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Supplementary Material

Article Title: Subthreshold Change in Glycated Hemoglobin and Body Mass Index After the Initiation of Second-Generation Antipsychotics Among Patients With Schizophrenia or Bipolar Disorder: A Nationwide Prospective Cohort Study in Japan

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Supplementary Material

Supplementary Table 1. Simple regression analysis for the subthreshold change in HbA1c

		Simple analysis			
	<i>n</i>	B	95%CI		
Baseline factors					
Female sex	378	−0.01	−0.06	0.03	
Age	378	0.00	0.00	0.00	
Diagnosis (Schizophrenia / Schizoaffective disorder / Bipolar disorder)					
Schizoaffective disorder vs. Schizophrenia	378	0.09	0.02	0.15	
Bipolar disorder vs. Schizophrenia	378	0.06	−0.02	0.15	
Duration of illness, years	353	0.00	0.00	0.00	
In-patient/Out-patient, In-patient	378	−0.01	−0.06	0.04	
Smoking, Yes	374	−0.01	−0.06	0.05	
Drinking, Yes	373	−0.03	−0.10	0.03	
Family history					
Schizophrenia, Yes	327	−0.03	−0.10	0.05	
Bipolar disorder, Yes	318	−0.03	−0.17	0.11	
Major depression, Yes	318	0.01	−0.07	0.09	
Diabetes, Yes	307	−0.03	−0.10	0.04	
Dyslipidemia, Yes	280	−0.06	−0.17	0.05	
Coexisting diagnoses					
Dyslipidemia, Yes	375	−0.01	−0.10	0.09	
Hypertension, Yes	374	−0.03	−0.12	0.05	
Heart disease, Yes	374	0.12	0.01	0.23	
Baseline measurements					
Body mass index: ≥25 kg/m²	378	−0.02	−0.07	0.04	
Total cholesterol, ≥220 mg/dL	366	−0.06	−0.12	0.00	
HDL-cholesterol, <40 mg/dL	364	0.03	−0.05	0.11	
Triglyceride, ≥150 mg/dL	370	−0.02	−0.08	0.04	
Baseline medication					
Newly initiated antipsychotics					
Aripiprazole vs. Olanzapine	378	0.00	−0.07	0.07	
Blonanserin vs.Olanzapine	378	−0.09	−0.18	-0.01	
Perospirone vs. Olanzapine	378	0.02	−0.07	0.11	
Quetiapine vs. Olanzapine	378	−0.03	−0.11	0.05	
Risperidone vs. Olanzapine	378	−0.04	−0.13	0.05	
Combination of antipsychotics with newly initiated antipsychotics	378	−0.01	−0.06	0.05	
vs. Monotherapy of antipsychotics (only newly initiated antipsychotics)					

Abbreviation: CI = confidence interval, HDL = high-density lipoprotein

Supplementary Table 2. Sensitivity analysis of multiple regression analysis in Table 2 for the subthreshold change in HbA1c with reference to SGAs other than olanzapine

	Reference				
	vs Blonanserin	vs Olanzapine	vs Perospirone	vs Quetiapine	vs Risperidone
Aripiprazole	0.12 (0.01 to 0.24)	-0.05 (-0.15 to 0.05)	-0.05 (-0.16 to 0.06)	-0.01 (-0.11 to 0.10)	0.04 (-0.08 to 0.16)
Blonanserin	-	-0.17 (-0.31 to -0.04)	-0.17 (-0.31 to -0.03)	-0.13 (-0.26 to 0.00)	-0.09 (-0.23 to 0.05)
Olanzapine	-	-	0.00 (-0.12 to 0.13)	0.04 (-0.08 to 0.17)	0.09 (-0.05 to 0.22)
Perospirone	-	-	-	0.04 (-0.09 to 0.17)	0.09 (-0.06 to 0.23)
Quetiapine	-	-	-	-	0.04 (-0.09 to 0.18)

^a The B and 95%CI of B using multiple regression analysis are described in each cell.

^b The model includes 26 explanatory variables: age, sex, duration of illness, diagnosis, patients' status, smoking status, drinking status, family history, coexisting diagnoses, baseline measurements, and baseline medication.

^c Red color indicates statistically significant value of B for the increase in HbA1c.

^d Cyan color indicates statistically significant value of B for the decrease in HbA1c.

