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Exploring early discontinuation of mental health outpatient treatment: language, demographics and clinical characteristics among migrant populations in Japan

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ABSTRACT

Background The fast-growing migrant population in Japan and globally poses challenges in mental healthcare, yet research addressing migrants' mental health treatment engagement remains limited.

Objective This study examined language proficiency, demographic and clinical characteristics as predictors of early treatment discontinuation among migrants.

Methods Electronic health record data from 196 adult migrants, identified from 14 511 patients who received mental health outpatient treatment during 2016 and 2019 at three central hospitals in the Tokyo-Yokohama metropolitan region of Japan, were used. We conducted multivariable regression models to identify predictors of early discontinuation within 3 months.

Findings The study cohort (65% women, age range: 18–90 years, from 29 countries or regions) included 23% non-Japanese speakers. Japanese and non-Japanese speakers had similar discontinuation rates (26% vs 22%). Multivariable models revealed younger age (OR=0.97; 95% CI: 0.95, 0.99; p=0.016) and those with a primary diagnosis other than a schizophrenia spectrum disorder (OR=3.99; 95% CI: 1.36, 11.77; p=0.012) or a neurotic, stress-related and somatoform disorder (OR=2.79; 95% CI: 1.14, 6.84; p=0.025) had higher odds of early discontinuation. These effects were more pronounced among the Japanese speakers with significant language-by-age and language-by-diagnoses interactions.

Conclusion Younger age and having a primary diagnosis other than a schizophrenia spectrum disorder or a neurotic, stress-related and somatoform disorder increased vulnerability for discontinuing mental health treatment early in Japanese-speaking migrants but not for migrants with limited Japanese proficiency.

Clinical implications Understanding language needs within a context of mental health treatment should go beyond assumed or observed fluency. Unmet language needs might increase vulnerability for treatment disengagement among migrants. Targeted clinical efforts are crucial for enhancing early treatment engagement and informing health practices in Japan and countries with growing migrant populations.

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Migrants' underutilisation of mental healthcare has been documented, yet predictors of treatment engagement remain understudied in Japan and globally.

WHAT THIS STUDY ADDS

⇒ Higher rate of treatment discontinuation among Japanese-speaking migrants receiving mental health outpatient care, especially younger patients and those with diagnoses other than neurotic, stress-related and somatoform disorders or schizophrenia spectrum disorders. Findings signal unmet language needs that may reflect unique challenges experienced by migrants in mental healthcare settings.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ To effectively address language needs in the mental health treatment context requires diversifying language assistance resources with attention to cultural factors. Objective measures of patients' language proficiency and preference, rather than assumed fluency, should be consistently documented in medical records to facilitate clinical care and systematic research to better understand the complex language-related roles in mental health treatment engagement among migrant populations.

INTRODUCTION

As the rate of migrant population in Japan and globally is growing, so are the needs of mental health treatment among migrants. In 2020, the global migrant population reached 281 million, constituting 3.6% of the world's total population.¹ Migrants, individuals crossing international borders, are a vulnerable group susceptible to marginalisation, racial discrimination and health disparities.² The population of Japan has over 3 million (2.5%) foreign residents.³ Japan's migrant

population is rapidly increasing to address labour shortage due to Japan's ageing society and declining birth rates.⁴

Globally, migrants' mental health landscape presents significant concerns with studies indicating high prevalence of depression and anxiety (20–40%).⁵ In Japan, Korean migrants had a higher rate of suicide when compared with their home country and Japanese citizens, as well as other foreign nationals residing in Japan.⁶ Migrant women in Japan commonly reported high levels of anxiety and inadequate social support during perinatal period.⁷ These snapshots highlight the multifaceted impact of demographic, cultural and structural factors on migrants' mental well-being.

