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Clinical Characteristics of Patients With Cannabis-Related Mental Disorders and an Examination of Factors Influencing Their Access to Medical and Nonmedical Resources: Comparison of Methamphetamine-Related Mental Disorders

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ABSTRACT

Purpose: This study aims to identify the characteristics of patients with cannabis use disorder and to determine whether the challenges in treating cannabis use disorder stem from the pharmacological properties of cannabis as an abused substance or from other contributing factors.

Methods: The subjects of this study were the 208 male cases of methamphetamine-related mental disorders (MAP group) and 82 male cases of cannabis-related mental disorders (CAN group), which drawn from the "2024 Nationwide Survey on the Actual Conditions of Drug-Related Mental Disorders in Psychiatric Hospitals in Japan." Clinical variables were compared between the two groups, and logistic regression analyses were conducted to examine the use of medical and nonmedical resources.

Results: The CAN group was found to be younger, to have fewer histories of drug-related criminal offenses, incarceration in correctional facilities, or comorbid psychiatric disorders, compared to the MAP group, and to exhibit less severe forms of substance use disorder and have less experience participating in self-help groups or utilizing private recovery support facilities. Logistic regression analyses of the use of self-help groups and private recovery support facilities indicated that the utilization of these nonmedical resources was more strongly associated with older age and greater severity of substance use disorder than with the specific type of substance abused.

Conclusion: Recently, an increasing number of young patients in Japan have been arrested for cannabis-related offenses and seek addiction treatment. There is growing concern that current nonmedical support resources may not adequately address the specific needs of these individuals.

1 | Introduction

Since the end of World War II, methamphetamine has occupied a central position in Japan's drug policy. In recent years, however, there have been notable changes. Over the past decade, the number of people arrested for violations of the Stimulants Control Act has been steadily declining, and the prison population for such offenses has been steadily aging [1]. If this trend continues, methamphetamine may lose its prominent status in Japanese drug policy and become, like organic solvents in the past, a "rare drug" rarely seen in addiction-related clinical practice.

In contrast to this trend, cannabis-related issues have gradually and steadily become more visible. Since 2014, the number of arrests for violations of the Cannabis Control Act has continued to rise, particularly among younger individuals. In 2023, the number of arrests for Cannabis Control Act violations surpassed those for violations of the Stimulants Control Act for the first time. Although the increase in the number of patients with cannabis use disorder seeking outpatient addiction treatment following arrest has been more gradual than the surge in arrests, this number is also on the rise [2]. Additionally, with the enforcement of the revised Cannabis Control Act and the amended Narcotics and Psychotropics Control Act in December 2024—which introduced a new criminal offense for cannabis use—it is anticipated that the number of patients with cannabis use disorder seeking treatment at psychiatric institutions following arrest will further increase.

Concurrently, concerns are emerging within clinical settings that specialize in substance use disorder treatment due to the rising number of cannabis use disorder cases. A recurring trend is that many patients who begin treatment while awaiting trial after arrest do not recognize their substance use as problematic and exhibit extremely low motivation for treatment [3, 4]. This observation is supported by our clinical experience. Many individuals arrested for cannabis-related offenses who visit hospitals are hesitant to participate in addiction group therapy programs, such as the Serigaya Methamphetamine Relapse Prevention Program (SMARPP) [5, 6], which was originally developed for the treatment of methamphetamine use disorder. Furthermore, these individuals tend to avoid engaging with nonmedical support resources, including self-help groups for substance dependence (e.g., Narcotics Anonymous) and private recovery support facilities such as the Drug Addiction Rehabilitation Center (DARC). In fact, it is not uncommon for these individuals to discontinue the use of such social resources entirely after receiving a suspended sentence in court—even if they had been utilizing them during the legal proceedings.

