Supplementary Table 1 Cortical excitability assessments from Day 0 to Day 90

Adjusted Means

	Combined (Fluoxetine+rTMS) N=9	Fluoxetine N=10	Placebo N=8	p value	F value	p value, C vs. F	p value, C vs. P	p value, F vs. P
MEP	-.06 (-0.5; 0.39)	-.021 (-0.44;0.40)	0.49 (0.10; 0.96)	0.0513	F(3, 23) =3.00	0.499	**0.018**	0.044
ICI	0.85 (0.30; 1.40)	0.14 (-0.38; 0.66)	-0.13(-0.71; 0.46)	0.1025	F(3, 23) = 2.32	0.081	**0.036**	0.512
ICF	0.56 (-0.20; 1.30)	0.83 (0.12; 1.54)	-0.25 (-1.05; 0.54)	0.2047	F(3, 23)= 1.65	0.508	0.257	0.065

Per protocol analysis (completers only)

	Combined (Fluoxetine+rTMS) N=8	Fluoxetine N=6	Placebo N=5	$\chi 2$	df	p value, C vs. F	p value, C vs. P	p value, F vs. P
ICI	0.35 (0.20, 0.67)	0.03 (-0.03, 0.28)	-0.09 (-0.12, 0.03)	8.48	2	0.068	**0.002**	0.082
ICF	-0.16 (-0.50, 0.87)	0.96 (0.5, 1.5)	-0.30 (-0.71, 0.18)	5.11	2	**0.037**	0.293	**0.018**

All data described are changes from Day 0 to Day 90. For the adjusted analysis table, medians were adjusted for time-since-stroke (categorized to <180 days or >180 days) with a linear regression model, multiple imputation was performed for missing data. Median changes and confidence interval are reported. For the per protocol analysis, results of unadjusted analysis without multiple imputation for missing data. Median changes and interquartile range (IQR 25 and 75 %) are reported. MEP= motor evoked potential; ICF = intracortical facilitation; ICI = intracortical inhibition; C vs. F = Combined vs. Fluoxetine; C vs. P = Combined vs. Placebo; F vs. P = Fluoxetine vs. Placebo; Bold are to indicate significance with $p < 0.05$

Supplementary Table 2. Secondary assessments - changes from Day 0 to Day 90

		Combined (Fluoxetine+rTMS) (n=9)	**Fluoxetine** (n=10)	**Placebo** (n=8)	**$\chi 2$**	***p* value**
BDI	Median (min-max)	-1 (-11 – 9)	-0.5 (-10 – 1)	-2 (-6 – 2)	0.053	0.974
MMSE	Mean (SD)	0.33 (2.18)	0.71 (1.11)	0.17 (0.41)		0.399
MAS	Median (min-max)	0.5 (-2 – 3)	1 (-2.5 – 3)	0.25 (-5 – 1)	0.971	0.615

All data described are changes from Day 0 to Day 90. Kruskal-Wallis Test was applied for BDI and MAS; one-way ANOVA was applied for MMSE. BDI = Beck's Depression Inventory; MAS = Modified Ashworth Scale; MMSE = Mini-Mental State Examination.

Supplementary Table 3. rTMS-related adverse events

	Combined (Fluoxetine + rTMS) N=186	**Fluoxetine** N=178	**Placebo** N=114	***p value***
Headache, N (%)	4 (2%)	0 (0%)	9 (8%)	0.221
Neck pain, N (%)	14 (8%)	4 (2%)	4 (4%)	0.505
Skin redness, N (%)	0 (0%)	4 (2%)	1 (1%)	0.523
Sleepiness, N (%)	13 (7%)	12 (7%)	21 (18%)	0.184
Trouble concentrating, N (%)	0 (0%)	1 (1%)	0 (0%)	1.000
Acute mood changes, N (%)	0 (0%)	0 (0%)	1 (1%)	0.296

N = number of TMS-related adverse events; (%) = incidence of event (N/total visits).

Supplementary Table 4. Fluoxetine-related adverse events

	Combined (Fluoxetine + rTMS) N=179	**Fluoxetine** N=169	**Placebo** N=109	***p value***
Dry Mouth, N (%)	4 (2.2%)	0 (0%)	3 (2.7%)	0.328
Drowsiness, N (%)	4 (2.2%)	0 (0%)	16 (14.6%)	0.093
Insomnia, N (%)	6 (3.3%)	4 (2.3%)	8 (7.3%)	0.071
Blurred vision, N (%)	0 (0%)	2 (1.2%)	4 (3.7%)	0.273
Headache, N (%)	2 (1.1%)	0 (0%)	3 (2.7%)	0.119
Constipation, N (%)	2 (1.1%)	1 (0.6%)	5 (4.6%)	0.230
Diarrhea, N (%)	0 (0%)	1 (0.6%)	4 (3.7%)	0.134
Decreased appetite, N (%)	1 (0.6%)	1 (0.6%)	6 (5.5%)	0.055
Increased body temperature, N (%)	1 (0.6%)	4 (2.3%)	0 (0%)	0.754
Tremor, N (%)	2 (1.1%)	3 (1.8%)	1 (0.9%)	1.000
Yawning, N (%)	4 (2.2%)	2 (1.2%)	18 (16.5%)	0.572
Weight gain, N (%)	1 (0.6%)	2 (1.2%)	4 (3.7%)	0.403

N = number of fluoxetine-related adverse events; (%) = incidence of event (N/total visits).