Migrants' language needs within the context of mental health treatment are understudied. Mental health stands out as a branch of medicine that could not rely solely on physical examinations and laboratory tests.⁸ Proficiency in the host country's language consistently correlates with mental health services underutilisation^{8–11}; it is also an acculturation indicator, linked to attitudes and stigma related to mental health help-seeking.^{11–12} A multilingual survey of over 5000 migrants living in Japan found many respondents could not read (34%) or speak Japanese (25%); the inability to communicate symptoms was cited as a primary barrier to seeking health consultations.¹³ Another study describing 20 non-Japanese patients attending a psychosomatic clinic whose length of residency in Japan ranged from 1 month to 30 years¹⁴ reported influence from both language proficiency and residency duration on the types and the onset timing of clinical issues and their severity, social support experienced and treatment engagement. Language proficiency is a significant barrier to effective patient–clinician communications and treatment engagement.

Prior literature on migrants' mental health has predominantly examined barriers, perceptions and attitudes toward service access.¹² Limited research focuses on migrants receiving mental health treatment. Our previous study described the demographic and clinical characteristics of 205 migrants living in Japan who received mental health services between April 2016 and March 2019.¹⁵ The sample included 23% non-Japanese speakers, with only 5% using professional medical interpreters. Migrant patients accounted for 1.4% of all psychiatric patients. The most common diagnoses were neurotic and stress-related disorders, schizophrenia spectrum disorders and mood disorders. During the study period, 32% of migrant patients self-discontinued treatment. The study revealed low utilisation of mental health services among migrants specifically among young adults (ages between 21 and 30 years) who were under-represented in the patient cohort when compared with the national migrant population in Japan. These findings suggest a significant need for medical interpreters to reduce additional barriers younger migrants faced in accessing mental health services.

OBJECTIVE

This study aims to identify correlates of early discontinuation of mental health outpatient treatment among migrant populations, focusing on language barriers. Unlike our previous report,¹⁵ we examined self-discontinuation of treatment with consideration of the length of treatment engagement. Specifically, we investigated early discontinuation within 3 months of psychiatric outpatient treatment and its correlates, with patient language as a key predictor. We explored whether language barriers contribute to early discontinuation indicating early disengagement and suboptimal clinical outcomes. We hypothesised the non-Japanese-speaking patients facing language-related barriers

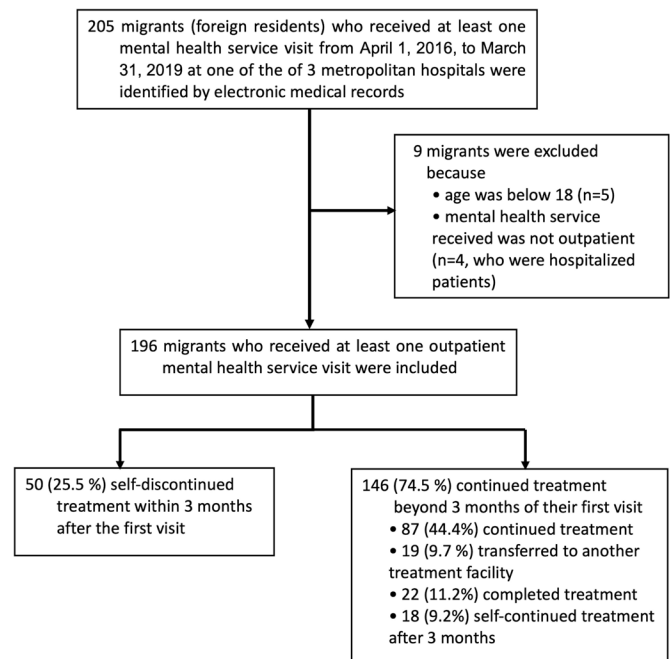


Figure 1 Patient cohort and participant flow diagram.

are more likely to discontinue treatment early compared with migrant patients who spoke Japanese.

METHODS

Clinic setting

This study uses electronic health record (EHR) data obtained from migrants who received mental health services between 1 April 2016 and 31 March 2019, at three primary hospitals covering the central areas of the Tokyo-Yokohama metropolitan region that accept international patients residing in Japan.¹⁵ At these hospitals, translation services are accessible through on-site medical interpreters in English and Chinese, or via telephone for more than 30 languages, and handheld voice translator devices such as 'Pocketalk'. Non-profit organisations also provide low-cost or free medical interpreters who could accompany patients to their visits.