One possible explanation for this phenomenon is that cannabis is perceived as having a lower risk of dependence and fewer adverse health effects compared to methamphetamine. As a result, users may find it difficult to recognize the harmful consequences of cannabis use and the loss of control associated with such behavior [7]. However, whether the lack of perceived need for treatment or recovery among cannabis users is truly attributable to the pharmacological properties of cannabis as a substance with addictive potential remains an unresolved issue.

The present study was designed with these concerns in mind. Its purpose is to clarify the clinical characteristics of patients with cannabis use disorder by comparing them with those of patients with methamphetamine use disorder. Additionally, this study aims to determine whether the treatment-related concerns raised by healthcare professionals and support staff involved in addiction clinical practice are attributable to the pharmacological properties of cannabis as a substance of abuse or to the psychosocial characteristics of the patients themselves.

2 | Methods

2.1 | 2024 Nationwide Survey on the Actual Conditions of Drug-Related Mental Disorders in Psychiatric Hospitals in Japan

This study was conducted as a secondary analysis of data from the "2024 Nationwide Survey on Drug-Related Mental Disorders in Psychiatric Hospitals in Japan" (hereafter referred to as the NPH [National Psychiatric Hospital] Survey) [2].

The original survey targeted 1525 psychiatric medical institutions across the country that have inpatient psychiatric beds. The survey was conducted over a two-month period from September to October 2024. The survey population included all patients diagnosed with drug-related mental disorders (i.e., those corresponding to the code F1 of the ICD-10 (the Tenth Revision of the International Statistical Classification of Diseases and Related Health Problems) [8]. Mental and behavioral disorders due to psychoactive substance use, excluding alcohol) who were either hospitalized or treated on an outpatient basis at the participating institutions during the survey period. Procedurally, the researchers first contacted the selected institutions to request their participation in the survey. After consent was obtained, questionnaires were mailed to the facilities. Attending psychiatrists at each institution completed the questionnaires by extracting anonymized clinical data from the medical records of patients who met the inclusion criteria.

Of the 1525 institutions contacted, 1098 (72.0%) responded. Of these, 877 (57.5%) reported "no applicable cases." A total of 221 institutions (14.5%) reported "applicable cases" for a total of 2702 cases. Of these, 1221 cases (45.2%) had documented substance use within the past year [2].

2.2 | Study Subjects

The subjects of the present study were selected from the 1221 cases identified in the NPH survey as having a "history of substance use within the past year."

From this group, researchers extracted all cases in which cannabis was identified as the primary substance (105 cases), and all cases in which methamphetamine was identified as the primary substance of abuse (342 cases). In this study, patients with methamphetamine-related mental disorders were selected as the control group. This decision was based on the fact that

methamphetamine has traditionally been a central substance in the treatment and recovery support of drug addiction in Japan. Over the years, various therapeutic approaches and support systems have been developed specifically for methamphetamine users [5, 6], making this group a well-established reference point for comparative analysis.

Of these, only male patients were included in the study population. The decision to limit the study to male patients was based on two considerations: (1) sample size limitations (as the number of female patients primarily using cannabis was extremely small) [2], and (2) the need for clinical homogeneity (as women with substance use disorders typically have a significantly higher rate of psychiatric comorbidity, requiring the consideration of additional factors beyond the effects of substance use in treatment) [9, 10].

As a result, the final sample consisted of 208 male cases with methamphetamine-related mental disorders (MAP group) and 82 male cases with cannabis-related mental disorders (CAN group).

2.3 | Survey Items

The following variables were extracted from the NPH Survey database as survey items. The general variables used were "type of primary substance of abuse (cannabis/methamphetamine)," "age group (10–29/30 and older)," "educational level (high school diploma or higher/less than high school)," and "current employment status (employed/unemployed)." In addition, to examine factors that may influence the choice of treatment or recovery support, the study focused on two main aspects: 1. medical necessity (details of drug-related mental disorders and co-occurring psychiatric disorders), and 2. social necessity (e.g., hospitalization as a condition of bail after arrest, or admission to a private recovery support facility as a condition of parole from a correctional facility). Accordingly, the following variables were included: "criminal history (arrest for drug-related offenses, arrest for other crimes, history of incarceration)," "diagnosis related to substance use (subcategories under ICD-10 classification F1)," and "presence and type of co-occurring psychiatric disorders (based on ICD-10 major categories)."