Supplementary Table 3. Simple regression analysis for the change in BMI

	<i>n</i>	Simple analysis		
		B	95%CI	
Baseline factors				
Female sex	378	−0.01	−0.32	0.30
Age	378	−0.01	−0.02	0.00
Diagnosis (Schizophrenia / Schizoaffective disorder / Bipolar disorder)				
Schizoaffective disorder vs. Schizophrenia	378	0.45	0.04	0.85
Bipolar disorder vs. Schizophrenia	378	0.51	−0.03	1.05
Duration of illness, years	353	−0.01	−0.02	0.00
In-patient/Out-patient, In-patient	378	0.06	−0.25	0.37
Smoking, Yes	374	−0.20	−0.54	0.13
Drinking, Yes	373	0.25	−0.17	0.68
Family history				
Schizophrenia, Yes	327	−0.28	−0.74	0.17
Bipolar disorder, Yes	318	0.41	−0.47	1.29
Major depression, Yes	318	0.20	−0.30	0.71
Diabetes, Yes	307	0.02	−0.41	0.45
Dyslipidemia, Yes	280	0.50	−0.20	1.21
Coexisting diagnoses				
Dyslipidemia, Yes	375	0.00	−0.60	0.60
Hypertension, Yes	374	0.22	−0.34	0.78
Heart disease, Yes	374	0.20	−0.52	0.92
Baseline measurements				
Body mass index: ≥25 kg/m ²	378	−0.51	−0.84	−0.18
Total cholesterol, ≥220 mg/dL	366	0.10	−0.28	0.49
HDL-cholesterol, <40 mg/dL	364	−0.31	−0.83	0.22
Triglyceride, ≥150 mg/dL	370	−0.17	−0.56	0.23
Baseline medication				
Newly initiated antipsychotics				
Aripiprazole vs. Olanzapine	378	−0.55	−0.97	−0.13
Blonanserin vs. Olanzapine	378	−0.96	−1.52	−0.40
Perospirone vs. Olanzapine	378	−0.78	−1.34	−0.21
Quetiapine vs. Olanzapine	378	−0.11	−0.62	0.40
Risperidone vs. Olanzapine	378	−0.61	−1.17	−0.04
Combination of antipsychotics with newly initiated antipsychotics	378	−0.32	−0.65	0.02
vs. Monotherapy of antipsychotics (only newly initiated antipsychotics)				

Abbreviation: CI = confidence interval, HDL = high-density lipoprotein

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Supplementary Table 4. Sensitivity analysis of multiple regression analysis in Table 3 for the change in BMI with reference to SGAs other than olanzapine

	Reference				
	vs Blonanserin	vs Olanzapine	vs Perospirone	vs Quetiapine	vs Risperidone
Aripiprazole	0.22 (-0.49 to 0.93)	-0.71 (-1.30 to -0.12)	0.05 (-0.63 to 0.74)	-0.35 (-1.01 to 0.31)	0.09 (-0.63 to 0.82)
Blonanserin	-	-0.93 (-1.74 to -0.12)	-0.17 (-1.01 to 0.67)	-0.57 (-1.39 to 0.24)	-0.13 (-0.99 to 0.73)
Olanzapine	-	-	0.76 (-0.00 to 1.52)	0.36 (-0.41 to 1.12)	0.80 (-0.01 to 1.61)
Perospirone	-	-	-	-0.40 (-1.20 to 0.39)	0.04 (-0.82 to 0.90)
Quetiapine	-	-	-	-	0.44 (-0.38 to 1.27)

^a The B and 95%CI of B using multiple regression analysis are described in each cell.

^b The model includes 26 explanatory variables: age, sex, duration of illness, diagnosis, patients' status, smoking status, drinking status, family history, coexisting diagnoses, baseline measurements, and baseline medication.

^c Red color indicates statistically significant value of B for the increase in BMI.

^d Cyan color indicates statistically significant value of B for the decrease in BMI.

Supplementary Table 5. Post-hoc simulation of the relationship between partial correlation coefficient and detection power in 26 independent variables, 216 sample size and a significance level of 0.05.

partial correlation coefficient	detection power
0.20	0.28
0.21	0.31
0.22	0.35
0.23	0.37
0.24	0.43
0.25	0.47
0.26	0.51
0.27	0.56
0.28	0.60
0.29	0.65
0.30	0.69
0.31	0.73
0.32	0.77
0.33	0.81
0.34	0.84
0.35	0.87
0.36	0.90
0.37	0.92
0.38	0.94
0.39	0.95
0.40	0.97