

Déjà vu experiences in schizophrenia: relations with psychopathology and antipsychotic medication

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Abstract

To clarify why patients with schizophrenia show déjà vu experiences less frequently, we studied déjà vu experiences in 113 schizophrenic patients in relation to psychopathologies and antipsychotic medication. Déjà vu experiences were observed in 53.1% of the schizophrenic patients. Patients with increased negative symptoms (blunted affect, motor retardation, emotional withdrawal, conceptual disorganization, and mannerisms) had déjà vu experiences less frequently. The other psychopathologies were not significantly associated with presence of déjà vu experiences. The dosage of antipsychotic drugs was significantly correlated with the frequency of déjà vu experiences. This correlation was not affected by their psychopathologies at the time of examination. The decreased frequency of déjà vu experiences in patients with schizophrenia may be mainly due to the negative symptoms. The positive relation between frequency of déjà vu experiences and the dosage of neuroleptics remains uncertain.

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1. Introduction

Déjà vu experiences, defined as “any subjectively inappropriate impression of familiarity of a present experience with an undefined past” [1], are observed in 70% to 80% of the nonclinical general population [2,3]. Many researchers have attributed déjà vu experiences to specific psychopathologies, that is, memory dysfunction, dissociations, or delusional misidentifications [4–6]. However, patients with schizophrenia, who often exhibit these psychopathologies, experience déjà vu less frequently (50%–65%) than do nonclinical individuals [1,7,8]. Attributing factors for such a decreased frequency remain unknown. Exploring underlying psychopathologies in patients with schizophrenia may show their association with the develop-

ment of déjà vu experiences. We studied déjà vu experiences in a large sample cohort of schizophrenic patients using standardized psychometric instruments.

2. Materials and methods

2.1. Subjects

One hundred thirteen schizophrenic patients were consecutively recruited from 5 psychiatric outpatient clinics, that is, Adachi Mental Clinic, Juntendo University Hospital, Hiratsuka Kyosai Hospital, Tenshi Hospital, and Sapporo Medical University Hospital. Schizophrenia was diagnosed in accordance with the *International Classification of Disease, 10th Revision* criteria [9]. Inclusion criteria for this study were age from 18 to 70 years, no current state of psychomotor excitement, no history of prolonged hospitalization, no history of substance misuse, no neurologic disease, and sufficient intellectual function to understand the contents of self-administered assessment instruments.

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Three hundred eighty-six healthy Japanese adults were recruited as control subjects through several community services or private companies in Tokyo, Kanagawa, Saitama, Fukushima, and Hokkaido prefectures.

2.2. Assessments

The following demographic and clinical features were recorded in all subjects: sex, age at the evaluation, duration of education, handedness according to the Annett Hand Preference Test [10], age at the first psychotic episode, and duration of illness. All subjects filled out the Japanese version of the Inventory for déjà Vu Experiences Assessment (IDEA) [2]. The reliability of the IDEA in patients with schizophrenia was validated [11]. Each study participant gave informed consent. The study was approved by the ethics committees of the institutions.

The patients' psychopathology was evaluated with the Brief Psychiatric Rating Scale (BPRS) [12] by consultant psychiatrists. A preliminary analysis with intraclass correlation coefficient demonstrated that the BPRS scores of six raters were highly reliable (intraclass correlation coefficient, 0.964; 95% confidence interval, 0.943–0.980; $F_{35,135} = 28.1$; $P = .000$). Type and dosage of antipsychotic drugs (APDs), which were taken at the time of examination, were noted. Antipsychotic drugs were divided into 2 categories: first-generation APDs (butyrophenones, phenothiazines, benzamides, and thiepins) and second-generation APDs (serotonin-dopamine antagonists, dibenzothiazepines, and multiacting receptor-targeted antipsychotics). The total amount of APDs was converted into chlorpromazine equivalent (mg/d) [13,14].

