Original Article

Patterns and Predictors of Dropout from Mental Health Treatment in an Asian Population

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Abstract

Introduction: Studies examining mental health treatment dropout have primarily focused on Western populations and less so on Asian samples. The current study explored the prevalence and correlates of mental health treatment dropout across the various healthcare sectors in Singapore. Materials and Methods: Data was utilised from the Singapore Mental Health Study (SMHS), a cross-sectional epidemiological survey conducted among an adult population (n = 6616) aged 18 years and above. Statistical analyses were done on a subsample of respondents (n = 55) who had sought treatment from the various treatment providers (i.e. mental health, medical, social services and religious healers) in the past 12 months. The World Mental Health (WMH) Composite International Diagnostic Interview version 3.0 (CIDI 3.0) was used to determine diagnoses of mental disorders, chronic medical disorders and service utilisation. Results: Of those who had received treatment, 37.6% had ended treatment prematurely, 23.2% had completed treatment and 39.2% were still in treatment. The religious and spiritual sector (83.1%) had the highest dropout, followed by the general medical sector (34.6%), mental health services sector (33.9%) and the social services sector (30%). Marital status emerged as the only sociodemographic factor that significantly predicted treatment dropout—with those who were married being significantly less likely to drop out than those who were single. Conclusion: The overall dropout rate across the various healthcare sectors was comparable to past studies. While the small sample size limits the generalisability of findings, the current study provides useful insight into treatment dropout in an Asian population.

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Key words: Attrition, Mental illness, Service providers

Introduction

Outpatient dropout can be defined as the act of "stopping before completing the recommended course of treatment".[1] In comparison to barriers to treatment access, relatively less is known about the prevalence and predictors of treatment dropout.[2] Nevertheless, the study of treatment dropout is important for several reasons. Firstly, previous studies have found a strong association between treatment retention and clinical improvement.[3,4] Individuals who leave treatment prematurely are not only less likely to recover independently[5] but are also more likely to be rehospitalised[6] and have a relapse.[7] An understanding of the risk factors associated with treatment dropout enables treatment providers to identify patients who might be at risk of dropout and successively take measures to retain them in treatment. Secondly, prevalence of treatment dropout is to some extent regarded as an indicator of the quality of services offered.[8] Insights gleaned in this area can be used to assess the match between patients' needs and services offered which in turn provides useful information in improving services to better accommodate the needs of patients.[5]

Research findings in the area of dropout have, by and large, been mixed, given the underlying differences in study designs, structure of healthcare systems (e.g. public funding of healthcare), sample composition, and varying definitions of treatment dropout.[6,9-11] The World Health Organization's (WHO) World Mental Health (WMH) Survey Initiative found the prevalence rate of mental health treatment dropout across 24 countries to be 31.7%,[9] whereas an epidemiological study conducted among respondents in

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the United States and Ontario, Canada, found the prevalence rate of mental health treatment dropout to range between 17% to 22%.[2,9]

A large majority of research however, has focused on Western populations, with only a handful of studies having examined treatment dropout in an Asian sample. Pan et al[12] for instance, noted the prevalence rate of early attrition among Taiwanese patients seeking treatment for depression to be 41.6%. Khazaie et al,[4] on the other hand, reported a dropout rate of 80% and 20% among Iranian patients who sought psychotherapy and pharmacotherapy treatment, respectively. Some of these studies have identified culture and ethnicity as a possible factor in influencing the use of mental health services and the level of engagement in these services.[3,10,13] Asian Americans, for instance, were not only less likely than Euro-Americans to utilise mental health services[14] but also tended to have a lower level of mental health service engagement compared to white youths.[15]

A wide array of factors have been examined as potential risk factors of treatment dropout. In particular, being younger, male, belonging to an ethnic minority, being divorced, low level of education, unemployment, and low income have been consistently associated with a higher likelihood of treatment dropout.[1,4,16]

Given that existing literature on mental health treatment dropout has predominantly focused on a relatively homogeneous Western population, the extent to which these findings can be generalised to an Asian population is unclear. Furthermore, given that there is some evidence suggestive of ethnic/cultural differences in the treatment dropout rate, it is of interest to explore the prevalence and correlates of treatment dropout in a multi-ethnic Asian population of Singapore.