In addition, with regard to lifetime experience of using treatment or recovery resources, the study examined information on commonly available medical and nonmedical support resources for drug dependence in Japan. For medical resources, data were collected on "participation in outpatient group therapy for addiction" and "psychiatric hospitalization for drug-related problems." For nonmedical resources, data were collected on "participation in self-help groups for drug addiction" [11] and "use of private recovery support facilities."

2.4 | Analysis

The analysis was performed in two steps. In the first stage, a chi-squared test (χ^2) was used to compare the proportions between the two groups—MAP group and CAN group—for each of the above survey items to determine clinical differences between the two groups.

As a second step, a binary logistic regression analysis was conducted using four items related to experiences with treatment and recovery resources as dependent variables. The purpose was to clarify whether the choice of treatment or recovery support for drug dependence was primarily influenced by the type of substance (methamphetamine vs. cannabis) or by other factors such as age group, severity of substance use disorder, presence of co-occurring psychiatric disorders, or experience with the criminal justice system due to drug-related offenses.

Specifically, the following were included as dependent variables: "history of participation in outpatient group therapy for addiction," "history of psychiatric hospitalization for drug-related problems," "history of participation in self-help groups for drug addiction," and "history of use of private recovery support facilities." The following were included as independent variables "age group (10–29/30 and older)," "type of primary substance of abuse (methamphetamine/cannabis)," "diagnosis of dependence syndrome according to ICD 10 F1x.2," "presence of co-occurring psychiatric disorders," "drug-related offenses," and "history of incarceration." Both bivariate and multivariate analyses were performed.

All analyses were performed using IBM SPSS version 29, with a two-tailed significance level set at 5%.

2.5 | Ethical Considerations

This study was conducted with the approval of the Ethics Committee of the National Center of Neurology and Psychiatry (Approval No. A2024-041).

3 | Results

3.1 | Comparison of Clinical Characteristics Between the CAN and MAP Groups

The results of this study are shown in Table 1. As shown in the table, the CAN group had a significantly higher proportion of individuals aged 10–29 years compared to the MAP group (63.4% vs. 6.7%, $p < 0.001$), as well as a significantly higher proportion of individuals with an educational history of a high school diploma or higher (71.6% vs. 57.0%, $p = 0.022$). In addition, the CAN group had a significantly lower proportion of individuals with a history of arrest for drug-related offenses (59.8% vs. 84.1%, $p < 0.001$) and a history of incarceration in correctional facilities (23.2% vs. 59.1%, $p < 0.001$). There were no differences between the two groups regarding current employment status and criminal history except for drug-related offenses.

Regarding the ICD-10 subcategory diagnoses under F1, the CAN group had a significantly higher number of individuals classified under "F1x.1 Harmful Use" compared to the MAP group (23.2% vs. 11.5%, $p = 0.012$), while significantly fewer individuals were classified under "F1x.2 Dependence

TABLE 1 | Comparison of clinical characteristics between the CAN and MAP Groups.

