1. **No.**

   FP01812215

2. **Title**

   Shared genetic variants between tobacco smoking behavior and schizophrenia

3. **Period**

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4. **Summary**

Patients with schizophrenia (SCZ) display aberrant smoking-related behaviors. However, the genetic etiology of the association remains to be clarified. The present study investigated (i) smoking rates in SCZ by a large cohort meta-analysis in a Japanese population, (ii) whether genetic variants shared between smoking and SCZ on chromosome 15q25 alter gene expression in brain, and (iii) transethnic genetic overlaps between European-based smoking behaviors and the risk of Japanese SCZ by conducting polygenic risk score analyses. We found that SCZ are approximately 2 times more likely to smoke than general population and healthy controls in Japan. Next, we found that genome-wide variants shared between smoking quantity and SCZ contribute to a common pathophysiology underlying these traits involving altered CHRNA5 expression in the brain. Furthermore, we found that common polygenic factors for European-based age at smoking initiation could transethnically explain susceptibility to SCZ in a Japanese population.