Singapore is a city-state of 712.4 km^2 in Southeast Asia with a 5-million multi-ethnic population. Of its residents, 74.2% are of Chinese descent, 13.4% are Malays, and 9.2% are of Indian descent.[17] It has a dual healthcare system with a public and private sector. Mental health services are provided mainly by psychiatrists and primary care physicians (PCP) or general practitioners (GPs). A recent study[18] showed that out of those who had at least 1 mental disorder in their lifetime (n = 878), only 31.7% (n = 267) had sought some form of help. Majority of those with mental illnesses consulted mental health providers (15.7%, n = 117) for help. Of those who sought help from non-mental health professionals, the most popular were counsellors and medical social workers (12.7%, n = 111), followed by other medical professionals (9.1%, n = 86; of whom 84.3%, n = 75 were GPs) and religious/spiritual advisors or other healers (7.6%, n = 59).

The present study seeks to elucidate the prevalence and correlates of mental health treatment dropout across the various treatment sectors in a multi-ethnic Asian population of Singapore.

Materials and Methods

Sample

The Singapore Mental Health Study (SMHS) is a nationally representative survey of the adult Singapore residents aged 18 years and above conducted from December 2009 to December 2010. Completed interviews were obtained from 6616 respondents giving a survey response rate of 75.9%. Disproportionate stratified sampling was used to sample the 3 main ethnic groups (Chinese, Malays and Indians) in equivalent proportion of about 30% each rather than in proportion to the ethnic distribution in the general population. The rest belonged to 'Other' ethnic groups. Face-to-face interviews were conducted by trained professional survey interviewers. The current study utilised a subsample of 55 respondents who had sought treatment from the various treatment providers in Singapore (i.e. mental health, medical, social services, and religious healers) in the past 12 months. The study was approved by the relevant institutional ethics committee (National Healthcare Group, Domain Specific Review Board) and written informed consent was obtained from all participants and parents of participants for those aged 18 to 20 years (age of majority is 21 years in Singapore). The study methodology is described in detail in an earlier article.[19]

Instruments

Sociodemographic Information

Sociodemographic information was collected using a structured questionnaire. This included age at interview (18 to 34, 35 to 49, and 50 to 64 years), gender, ethnicity (Chinese, Malay, Indian, and Others), income (<SGD 20,000, SGD 20,000 to 49,999 and >SGD 50,000), marital status (never married, married, divorced or separated, and widowed), educational level (primary and below, secondary, and tertiary) and employment status (employed, economically inactive students and housewives, and unemployed).

Composite International Diagnostic Interview Version 3.0 (CIDI 3.0)

Diagnoses of Mental Disorders

The WMH Composite International Diagnostic Interview version 3.0 (CIDI 3.0)[20] was used to establish a 12-month prevalence of mood disorders (major depressive disorder (MDD), dysthymia, and bipolar disorder), anxiety disorders (generalised anxiety disorder (GAD), and obsessive compulsive disorder (OCD)), and alcohol use disorders

(alcohol abuse and alcohol dependence) using the definitions and criteria of the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV). Diagnostic hierarchy rules and organic exclusion criteria were applied to all diagnoses.

Chronic Medical Disorders

A modified version of the CIDI checklist of chronic medical disorders was used to assess the presence of any of the 15 chronic medical disorders which were considered prevalent in Singapore's population. These disorders were then reclassified into 8 types of physical disorders.

Services

The CIDI 'Services Module' was used to determine service utilisation. Respondents were asked: "Did you ever in your lifetime go to see any of the professionals on this list for problems with your emotions, nerves, mental health, or your use of alcohol or drugs?" A list of treatment providers was then presented to the participant. This list included: a psychiatrist, a general practitioner or family physician, any other medical doctor such as a cardiologist, urologist or gynaecologist, a psychologist, a social worker, youth aid worker, child welfare officer, school counsellor or teacher, a counsellor other than a school counsellor, any other mental health professionals such as a psychotherapist or psychiatric nurse, a general nurse, an occupational therapist or other health professional, a religious or spiritual advisor like a minister, priest, monk or imam, and any other healer like a herbalist, homeopath, naturopath, chiropractor, spiritualist or traditional healer.