			Primary substance of abuse				
			CAN group		MAP group		
			N=82		*N*=208		
			N	%	N	%	*p*
Current age group		**10–29**	**52**	**63.4**	**14**	**6.7**	**< 0.001**
		30+	**30**	**36.6**	**194**	**93.3**	
High school graduate or higher (2 cases excluded as missing values)			**58**	**71.6**	**118**	**57.0**	**0.022**
Currently employed			42	51.2	89	42.8	0.194
Criminal record		**History of arrests for drug-related offenses**	**49**	**59.8**	**175**	**84.1**	**< 0.001**
		History of arrests for nondrug related offenses	12	14.6	42	20.2	0.274
		History of incarceration	**19**	**23.2**	**123**	**59.1**	**< 0.001**
Diagnosis related to substance use (subcategories under ICD-10 classification F1)	F1x.0	Acute intoxication	4	4.9	6	2.9	0.402
	F1x.1	**Harmful use**	**19**	**23.2**	**24**	**11.5**	**0.012**
	F1x.2	**Dependence syndrome**	**56**	**68.3**	**182**	**87.5**	**< 0.001**
	F1x.3	Withdrawal state	1	1.2	11	5.3	0.117
	F1x.4	Withdrawal state with delirium	0	0.0	8	3.8	0.072
	F1x.5	Psychotic disorder	13	15.9	41	19.7	0.447
	F1x.6	Amnesic syndrome	1	1.2	0	0.0	0.111
	F1x.7	Residual and late-onset psychotic disorder	5	6.1	26	12.5	0.112
	F1x.8	Other mental and behavioral disorders	0	0.0	0	0.0	1.000

(Continues)

TABLE 1 | (Continued)

			Primary substance of abuse				
			CAN group		MAP group		
			N=82		*N*=208		
			N	%	N	%	*p*
Presence and description of comorbid mental disorder (major ICD-10 categories)	Presence of comorbid mental disorder of any kind		33	40.2	105	50.5	0.116
	F0	Organic, including symptomatic, mental disorders	1	1.2	1	0.5	0.494
	F2	Schizophrenia, schizotypal and delusional disorders	8	11.0	18	8.7	0.540
	F3	Mood (affective) disorders	11	13.4	42	20.2	0.179
	F4	**Neurotic, stress-related and somatoform disorders**	**6**	**7.3**	**35**	**16.8**	**0.036**
	F5	Behavioral syndromes associated with physiological disturbances and physical factors	0	0.0	2	1.0	0.373
	F6	**Disorders of personality and behavior in adult persons**	**0**	**0.0**	**10**	**4.8**	**0.043**
	F7	Intellectual disability (mental retardation)	1	1.2	8	3.8	0.245
	F8	Disorders of psychological development	3	3.7	4	1.9	0.386
	F9	Behavioral and emotional disorders with onset usually occurring in childhood and adolescence	10	12.2	25	12.0	0.967
Experience with treatment and recovery resource utilization	Experience with participation in outpatient group therapy for addiction		39	47.6	125	60.1	0.052
	History of psychiatric hospitalization for drug-related problems		37	45.1	99	47.6	0.704
	Experience of participation in self-help groups for drug addiction		**23**	**28.0**	**95**	**45.7**	**0.006**
	Experience with use of private recovery support facilities		**14**	**17.1**	**64**	**30.8**	**0.018**

Abbreviations: CAN group, Cannabis-related psychiatric disorder cases; MAP group, Methamphetamine-related psychiatric disorder cases.

Syndrome" (68.3% vs. 87.5%, $p < 0.001$). Except for harmful use and dependence syndrome, no significant differences were observed between the two groups in the F1 subdiagnostic categories.

For comorbid psychiatric disorders, while there were no significant differences between the groups in the overall presence of any psychiatric comorbidity, a closer look at specific diagnostic categories revealed that the CAN group had significantly fewer individuals than the MAP group in the categories of "F4 Neurotic, Stress-related, and Somatoform Disorders" (7.3% vs. 16.8%, $p = 0.036$) and "F6 Adult Personality and Behavioral Disorders" (0.0% vs. 4.8%, $p = 0.043$). Except for F4 and F6, no significant differences were observed between the two groups regarding comorbid mental disorders.

In terms of treatment and recovery resource use, there were no significant differences between groups in terms of "history of psychiatric hospitalization" and "participation in outpatient addiction group therapy." However, the CAN group was significantly less likely than the MAP group to have a history of "participation in drug self-help groups" (28.0% vs. 45.7%, $p = 0.006$) and "use of private recovery support services" (17.1% vs. 30.8%, $p = 0.018$).