Data

Data source

The initial patient cohort consisted of 14511 patients with psychiatric treatment visits during the study period. Patients with nationality as 'Japanese' or unknown were excluded, which resulted in the identified migrant patient cohort of 205 migrants (ages between 11 and 90 years), and the demographic and clinical characteristics of this cohort were described previously.¹⁵ The current study used a subsample of the prior study by including only patients aged 18 years and older who received outpatient mental healthcare (N=196) to examine self-discontinuation of treatment and its correlates (figure 1). No finding of the current study was reported previously.

Outcome variable

Early discontinuation is defined as self-discontinuation of treatment within 3 months of the first psychiatric outpatient encounter as used in other research.¹⁶ Patients' treatment status was initially categorised into: (1) self-discontinuation (failed to return by the scheduled appointment during the study period); (2) continued follow-up (returned for a follow-up appointment

after the study period); (3) completed follow-up (marked by treating psychiatrist); or (4) transferred to another facility. For patients who discontinued treatment by themselves, treatment duration was coded as 'one visit only', or months of treatment duration computed between the first and the last mental health treatment encounter during the study period. Based on the patient's treatment status and treatment duration, each patient's outcome was dichotomised into either: (1) early discontinuation or (2) continued/completed/transferred (figure 1).

Predictors

The patient-level predictors of early discontinuation examined were demographic factors and clinical characteristics. Patients' demographic information included: biological sex, age and country/region of origin. Japanese language proficiency was coded from intake notes; patients who used language assistance were coded as 'non-Japanese speakers', others were 'Japanese speakers'. The only forms of language assistance documented were family members or a medical interpreter. Tourist status was extracted but not included as no patient in the cohort was a tourist. Patients' clinical characteristics included service pathway (self-referred, referral from other departments or hospitals, legal or refugee centre, or suicide attempt), substance use and the most recent primary mental health diagnosis on record of the last treatment visit during the study period using International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10) categories.

Analyses

We used descriptive statistics to describe the patients' demographic and clinical characteristics of the entire cohort, and by treatment continuation status with *p* values for univariate associations. We combined categories endorsed by 10 or less individuals to optimise sample size for subsequent analyses. To identify predictors of early treatment discontinuation, we conducted multivariable regression models using generalised estimating equations to adjust for hospital site correlations. Predictors selection used a combination of two approaches: (1) a priori guided by the literature and research objective; and (2) statistical grounds using backward selection. Age and sex were designated as a priori variables due to their prominence in the literature of treatment utilisation.^{8–11} Language was included because it is the primary predictor of interest. We conducted backward selection¹⁷ starting with a full model of all the covariates with hospital sites adjusted. We eliminated variables with $p \geq 0.20$ as recommended for smaller datasets, starting from the variable with the highest *p* value, one at a time while retaining the a priori variables. The final model included age, sex (female vs male), language (Japanese vs non-Japanese) and three specific ICD-10 diagnostic groups. The ICD-10 groups included were schizophrenia spectrum disorders (F20–29), mood disorders (F30–39), and neurotic, stress-related and somatoform disorders (F40–48). All covariates had variance inflation factor below 2 suggesting no concern with collinearity. Lastly, we explored interactions between language and each significant predictor. We used a statistical significance threshold of $p < 0.05$ with two-tailed tests and IBM SPSS Statistics V.29.0 for data analyses.

FINDINGS

The study sample included 196 migrants (65% women; mean age was 46.1 years) with 23.0% non-Japanese speakers who used language assistance. Patients were referred by themselves (45.4%), by other departments or hospitals (45.9%), and

involuntarily admitted because of suicide attempts or by legal agencies (8.7%). The prominent diagnoses were neurotic, stress and somatoform disorders and mood disorders. Table 1 shows patient characteristics of the overall study sample, and by early discontinuation outcomes.