The data on lifetime contacts were categorised into 4 groups based on the respective service sectors:

1. Consultation with a mental health professional including a psychiatrist, psychologist or any other mental health professional.
2. Consultation with any other medical professional including a general practitioner, any other medical doctor, a nurse, an occupational therapist, or any other healthcare professional.
3. Consultation with a professional from the social services sector, including a social worker or counsellor.
4. Consultation with a religious advisor or other healers.[18]

Treatment Dropout

As part of the services module, respondents who had sought treatment from any of the aforementioned treatment providers were asked if they had received treatment in the past 12 months for "problems with [their] emotions, nerves, mental health or [their] use of alcohol or drugs". If they replied "yes", they were asked if treatment had stopped or if it was ongoing. Those who had stopped treatment with a provider were asked, "Did you complete the full recommended course of treatment? Or did you stop before the [provider] wanted you to stop?" Respondents who reported quitting without completing the full recommended course of treatment were classified as having dropped out from a treatment sector if they had quit all providers they had seen in that sector. A separate variable denotes dropping out from all sectors.

Statistical Analysis

Statistical analyses were carried out using the Statistical Analysis Software (SAS) version 9.2. To ensure that the survey findings were representative of the Singapore population, the data were weighted to adjust for oversampling and post-stratified by age and ethnicity distributions between the survey sample and the Singapore resident population in 2007. Descriptive analyses were performed to establish the prevalence of treatment dropout and visits based on weighted data. Due to the small sample size, regression analyses were conducted in 2 steps. In the first analysis, simple logistic regression analysis was used to explore significant associations between treatment dropout, sociodemographic and clinical characteristics. Second, in order to obtain the final model which indicated the relationship between treatment dropout and the other correlates, all statistically significant predictor variables from the simple logistic analysis were simultaneously entered into the multiple logistic regression analysis using backward elimination method. Standard errors (SE) and significance tests were estimated using the Taylor series' linearisation method to adjust for the weighting. Multivariate significance was evaluated using Wald X^2 tests based on design-corrected coefficient variance-covariance matrices. Statistical significance was evaluated at the 0.05 level using 2-sided tests.

Results

Demographic Distribution of the Sample

A total of 6616 respondents completed the survey. The sample comprised 51.5% females and 48.5% males with a mean age of 42 years. Majority of the sample were of Chinese descent (76.9%), currently married (62.4%), and employed (71%). The weighted prevalence of at least 1 mood, anxiety or alcohol use disorder in the past 12 months was 4.4% (n = 345).[18] Details regarding the overall sample size (n = 6616) and the prevalence of specific mental disorders in the past 12 months have been published elsewhere.[21] Table 1 shows the sociodemographic distribution of the current study sample.

Table 1. Demographic Distribution of the Sample (n = 55)

		n	%	SE
Age group	18 – 34	30	45.1	0.0
	35 – 49	17	36.4	0.0
	50 – 64	8	18.6	0.0
Ethnicity	Chinese	13	67.5	0.0
	Malay	16	11.8	0.0
	Indian	21	12.6	0.0
	Others	5	8.2	0.0
Sex	Male	19	48.0	10.0
	Female	36	52.0	10.0
Marital status	Single	20	33.9	8.4
	Married	30	53.1	8.5
	Divorced/separated	5	13.0	7.5
Education	Primary and below	7	9.1	5.4
	Secondary	14	14.5	5.4
	Tertiary	34	76.4	7.7
Employment	Employed	35	65.3	10.4
	Economically inactive	6	9.9	5.9
	Unemployed	9	24.8	10.2
Income	Below SGD 20,000	29	51.0	11.7
	SGD 20,000 – 49,999	16	31.1	10.7
	SGD 50,000 and above	6	18.0	7.6

SE: Standard error

Treatment Status and Visits by Sector

Table 2 shows the treatment status and number of visits to different treatment providers in the past year. Of the 345 respondents who had at least 1 mental disorder, 15.8% (n = 55) (weighted prevalence) reported having received treatment from the various treatment providers for "problems with [their] emotions, nerves, mental health or [their] use of alcohol or drugs" in the past 12 months. Of this, 8.4% (n = 27) consulted mental health providers i.e. psychiatrists, psychologists, and other mental health professionals with a median of 3 visits, 4% (n = 17) consulted medical professionals, 3.3% (n = 16) consulted professionals in a social support setting, and 2.5% (n = 14) sought help from religious and spiritual healers. There were 54 respondents (1 missing data) who responded to the treatment dropout questions in the past year; they were classified as having ended treatment prematurely (37.6%), having completed treatment (23.2%), and still being in treatment (39.2%). The median number of visits to the religious and spiritual healers was significantly lower compared to the number of visits to mental health providers ($P = 0.0026$). Among the treatment providers, those who sought help from religious and spiritual healers reported the highest rate of dropout (premature termination) (83.1%), followed by the general medical sector (34.6%), mental health services sector (33.9%), and the social services sector (30%).