3.2 | Analysis of Factors Influencing the Choice of Treatment and Recovery Support Methods

Table 2 presents the results of logistic regression analysis for participation in outpatient group for addiction. In this analysis, in which participation in the outpatient group therapy was the dependent variable, none of the independent variables was identified as significant factors in either the bivariate or multivariate analyses.

Table 3 shows the logistic regression results for psychiatric hospitalization for drug-related problems. Both bivariate and multivariate analyses identified the presence of comorbid psychiatric disorders (multivariate, $p = 0.028$, OR 1.725, 95% CI [1.016–2.803]), a history of arrest for drug-related offenses (multivariate, $p < 0.001$, OR 0.307, 95% CI [0.159–0.592]), and a history of incarceration in correctional facilities (multivariate, $p = 0.003$, OR 2.340, 95% CI [01.340–4.087]) as significant factors associated with psychiatric hospitalization.

Table 4 presents the results of logistic regression analysis regarding participation in self-help groups for drug addiction. In the bivariate analysis, factors associated with a history of participation in self-help groups for drug addiction were older age, use of methamphetamine as the primary drug, a diagnosis of dependence syndrome, and a history of arrest for drug-related offenses. However, the multivariate analysis identified older age ($p = 0.001$, OR 4.023, 95% CI [1.720–9.409]) and a diagnosis of dependence syndrome ($p < 0.001$, OR 5.924, 95% CI [2.369–14.815]) as the factors associated with participation in self-help groups.

Table 5 presents the logistic regression results for the use of private recovery support facilities. In the bivariate analysis, factors associated with the use of private recovery support facilities

TABLE 2 | Experience with participation in outpatient group therapy for addiction.

	Bivariate							Multivariate						
						95% CI							95% CI	
	β	df	*p*	OR	Lower	Upper	β	df	*p*	AOR	Lower	Upper
30+ age (reference, 10–29)	0.185	1	0.512	1.203	0.693	2.087	−0.273	1	0.455	0.761	0.371	1.558
Primary substance of abuse (reference, MAP)	−0.507	1	0.053	0.602	0.360	1.008	−0.550	1	0.123	0.577	0.287	1.161
F1x.2 diagnosis of dependence syndrome (reference, "not applicable")	0.511	1	0.097	1.667	0.912	3.047	0.402	1	0.211	1.494	0.796	2.806
Comorbidity of other mental disorders (reference, "no")	−0.002	1	0.992	0.998	0.627	1.588	−0.040	1	0.869	0.961	0.597	1.546
History of arrests for drug-related offenses (reference, "no")	0.264	1	0.348	1.302	0.750	2.258	0.051	1	0.871	1.053	0.568	1.952
History of incarceration (reference, "no")	0.264	1	0.266	1.302	0.818	2.075	0.085	1	0.753	1.089	0.641	1.850

Abbreviations: AOR, adjusted odds ratio; CI, confidential interval; MAP, Methamphetamine-related psychiatric disorder cases; OR, odds ratio.

TABLE 3 | Experience with psychiatric hospitalization for drug-related problems.

	Bivariate						Multivariate					
					95% CI						95% CI	
	β	df	*p*	OR	Lower	Upper	β	df	*p*	AOR	Lower	Upper
30+ age (reference, 10–29)	−0.161	1	0.566	0.851	0.491	1.475	−0.246	1	0.511	0.782	0.376	1.627
Primary substance of abuse (reference, MAP)	−0.100	1	0.704	0.905	0.542	1.512	−0.208	1	0.576	0.812	0.392	1.627
F1x.2 diagnosis of dependence syndrome (reference, "not applicable")	−0.245	1	0.423	0.782	0.429	1.427	−0.150	1	0.655	0.861	0.447	1.659
Comorbidity of other mental disorders (reference, "no")	**0.574**	**1**	**0.016**	**1.776**	**1.114**	**2.831**	**0.545**	**1**	**0.028**	**1.725**	**1.061**	**2.803**
History of arrests for drug-related offenses (reference, "no")	**−0.718**	**1**	**0.012**	**0.488**	**0.278**	**0.854**	**−1.181**	**1**	**<0.001**	**0.307**	**0.159**	**0.592**
History of incarceration (reference, "no")	**−0.468**	**1**	**0.048**	**1.597**	**1.003**	**2.540**	**0.850**	**1**	**0.003**	**2.340**	**1.340**	**4.087**