Early treatment discontinuation by language

Of the study sample, 25.5% ($n=50$; 95% CI: 19.4%, 31.6%) self-discontinued treatment within the first 3 months. Of these 50 patients, 88.0% ($n=44$) discontinued within the first month, including 68.0% ($n=34$) who discontinued after one visit. The early discontinuation rates of Japanese-speaking migrants (26.5%; 95% CI: 19.5%, 33.5%) and non-Japanese speakers (22.2%; 95% CI: 10.1%, 34.3%) were statistically similar.

Predictors of early discontinuation: results of multivariable models

In the main effect model (table 2), older age has an average of 2.6% reduced odds per year of age increase for early treatment discontinuation (adjusted Odds Ratio (aOR)=0.974, $p=0.016$). Migrant patients who had a diagnosis other than a schizophrenia spectrum disorder had nearly four times higher odds of discontinuing treatment early compared with those who had the disorder (aOR=3.996, $p=0.012$). Those with diagnoses other than neurotic, stress-related and somatoform disorders had twice the odds for early discontinuation (aOR=2.792, $p=0.025$). We observed several significant interaction effects involving language (table 2). Among Japanese speakers, older patients had lower odds (aOR=0.966, $p=0.003$) of discontinuing treatment early, and such effect was not observed among the non-Japanese speakers ($p=0.794$; figure 2). Japanese speakers with diagnoses other than a schizophrenia spectrum disorder had seven times the odds of dropping out (aOR=7.220, $p=0.013$) when compared with Japanese speakers with schizophrenia diagnoses. Japanese speakers with diagnoses other than neurotic, stress-related and somatoform disorders had nearly three times the odds of early discontinuation (aOR=2.947, $p=0.030$). Online supplemental figures 1 and 2 provide graphical illustrations of these interactions. No other demographic or clinical characteristics were associated with early discontinuation.

DISCUSSION

This study examined whether language proficiency and other patient-level factors predicted early treatment discontinuation among adult migrant mental health outpatients in Japan. Using EHR data from a diverse cohort of 196 migrants with 23% using language assistance when receiving mental health outpatient treatment in the Tokyo-Yokohama metropolitan region, we observed 25.5% self-discontinued treatment within the first 3 months. Contrary to our hypothesis that language barriers among non-Japanese speakers would predict early treatment discontinuation, we did not observe a significant difference in discontinuation rates based on language. Importantly, the study revealed a moderation effect by language, specifically, Japanese speakers who were younger, who had primary diagnoses other than schizophrenia spectrum disorders or neurotic, stress-related and somatoform disorders faced a higher risk of early discontinuation. These findings unveil a previously undocumented disparity among migrant patients, highlighting the unique challenges experienced by individuals whose language needs may be overlooked in mental healthcare settings. These findings contribute to the global literature on migrant mental health

Table 1 Individual and clinical characteristics of the overall study sample and by early discontinuation outcomes (N=196)

