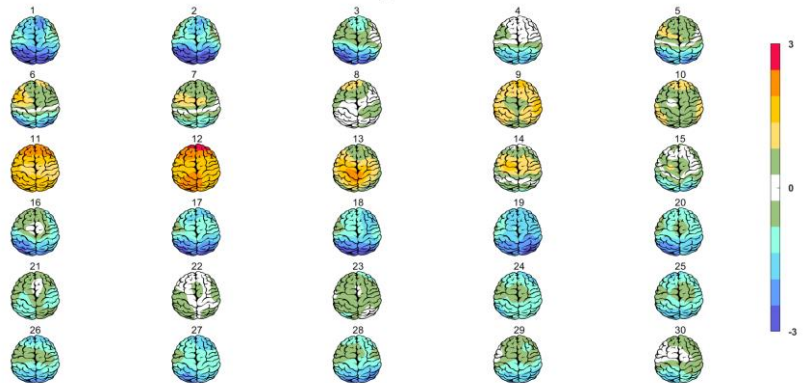
Absolute Power-Eye Closed (EC)

Absolute power - Eyes Closed

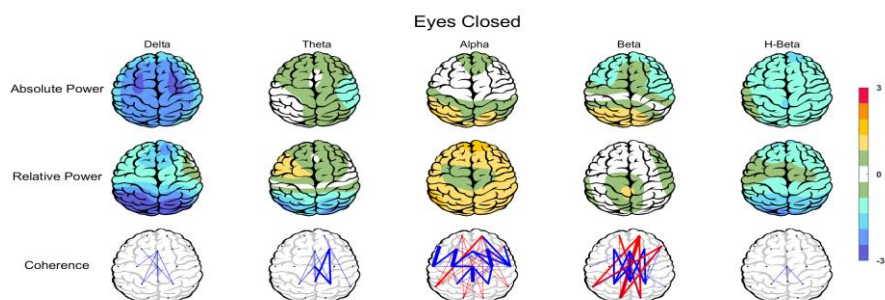


Relative Power-Eye Closed (EC)

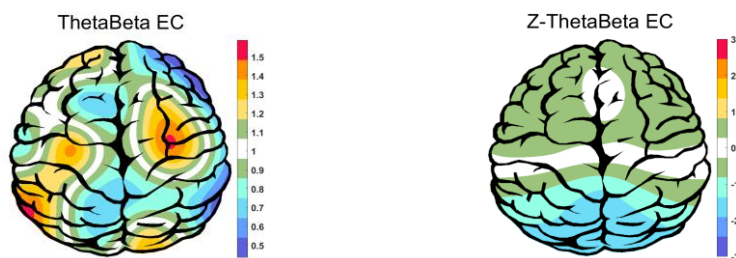
Relative Power - Eyes Closed



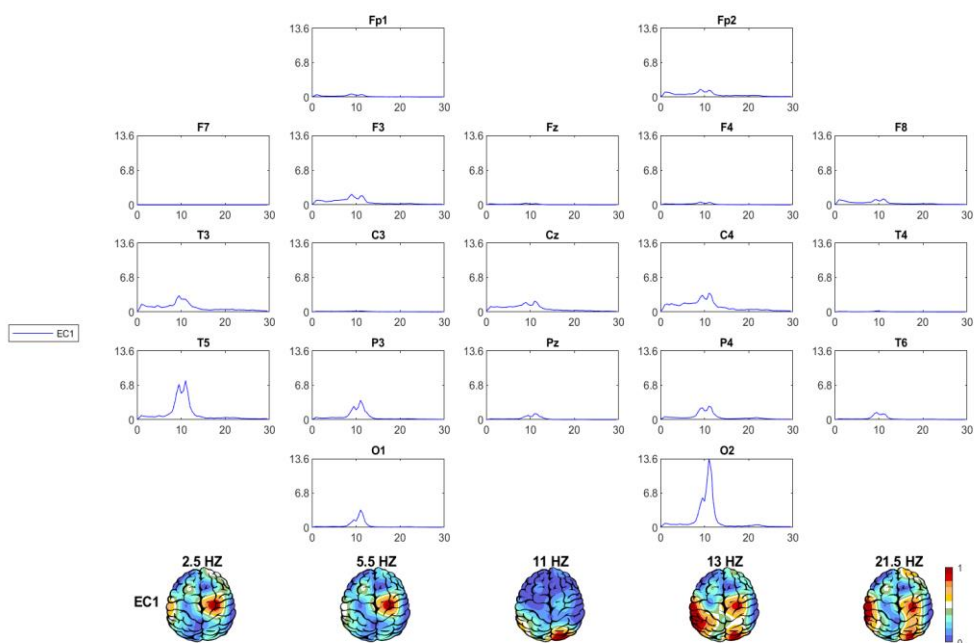
Z Score Summary Information (EC)