Abbreviations: AOR, adjusted odds ratio; CI, confidential interval; MAP, methamphetamine-related psychiatric disorder cases; OR, odds ratio.

TABLE 4 | Experience with participation in self-help group for drug addiction.

	Bivariate						Multivariate					
					95% CI						95% CI	
	β	df	*p*	OR	Lower	Upper	β	df	*p*	AOR	Lower	Upper
30+ age (reference, 10–29)	**1.397**	**1**	**<0.001**	**4.042**	**2.051**	**7.968**	**1.392**	**1**	**0.001**	**4.023**	**1.720**	**9.409**
Primary substance of abuse (reference, MAP)	**−0.769**	**1**	**0.007**	**0.464**	**0.267**	**0.807**	0.333	1	0.397	1.395	0.646	3.015
F1x.2 diagnosis of dependence syndrome (reference, "not applicable")	**1.919**	**1**	**<0.001**	**6.815**	**2.804**	**16.562**	**1.779**	**1**	**<0.001**	**5.924**	**2.369**	**14.815**
Comorbidity of other mental disorders (reference, "no")	0.278	1	0.246	1.320	0.825	2.112	0.407	1	0.119	1.502	0.901	2.505
History of arrests for drug-related offenses (reference, "no")	**0.673**	**1**	**0.027**	**1.959**	**1.081**	**3.550**	0.297	1	0.404	1.346	0.670	2.706
History of incarceration (reference, "no")	0.472	1	0.050	1.603	1.000	2.570	0.191	1	0.509	1.211	0.687	2.134

Abbreviations: AOR, adjusted odds ratio; CI, confidential interval; MAP, methamphetamine-related psychiatric disorder cases; OR, odds ratio.

TABLE 5 | Experience with the use of private recovery support facilities.

	Bivariate						Multivariate					
					95% CI						95% CI	
	β	df	*p*	OR	Lower	Upper	β	df	*p*	AOR	Lower	Upper
30+ age (reference, 10–29)	**1.364**	**1**	**0.001**	**3.911**	**1.701**	**8.993**	**1.301**	**1**	**0.010**	**3.672**	**1.357**	**9.932**
Primary substance of abuse (reference, MAP)	**−0.770**	**1**	**0.020**	**0.463**	**0.243**	**0.884**	0.311	1	0.470	1.365	0.586	3.180
F1x.2 diagnosis of dependence syndrome (reference, "not applicable")	**2.017**	**1**	**0.001**	**7.515**	**2.270**	**24.886**	**1.853**	**1**	**0.003**	**6.378**	**1.874**	**21.715**
Comorbidity of other mental disorders (reference, "no")	0.132	1	0.618	1.141	0.679	1.919	0.199	1	0.480	1.221	0.702	2.121
History of arrests for drug-related offenses (reference, "no")	0.511	1	0.136	1.667	0.851	3.263	−0.110	1	0.783	0.896	0.409	1.962
History of incarceration (reference, "no")	**0.771**	**1**	**0.005**	**2.162**	**1.268**	**3.685**	**0.571**	**1**	**0.037**	**1.957**	**1.042**	**3.675**

Abbreviations: AOR, adjusted odds ratio; CI, confidential interval; MAP, methamphetamine-related psychiatric disorder cases; OR, odds ratio.

included older age, methamphetamine as the primary substance of abuse, a diagnosis of dependence syndrome, and a history of incarceration. However, in the multivariate analysis, older age ($p = 0.010$, OR 3.672, 95% CI [1.357–9.932]), diagnosis of dependence syndrome ($p = 0.003$, OR 6.378, 95% CI [1.874–21.715]), and a history of incarceration ($p = 0.037$, OR 1.957, 95% CI [1.042–3.675]) were extracted as final factors.