	Entire sample (N=196)		Continued treatment beyond 3 months or completed treatment (N=146)		Early discontinuation: self-discontinued within 3 months (N=50)		P value*
		n		n		n	
Hospital sites							NA
Kawasaki Municipal Hospital	44.9%	88	50.0%	73	30.0%	15	
Saiseikai Yokohamashi Tobu Hospital	25.5%	50	24.7%	36	28.0%	14	
Toho University Omori Medical Center	29.6%	58	25.3%	37	42.0%	21	
Sex							0.772
Female	66.3%	130	65.8%	96	68.0%	34	
Male	33.7%	66	34.2%	50	32.0%	16	
Age							0.030
Mean (SD)	46.9 (15.9)		48.3 (16.2)		42.8 (14.3)		
(Range)	(18–90)		(20–90)		(18–84)		
Language							0.565
Japanese speakers	77.0%	151	76.0%	111	80.0%	40	
Non-Japanese speakers (who used language assistance)	23.0%	45	24.0%	35	20.0%	10	
Country or region of origin							0.836
China or Taiwan	37.8%	74	39.0%	57	34.0%	17	
Philippines	18.9%	37	17.8%	26	22.0%	11	
South Korea	15.8%	31	15.1%	22	18.0%	9	
Other regions†	27.5%	54	28.1%	41	26.0%	13	
Referral pathways							0.799
Self	45.4%	89	46.6%	68	42.0%	21	
Health service providers (other health departments or hospitals)	45.9%	90	44.5%	65	50.0%	25	
Involuntary (suicidal attempts, refugee headquarters or police)	8.7%	17	8.9%	13	8.0%	4	
Primary diagnosis: ICD-10 categories							
F00–F09 (organic)	6.1%	12	6.2%	9	6.0%	3	1.00
F10–F19 (substance use disorders)	6.6%	13	4.8%	7	12.0%	6	0.087
F20–F29 (schizophrenia, schizotypal, delusional disorders)	18.9%	37	21.9%	32	10.0%	5	0.063
F30–F39 (mood disorders)	20.9%	41	21.2%	31	20.0%	10	0.853
F40–F48 (neurotic, stress-related and somatoform disorders)	25.0%	49	26.7%	39	20.0%	10	0.346
F50–F59 (behavioural syndromes associated with physiological disturbances & physical factors)	10.7%	21	9.6%	14	14.0%	7	0.387
Less common diagnoses‡	11.7%	23	9.6%	14	18.0%	9	0.116
Substance use							0.123
Any substance	10.7%	20	8.2%	12	16.0%	8	
No substance use indicated	89.3%	176	91.8%	134	84.0%	42	

*P values adjusted by hospital sites in the comparisons between treatment discontinuation status. For ICD-10 diagnostic groups, each category was dichotomised; the p values reported used 'others' as a reference category.

†Other regions included 25 countries or regions with no more than 10 migrants from each country or region.

‡Less common diagnoses included personality disorders (F60–F69), intellectual disability or developmental disorders (F70–F79), behavioural and emotional disorders with onset in childhood and adolescence (F90–F98), unspecified mental disorders (F99), epilepsy (G40) and no diagnosis. Because of the small number of patients with these disorders (ranged from 2 to 8 in each diagnostic category), these were combined into a single group, 'less common diagnoses,' for analysis purpose.

ICD-10, International Statistical Classification of Diseases and Related Health Problems, 10th Revision; NA, not applicable.

services by elucidating factors associated with early treatment discontinuation among adult migrants in Japan.

Early discontinuation rates: a narrative comparison

Our observed early discontinuation rate of 25.5% within 3 months of mental health outpatient treatment aligns with reported averages in the literature. It is comparable with the dropout rate of 19.1% (95% CI: 14.7%, 24.6%) among adult refugees in high-income countries,¹⁶ and falls within

the estimated range between 20% and 47% from psychotherapy trials including both migrant and non-migrant populations.^{18–19} These observations are consistent with findings from systematic reviews suggesting no differences in treatment dropout rates between migrants and non-migrants.^{16–20} Nonetheless, the factors that impact treatment retention could be different between migrants and non-migrants.²⁰ Notably, among those who discontinued treatment early, two-thirds did so after the first visit. A deeper

Table 2 Multivariable linear regression models of early discontinuation (N=196)