Sociodemographic and Clinical Correlates of Dropout from Mental Health Treatment

Table 3 shows the sociodemographic and clinical characteristics of those who dropped out from mental health treatment. Simple logistic regression showed that those who were married (as compared to single) were significantly less likely to drop out from mental health treatment (OR 0.1, $P = 0.002$) while those who sought help from religious and spiritual healers (as compared to mental health professionals) were more likely to drop out from mental health treatment (OR 19.1, $P = 0.04$). In the backward multiple logistic regression analysis, both marital status and type of provider remained as significant correlates of dropout. Those who were married (versus single) were less likely to drop out from treatment whereas those who sought help from religious or spiritual healers were more likely to default from treatment (Table 4).

Table 2. Treatment Status and Visits by 4 Sectors in the Past Year

Professionals	Received Treatment			Number of Visits		1 to 2 Visits			3 or More Visits			Still in Treatment			Completed Treatment			Premature Termination		
	n*	%†	SE	Median	IQR	n	%	SE	n	%	SE	n	%	SE	n	%	SE	n	%	SE
Any mental health professional seen (psychiatrist, psychologist/ other mental health professional)	27	8.4	2.2	3	2	10	49.2	3.9	17	50.8	3.9	18	53.8	12.4	3	12.3	9.6	6	33.9	12.4
Any other medical professional seen (GP/other specialist/ other health professional)	17	4	1.4	2	2	10	66	20.8	6	34	20.8	5	30.9	18.5	5	34.5	18.1	6	34.6	18.8
Any professional in social support setting seen (social worker/ counsellor)	16	3.3	1.2	1	0	10	85.6	6.3	4	14.4	6.3	2	8.1	6	6	61.9	15.9	7	30	13.9
Any religious and spiritual healer seen	14	2.5	1	1	1	8	75.9	7.5	6	24.1	7.5	2	7.9	6.1	2	9	7	9	83.1	9.5
At least one professional	55	15.8	2.8	2	3	30	50.8	9.5	24	49.2	9.5	25	39.2	9	10	23.2	8.5	19	37.6	9.6

IQR: Interquartile range; SE: Standard error

*Unweighted number of respondents who received treatment in each sector.

†Denominator is 345.

Table 3.Univariate Analyses of Sociodemographic and Clinical Characteristics of Those who Drop Out from Mental Health Treatment (n = 54)