E.C.T/B Ratio (Raw- Z Score)



EEG Spectra



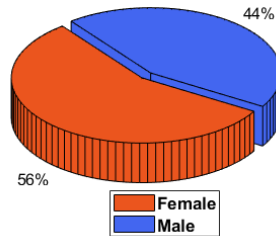
rTMS Response Prediction

Network Performance

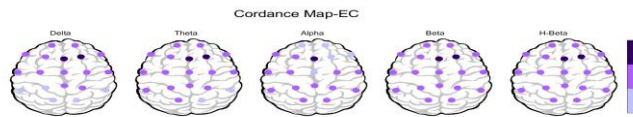
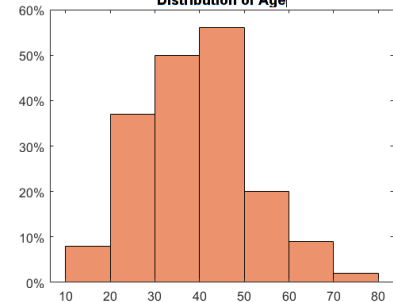
Accuracy: 92.1%
Sensitivity: 89.13%
Specificity: 97.47%

Participants Information

Distribution of Gender

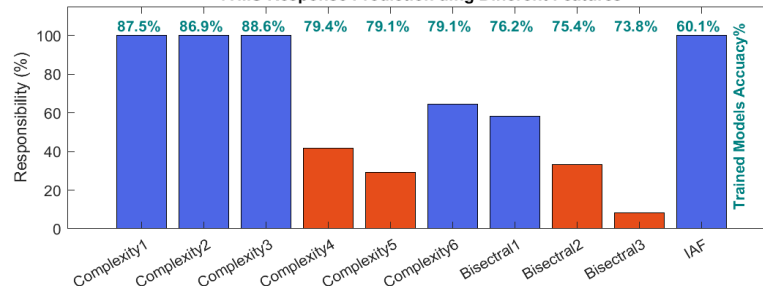


Distribution of Age



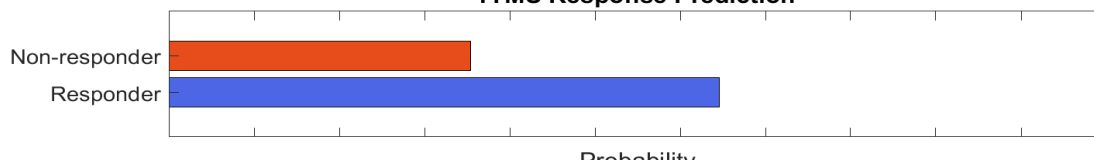
Features Information

rTMS Response Prediction using Different Features



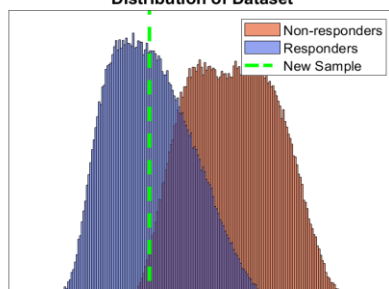
Responsibility

rTMS Response Prediction



Data Distribution

Distribution of Dataset



About Predicting rTMS Response

This index was obtained based on machine learning approaches and by examining the QEEG biomarkers of more than 470 cases treated with rTMS. The cases were diagnosed with depression (with and without comorbidity) and all were medication free. By examining more than 40 biomarkers capable of predicting response to rTMS treatment in previous studies and with data analysis, finally 10 biomarkers including bispectral and nonlinear features entered the machine learning process. The final chart can distinguish between rTMS responsive and resistant cases with 92.1% accuracy. This difference rate is much higher than the average response to treatment of 44%, in the selection of patients with clinical criteria, and is an important finding in the direction of personalized treatment for rTMS.