Predictors	Main effect model		Includes interactions with language	
	aOR (95% CI)	p value	aOR (95% CI)	p value
Sex (referent: male)				
Female	1.359 (0.653, 2.830)	0.412	1.487 (0.688, 3.217)	0.313
Age	0.974 (0.954, 0.995)	0.016	—	—
Language (referent: non-Japanese speakers)				
Japanese speakers	1.082 (0.469, 2.497)	0.853	—	—
Language by age interaction				
Non-Japanese speakers × age	—	—	1.007 (0.958, 1.057)	0.794
Japanese speakers × age	—	—	0.966 (0.944, 0.988)	0.003
Diagnoses of schizophrenia, schizotypal or delusional disorders (ICD F20–F29) (referent: yes)				
Absence of ICD F20–29	3.996 (1.357, 11.767)	0.012	—	—
Language by ICD F20–F29 interaction				
Among non-Japanese speakers (referent: had ICD F20–F29): absence of ICD F20–29	—	—	1.466 (0.292, 7.350)	0.642
Among Japanese speakers (referent: had ICD F20–F29): absence of ICD F20–29	—	—	7.220 (1.508, 34.576)	0.013
Diagnosis of neurotic, stress-related and somatoform disorders (ICD F40–F48) (referent: yes)				
Absence of ICD F40–48	2.792 (1.140, 6.842)	0.025	—	—
Language by ICD F40–F48 interaction				
Among non-Japanese speakers (referent: had ICD F40–F48): absence of ICD F40–F48	—	—	2.003 (0.184, 21.804)	0.569
Among Japanese speakers (referent: had ICD F40–F48): absence of ICD F40–48	—	—	2.947 (1.109, 7.831)	0.030
Diagnoses of mood (affective) disorders (ICD F30–F39) (referent: yes)				
Absence of ICD F30–F39	2.068 (0.839, 5.094)	0.114	1.944 (0.778, 4.857)	0.155

All estimates are adjusted for hospital sites using generalised estimating equations. Bold fonts denote statistically significant factors ($p < 0.05$) and their aORs and p values. aOR, adjusted Odds Ratio; ICD, International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10).

understanding of treatment dropouts among migrants is critically needed.

The role of language in early discontinuation

Contrary to our hypothesis, early treatment discontinuation rates were similar between Japanese and non-Japanese speakers. Our study determined language groups based on language assistance used during intake, rather than objectively measuring language proficiency. Neither measuring patients' Japanese language proficiency objectively nor obtaining self-reported proficiency was a standard clinical practice, and such information was not consistently available from EHR. The language grouping based

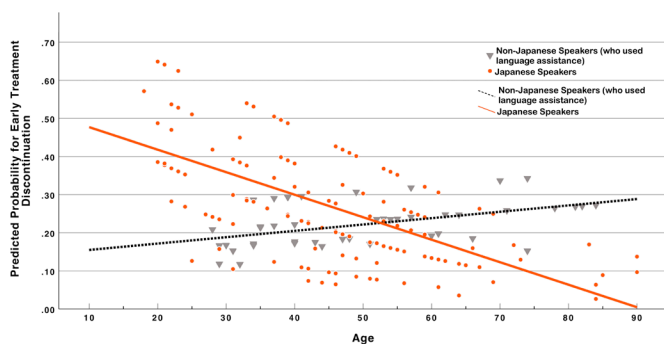


Figure 2 Interaction effect between language and age on early discontinuation (within first 3 months) of mental health outpatient treatment: mean predicted probability of early discontinuation by age and language.

on ‘observed fluency’ in the study may have masked potential differences between the two groups. Some Japanese speakers who were capable of basic conversation and did not use language assistance might lack the necessary fluency in Japanese to fully engage and communicate effectively with their mental health providers. Documented instances of misdiagnosis among migrant patients in Japan, attributable to inadequate Japanese proficiency and miscommunication, underscore the complexities.¹⁴ Miscommunications with clinicians, including difficulties expressing symptom experiences,²¹ were barriers to treatment engagement and resulted in early dropouts.²²

Notably, the non-Japanese speakers in the study received language assistance from a family member or a friend, or a medical interpreter at their treatment visits. The additional social support received may have contributed to better treatment engagement. On the contrary, for some non-Japanese-speaking patients, the reliance on family members or friends who were not professionally trained interpreters could negatively impact communications between patients and clinicians, which may adversely affect treatment engagement and retention.²³ These factors might have obscured the association between language and treatment discontinuation.