Sociodemographic Factors		Treatment Dropout								
		No			Yes			OR	95% CI	
		n	%	SE	n	%	SE		Upper	Lower
Age group	18 – 34	18	48	13.3	11	52	13.3	Ref	-	-
	35 – 49	9	59	18.8	8	41	18.8	0.6	4.4	0.1
	50 – 64	8	100	0.0	-	-	-	-	-	-
Ethnicity	Chinese	7	59.4	13.2	5	40.6	13.2	Ref	-	-
	Malay	10	62.4	12.6	6	37.6	12.6	0.7	3.2	0.1
	Indian	14	65.6	10.4	7	34.4	10.4	0.9	0.9	0.2
	Others	4	80	20	1	20	20	-	-	-
Sex	Male	12	52.8	15.4	7	47.2	15.4	2.6	19.6	0.3
	Female	23	72	10.9	12	28	10.9	Ref	-	-
Marital status	Single	11	40.5	16.1	9	59.5	16.1	Ref	-	-
	Married	22	90.1	3.6	7	9.9	3.6	0.1*	0.4	0.01
	Divorced/separated	2	16.2	14.3	3	83.8	14.3	2.9	50.8	0.2
Education	Primary and below	5	84.8	12.9	2	15.2	12.9	0.3	3.6	0.02
	Secondary	9	49	19.2	5	51	19.2	1.7	14.3	0.2
	Tertiary	21	62.2	12.2	12	37.8	12.2	Ref	-	-
Employment	Employed	21	69.1	12.3	13	30.9	12.3	Ref	-	-
	Economically inactive	5	82.8	17.3	1	17.2	17.3	-	-	-
	Unemployed	5	33.7	18.9	4	66.3	18.9	4.6	48.8	0.4
Income	Below S$20,000	17	40.1	12.1	11	59.9	12.1	Ref	-	-
	S$20,000 – 49,999	9	68.2	17.2	7	31.8	17.2	0.3	2.4	0.03
	S$50,000 and above	6	100	0	0	-	-	-	-	-
Type of provider	Any mental health professional	21	66.1	11.4	6	33.9	11.4	Ref		
	Medical professional	7	64.4	21.7	5	35.6	21.7	0.9	8.8	0.1
	Professional in social support setting	6	78.6	12.8	4	21.4	12.8	0.6	4.5	0.1
	Religious or spiritual healers	1	7.2	8.4	4	92.8	8.4	19.1*	329.9	1.1
Number of visits	1 to 2	16	49.1	13.8	13	50.9	13.8	Ref		
	3+	18	73.4	13.1	6	26.6	13.1	0.4	2.8	0.1
Chronic Conditions	No	17	69.8	11.2	10	30.2	11.2	Ref		
	Yes	18	53.1	15.2	9	46.9	15.2	3.4	21	0.5
Mood disorders	No	6	60	25.7	2	40	25.7	Ref		
	Yes	29	62.8	8.3	17	37.2	8.3	1.1	7.9	0.1
Anxiety disorders	No	23	60.4	11.4	14	39.6	11.4	Ref		
	Yes	12	65.6	17.8	5	34.4	17.8	1	7.7	0.1
Alcohol use disorder	No	31	61.6	9.5	17	38.4	9.5	Ref		
	Yes	4	74.5	16.7	2	25.5	16.7	0.6	4.8	0.1
Number of mental disorders	1	21	56.4	12.3	13	43.6	12.3	Ref		
	2+	14	73	14.8	6	27	14.8	0.5	4.1	0.1

CI: Confidence interval; OR: Odds ratio; SE: Standard error
*P <0.05

Table 4. Results of Final Model for Multiple Logistic Regression: Correlates of Treatment Dropout (n = 54)

Factors		OR	95% CI	
			Upper	Lower
Marital status	Single	Ref	-	-
	Married	0.05*	0.4	0.01
	Divorced/separated	5.7	173.0	0.2
Type of provider	Any mental health professional	Ref	-	-
	Any medical professional	1.6	30.1	0.1
	Any professional in social support setting	3.8	44.5	0.3
	Any religious and spiritual healer	71.2*	961.5	5.3

CI: Confidence interval; OR: Odds ratio
*P <0.05

Discussion

The current study aimed to explore the prevalence and correlates of mental health treatment dropout across the various healthcare sectors in Singapore. The overall dropout rate of 37.6% was comparable to the figure reported in the WHO World Mental Health Survey which found treatment dropout across 24 countries of varying economic status to be 31.7%.[9]

In examining dropout from the individual sectors of treatment providers, the religious and spiritual sector (83.1%) was found to have the highest dropout, followed by the general medical sector (34.6%), mental health sector (33.9%), and social support services sector (30%). Past studies have commonly found dropout from the general medical sector to be the highest and that from the mental health services sector to be the lowest.[1,9] The current finding of high dropout from the religious and spiritual sector, also known as complementary and alternative medicine (CAM) sector, concurred with the findings by Bruwer et al,[22] who also found dropout among these care providers to be the highest. Wang et al[23] attributed the high dropout from the religious and spiritual sector to be a result of mismatch between the needs of the individuals and the expertise of professionals in this sector. Compared to mental health professionals, religious and spiritual providers may not have adequate training in recognition, proper diagnosis, and knowledge concerning optimal treatment of mental disorders.[23,24] Lim et al[25] found that while the majority of CAM users did not perceive CAM to be superior or more effective than conventional Western medicine, they associated treatment in this sector with fewer side effects and regarded it to be useful in health maintenance. Likewise, Picco et al[26] found that over half the population who sought treatment from religious and spiritual healers had reported the use of CAM as useful, with the majority being satisfied with the support received from this sector. This disparity between satisfaction levels and dropout rate from the sector (i.e. high dropout despite satisfaction expressed) is in line with the study by Pekarick[8] who found the correlation between client satisfaction and treatment effectiveness to be low. Hence, while clients may have been satisfied with the "symptomatic relief"[25,27] offered by CAM, the core symptoms may not have been adequately addressed. Nevertheless, it is important to note that CAM is often used to complement treatment from other sectors rather than on its own[28] and that dropout rate might be influenced by other variables not within the control of treatment providers.[8]