2.3. Statistical analysis

The relation between each IDEA score and clinical variable was analyzed by the Spearman rank correlation coefficient. The relation between linear data was analyzed by the Pearson correlation test. To avoid multiple comparisons in BPRS scores, we used a factor analytic approach with principal component solutions. Initial unrotated factors with an eigenvalue (EV) of greater than 1 were subjected to promax rotation to facilitate interpretation. To clarify the real contribution to the frequency of déjà vu experiences, the factors that showed a significant correlation initially were further analyzed by a multiple liner regression analysis with stepwise selection method. The significance level was set at less than .05.

3. Results

3.1. Demographic and clinical characteristics

The mean age at the investigation of the patients (39.3 years; SD, 10.7 years; range, 19–67 years) was equivalent to that of the controls (38.4 years; SD, 11.6 years; range, 18–69 years) ($t = 0.7$, $P = .456$). The distribution of sex

in the patients (51 men and 62 women) was also equivalent to that of the controls (188 men and 198 women) ($\chi^2 = 0.45$, $P = .522$). The mean age at the first episode of psychosis was 25.8 years (SD, 7.9 years) and the mean duration of illness was 13.5 years (SD, 10.3 years). Sixty-three patients had previously been admitted to psychiatric wards. The number of APDs taken at the time of examination ranged from 1 to 4 (mean, 2.0; SD, 0.9). Sixty-four patients took first-generation APDs only and 49 patients took second-generation APDs (21 second-generation APDs only and 28 first- and second-generation APDs). The total dosage (chlorpromazine equivalent) ranged from 13 to 2550 mg/d (mean, 516.6 mg/d; SD, 464.6 mg/d). Duration of education ranged from 9 to 16 years (mean, 13.2 years; SD, 2.2 years). The sample was composed of 90 right-handers, 22 ambidextrous, and 1 left-hander.

3.2. Summary of the IDEA findings

The results of the IDEA in patients with schizophrenia, in comparison with those of age- and sex-matched nonclinical individuals (mean age, 38.4 years; 188 men and 198 women), have been described in detail elsewhere [7]. In short, 60 of the 113 patients had déjà vu experiences, and this was significantly lower than the prevalence in the controls (296 of 386). Schizophrenic patients showed no significant correlation between age and déjà vu experiences ($r = -0.171$, $P = .070$), whereas nonclinical individuals showed a significant correlation ($r = -0.380$, $P = .000$). The patients tended to show more prolonged and repetitive experiences than did the control subjects and often felt them uncomfortable.

3.3. Psychiatric factors by the BPRS scores

The raw 16-item BPRS data were reduced to 4 factors that accounted for 66.3% of the combined variance of scores. Factor 1 was designated "negative symptoms" (NS; EV, 2.2), with a higher loading of blunted affect (loading, 0.895), motor retardation (loading, 0.860), emotional withdrawal (loading, 0.834), conceptual disorganization (loading, 0.681), and mannerisms (loading, 0.616). Factor 2 was designated "neurotic and depressive symptoms" (NDS; EV, 2.0), weighted with anxiety (loading, 0.860), depressive mood (loading, 0.795), tension (loading, 0.711), somatic concern (loading, 0.647), and guilt feelings (loading, 0.591). Factor 3 was "positive symptoms" (PS; EV, 1.2), weighted with unusual thought content (loading, 0.862), hallucination (loading, 0.845), suspiciousness (loading, 0.750), and conceptual disorganization (loading, 0.591). Factor 4, "hostile and aggressive symptoms" (HAS; EV, 1.1), was noted for grandiosity (loading, 0.793), hostility (loading, 0.708), uncooperativeness (loading, 0.706), mannerisms (loading, 0.622), and conceptual disorganization (loading, 0.560). The correlations between the 4 factors were as follows: 0.170 between NS and NDS; 0.316 between NS and PS; 0.363 between NS and HAS; 0.282 between NDS and PS; 0.143 between NDS and HAS; 0.461 between PS and HAS.

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