The absence of a direct association between language and early discontinuation challenges the widely acknowledged belief that language proficiency is a significant barrier to mental healthcare access and utilisation.¹² Our findings reveal a moderation effect of language through age and clinical diagnosis in early discontinuation. Notably, our study discovered patient-level factors that increase the vulnerability of Japanese-speaking migrants to early

treatment discontinuation. Understanding the nuanced role of language in specific contexts, such as age and diagnosis, remains crucial for tailoring effective treatment retention strategies.

Age and early discontinuation among migrants who spoke Japanese

Our findings revealed a negative association between age and early discontinuation, which was particularly pronounced among Japanese-speaking migrants. Previous psychotherapy research has noted younger patients are at risk of dropping out^{18 24}; some research noted heightened social and self-stigma experienced by younger patients.²⁵ For migrant young adults, seeking help for mental health may reinforce mental health stigma leading to dropping out early.²⁶ Moreover, younger patients may perceive a lower need for mental health treatment due to better physical health. Indeed, population-based data showed that younger migrants between ages 20 and 59 years had lower mortality rates when compared with Japanese citizens.²⁷

While prior research has found younger age increases the risks of treatment discontinuation, this association was observed only among Japanese speakers but not non-Japanese speakers. For the non-Japanese speakers, because of their language barrier, they might have to entrust their decision-making about treatment to others, often their family members who were able to speak the language. Similar association between language dependency and medical decision-making has been observed in non-psychiatric settings²⁸ and feelings of disempowerment in healthcare settings were commonly reported in patients with limited English proficiency.²⁹ In contrast, Japanese-speaking migrant patients who are more independent of their treatment-related decision-making because of fewer language barriers may be more vulnerable to the risks related to younger age as described earlier. Regardless of underlying reasons, our findings underscore the vulnerability of younger Japanese-speaking migrants to early treatment discontinuation. This supports the necessity for targeted strategies in engaging younger Japanese-speaking migrants in mental health treatment.

Clinical diagnosis and early treatment discontinuation among Japanese-speaking migrants

Our findings suggested that Japanese-speaking migrants with diagnoses other than schizophrenia spectrum disorders or neurotic, stress-related and somatoform disorders were more likely to self-discontinue treatment early. These associations were not observed among non-Japanese-speaking patients. Among refugees and asylum seekers, a meta-analysis examining dropouts from psychological interventions found no significant association with interpreter use, and indeed there was no significant predictor identified at patient level including clinical diagnoses or treatment-related characteristics.¹⁶ Thus, the observed association between clinical diagnosis and treatment dropouts in the context of patients' language proficiency is novel.

Among the migrant patients in our study, we observed that 8.7% (95% CI: 0%, 20.2%) of the Japanese-speaking cohort with schizophrenia spectrum diagnosis discontinued treatment early, or >90% continued treatment beyond 3 months. The observed treatment dropout rate appeared to be lower than that reported among immigrant groups with these diagnoses (24%).²⁰ With respect to neurotic, stress-related and somatoform disorders, the dropout rate observed among the Japanese speakers was 20.9% (95% CI: 8.7%, 33.1%), which was comparable with the ranges (16–22%) reported in meta-analyses among patients with anxiety disorders.³⁰ Our findings revealed

that having a primary diagnosis of schizophrenia spectrum disorders or neurotic, stress-related and somatoform disorders was protective of early dropouts among Japanese-speaking patients. One plausible reason could be related to medication adherence, a robust predictor for treatment continuation in patients with schizophrenia spectrum disorders²⁴ and those with anxiety disorders.³⁰ Japanese speakers might have better comprehension of medication rationale and its significance, and better communication with providers, all of which may contribute to their higher treatment continuation rates.