The results of the multivariate analysis are summarized as follows. First, no significant differences were observed between the CAN and MAP groups in terms of participation in outpatient group therapy for addiction. In contrast, psychiatric hospitalization due to substance use disorders was significantly associated with the presence of comorbid mental disorders, a history of arrest for substance-related offenses, and a history of incarceration.

Participation in self-help groups for drug addiction was associated with older age and meeting the diagnostic criteria for substance dependence. Similarly, utilization of private addiction recovery facilities was associated with older age, a diagnosis of substance dependence, and a history of incarceration.

Finally, across all types of medical and nonmedical recovery resources examined, the type of substance used was not significantly associated with any of the outcomes.

4 | Discussion

The present study suggests that the CAN group represents a population with lower levels of social impairment, comparatively better overall health, and less severe forms of substance use disorder for two main reasons. First, our findings indicate that the CAN group consists of a relatively younger population with higher levels of educational attainment compared to the MAP group. Additionally, the CAN group exhibited lower frequencies of arrests for drug-related offenses, incarceration, and comorbid psychiatric disorders.

Second, the CAN group clinically presented with fewer symptoms of dependence syndrome and a higher prevalence of harmful use. These two subdiagnostic categories are mutually exclusive and can each serve as indicators of severity. Mild conditions involving medically or socially problematic patterns of substance use that do not meet the criteria for dependence syndrome are classified as "harmful use." Notably, substance use disorder, as defined in the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)* [12], encompasses both of these subdiagnoses.

In the present study, the CAN group also reported lower levels of engagement in self-help groups and less utilization of private recovery support facilities compared to the MAP group. To identify factors influencing the choice of treatment and recovery support, we conducted further analyses using the use of medical and nonmedical resources as dependent variables, with the type of primary substance abused, age group, and severity of substance use disorder as independent variables.

Multivariate analyses revealed that the use of nonmedical resources—such as self-help groups and private recovery support

facilities—was more strongly associated with age and the severity of substance use disorder (namely, conditions meeting the criteria for dependence syndrome) than with the type of substance abused. When focusing specifically on the use of private addiction recovery facilities, significant associations were observed with older age, a diagnosis of dependence syndrome, and a history of incarceration. This may reflect the tendency for some individuals to reside in such facilities as a condition of probation or parole.

In the case of medical resources, psychiatric hospitalization due to substance abuse was significantly associated with a history of arrest for drug-related offenses and incarceration, possibly reflecting court-ordered hospitalization as a condition of bail following arrest.

Conversely, participation in outpatient group therapy for addiction was not significantly associated with any of the six independent variables examined in this study. One optimistic interpretation is that the program—originally developed for the treatment of methamphetamine use disorder [5, 6]—may be useful because it offers an accessible and low psychological resistance option for individuals, particularly younger individuals or those with less severe substance use disorders, regardless of their primary substance of abuse. However, it is important to recognize that accessibility alone does not guarantee superior therapeutic efficacy. Whether outpatient group therapy is as effective in treating cannabis use disorder as it is in treating stimulant use disorder remains to be confirmed by future research.

In summary, the challenges that many addiction treatment providers have recently faced when working with patients diagnosed with cannabis use disorder—such as low motivation to seek treatment and limited engagement with nonmedical resources [3, 4]—are likely attributable to the characteristics of the patients themselves, rather than to the properties of cannabis as a drug. The fact that these patients are generally younger and tend to have a shorter history of substance use, resulting in less severe substance use disorders, is considered an important contributing factor.

This study has several limitations that should be acknowledged. Among them, the following four are particularly noteworthy. First, the validity of using experience with medical and nonmedical recovery resources as a variable may be questioned. While such experience presumably reflects instances in which the treating psychiatrist deemed the services necessary and the patient agreed to utilize them, it does not directly indicate therapeutic efficacy. Second, there is a discrepancy in the time frame of evaluation. The study targeted patients with substance-related mental disorders who had used drugs within the past year, whereas information regarding the use of medical and nonmedical resources was collected based on lifetime experience. This mismatch may affect the interpretation of associations between substance use and treatment history.

Third, the overall reliability of the data must be considered. The study utilized data from the NPH Survey, which was retrospectively collected from medical records by attending psychiatrists. Given the variability in assessment and judgment criteria among clinicians, and the inherent limitations of retrospective data collection, it is possible that important variables were not adequately captured or standardized. Fourth, the research setting itself presents a limitation. The study population was restricted to individuals currently receiving care in psychiatric hospitals. As a result, the findings may not be generalizable to individuals receiving treatment in nonmedical or community-based settings.

Despite these limitations, this study is the first in Japan to compare the clinical characteristics and use of treatment and recovery support between patients with methamphetamine use disorder and those with cannabis use disorder. Therefore, it is expected to make a meaningful contribution to the clinical understanding of substance use disorders.

5 | Conclusion

This study aimed to clarify the clinical characteristics of patients with cannabis use disorder and to determine whether the challenges associated with their treatment stem from the pharmacological properties of cannabis itself or from other contributing factors. Using data from the NPH survey, we extracted and compared two groups: patients diagnosed with methamphetamine use disorder (MAP) and those with cannabis use disorder (CAN). The primary research questions focused on identifying distinguishing clinical characteristics and examining factors associated with the use of medical and nonmedical recovery support resources in both groups.

The results indicated that individuals in the CAN group were more likely to be younger, have higher levels of educational attainment, and were less likely to have a history of drug-related arrests or incarceration. These findings suggest that individuals with cannabis use disorder may differ substantially from those typically observed in traditional substance use disorder populations.

However, the findings also indicate that the use of medical and nonmedical recovery resources is more strongly influenced by factors such as older age and greater severity of substance use disorder—particularly cases meeting the criteria for dependence syndrome—than by the specific type of substance abused. The validity of these findings should be verified in future prospective studies employing research designs that evaluate the effects of both medical and nonmedical interventions on individuals in the CAN and MAP groups.

Given the anticipated increase in treatment needs among young individuals in Japan with relatively mild cannabis use disorders, it is essential to consider the development of treatment services that are both accessible and appealing to this population. Tailored interventions that address the specific characteristics and preferences of younger individuals and those with less severe substance use disorders may enhance engagement and improve treatment outcomes in the future.

Author Contributions

T.M. designed this research. A.N., S.H., and K.O. collected the data. T.M. and T.U. established the participant database and performed the statistical analyses. T.M. drafted the manuscript. T.U., A.N., S.H., K.O., and T.S. supervised manuscript preparation. All authors have reviewed, revised, and approved the final version of the manuscript for publication.

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Ethics Statement

This study was conducted with the approval of the Ethics Committee of the National Center of Neurology and Psychiatry (Approval No. A2024-041).

Consent

The psychiatrists in charge at the participating institutions collected information by extracting anonymized clinical data from patients' medical records and transcribing it. During the survey period, the survey was announced, and potential participants were given the opportunity to opt out.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data supporting the findings of this study are not publicly available. This is because the ethics committee that approved this study did not approve the disclosure of data. If you wish to use the raw data, please contact the corresponding author of this paper. However, before actual use, you must obtain approval for the secondary use of the data from the ethics committee of the corresponding author's institution.

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