Japanese-speaking migrants with diagnosis other than neurotic or schizophrenia spectrum disorders had almost three to seven times greater odds of dropping out early. The observed rate showed one in three (34.1%; CI: 25.2%, 43.0%) discontinued early. The impacts of clinical diagnoses on early treatment discontinuation were not observed in non-Japanese speakers. The elevated dropout rate may imply challenges in fully engaging these individuals, despite their ability to communicate in Japanese. Symptoms of schizophrenia, such as excitement, withdrawal and bizarre behaviour, are externally expressed and can be recognised by clinicians through observation. For neurotic, stress-related and somatoform disorders, presentations with physical symptoms such as shortness of breath, palpitations, dizziness, headaches and gastrointestinal discomfort are common, which are more concrete to describe and quantify allowing better progress tracking of symptom relief to engage patients. Other disorders, such as mood disorders, however, are recognised and understood by others through language communication, which exacerbate language barriers. These differences in symptomatology likely contribute to some of the observed results. Further research will be needed to replicate these findings and to explore the reasons for dropouts in relation to language barriers and clinical diagnoses among migrants.

Limitations and future directions

The findings of our study should be interpreted with caution. Specifically, our dataset lacked several measures that could have influenced early discontinuation outcomes, including patients' language preferences, language proficiency ratings, length of stay in Japan and acculturation. Additionally, the investigation did not account for important individual factors such as education, socioeconomic status, mental health literacy, needs perception and stigma related to mental health, which are recognised correlates of mental health services utilisation.^{8–11} Nonetheless, our study is among the first quantitative investigations of the predictors of early discontinuation of mental health treatment with consideration of language use, among migrants in Japan presenting with a diverse range of clinical diagnoses. Clinical characteristics such as levels of impairment as well as patient-clinician factors such as therapeutic alliance were not considered in the investigation. The study focused on the Tokyo-Yokohama metropolitan region of Japan, which limits generalisability to other regions or countries. While our study revealed moderation effects from language, we did not identify predictors of early discontinuation among non-Japanese speakers. The small sample size of non-Japanese speakers limits the statistical power. This knowledge gap underscores the need for in-depth interviews with migrants receiving mental health treatment for a deeper understanding of facilitators or barriers to treatment engagement such as concerns with pharmacotherapy.⁸ For future research to understand language-related factors and their roles in treatment discontinuation and retention among migrant populations,

objective measures of language proficiency and language preference should be considered.

CONCLUSION

Our research underscores the critical role of language proficiency in treatment retention dynamics and highlights the imperative to address mental health needs among migrants receiving outpatient mental health treatment in Japan. Importantly, our findings reveal the complexity of how language moderates the impacts of age and clinical diagnosis on early treatment discontinuation. This nuanced understanding is crucial for shaping health practices and policies, guiding countries with increasing migrant populations toward a more inclusive and effective mental health support system.

CLINICAL IMPLICATIONS

Our study shows substantial language needs among migrant patients in outpatient mental health settings of Japan. Higher dropout rates among Japanese-speaking migrants, especially younger patients and those with diagnoses other than schizophrenia spectrum disorders or neurotic, stress-related and somatoform disorders, signal potential overlooked language needs. Understanding language needs in the mental health treatment context beyond 'observed' or 'assumed' fluency is crucial. Relying on interpreters may fall short given the growing diversity of migrant populations. Migrants' hesitancy in using interpreters due to distrust and privacy concerns⁷ can further hinder mental health treatment. Leveraging technology, including remote interpretation, and using artificial intelligence and portable devices, is important to consider. Clinicians need training in effectively working with interpreters and technological translation resources, and attention to cultural sensitivity beyond meeting the language needs is also vital. Understanding and addressing migrants' unique challenges will enable host countries to leverage the strengths and resources brought in by migrants for an enhanced mental health support system.

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Patient consent for publication Not applicable.

Ethics approval This study involves human participants. The protocol for this secondary analysis was approved by the Ethics Committee of the Faculty of Medicine, Toho University (A19058, A23016). The analysis utilizes de-identified data obtained from electronic health records. Given the logistical constraints, the study implemented an opt-out method for consent. Information about the study was disclosed on the institutional website and bulletin boards at each hospital site, providing the potential participants the opportunity to opt-out. Although discontinued patients might be less likely to access this information, the institutional

review board deemed it reasonable for respecting patients' rights and maintaining confidentiality.

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