With the exception of the religious and spiritual sector, dropout rates from all other sectors were found to be comparable to one another, suggesting engagement in these sectors to be good. The recent move towards integrated mental healthcare and introduction of programmes such as Mental Health-General Practitioner (MH-GP) partnership programme have not only provided a platform for healthcare professionals to be equipped with skills necessary in diagnosing and detecting mental illnesses in patients,[29] but have also enabled mental healthcare to be delivered in a manner that is more accessible, affordable and acceptable to the population.[30] The comparable levels of engagement across sectors in the present study may in part be a reflection of this integration of mental healthcare into the primary care sector.

A large proportion of the sampled population had received treatment from the mental health sector. In addition, this sector also had the highest median number of visits (i.e. 3 visits), with approximately 50% of individuals found to have had 3 or more visits over the past 12 months. The latter finding parallels that of Wells et al[9] who also found the mental health sector to have the highest median number of visits (i.e. 2.8 to 3.5 visits). Though not explored in the current study, the median number of visits to the mental health sector was found to closely approximate what is

considered "minimally adequate treatment".[22,31] In line with evidence-based guidelines, Wang et al[32] proposed 4 or more visits to a treatment provider to be minimally adequate, particularly during the acute and continuation phases of treatment, as this allows for medication evaluation, initiation, and monitoring. Furthermore, given that past literature has shown dropout to be the highest following 1 or 2 visits to a treatment provider[9] and that premature termination of treatment is largely associated with negative outcomes,[5,6] the adherence of individuals to 3 treatment visits (median) in the current study proves to be reassuring.

In general, Chinese ethnicity, male, being younger (18 to 34 years), divorced or separated, unemployed, having secondary level education, lower income, 1 to 2 visits to a treatment provider, presence of a chronic condition, mood and anxiety disorders (but not alcohol use disorder), and absence of comorbidity was associated with a higher likelihood of dropout from treatment. Of these factors, only marital status emerged as a significant correlate of treatment dropout with individuals who are married (as opposed to single or divorced) being significantly less likely to drop out from treatment in the adjusted analysis. According to Khazaie et al[4] support provided by spouses acts as a motivating factor for individuals to remain in treatment. The emphasis placed on the collective well-being of family over self in Asian societies[33] might also account for marital status being a significant correlate of dropout. Overall, these findings concurred with past studies which have consistently shown sociodemographic factors to be insignificant predictors of dropout, given that these factors are considered to be more crucial in determining access to treatment.[9,10]

Limitations of the Study

Firstly, given the small sample size in the current study, the aforementioned findings should be considered preliminary. Nonetheless, given the dearth of literature on mental health treatment dropout in Asian samples, the present study offers some insight into this area. Secondly, only a subset of factors was examined as possible correlates of dropout. Past literature has examined a myriad of factors including professional factors (e.g. clinical expertise),[6] previous access to healthcare,[21] and health insurance[1]—all of which have been shown to have an association with treatment dropout. Consistency of correlates associated with dropout across sectors was also not examined. This might be an interesting area to look into given that correlates of dropout in one sector may vary from other sectors and might be particularly useful for targeting certain groups of individuals who may be at higher risk of dropout. Thirdly, while the present study looked into the prevalence of dropout as a whole across the healthcare sectors, the differential dropout rate for different disorders (e.g. mood) were not studied. Furthermore, the reasons for dropout were not explored. Studies in the latter area have suggested various reasons for dropout, including attitudes of patients (e.g. belief that disorder will get better on its own, lack of perceived need for treatment),[21] stigma associated with seeking treatment,[34] and patients' motivation and readiness for change.[5] Further study into possible reasons for dropout is crucial, as this allows treatment providers to identify and address potential risk factors which may threaten adherence to treatment.

Lastly, it is unclear if individuals receiving treatment from a particular sector were concurrently receiving treatment in other sectors and how this interaction between sectors influenced premature termination of treatment. Though this interaction was not explored in the current study due to insufficient sample size for certain treatment sectors, in-depth examination into this area is noteworthy given evidence to suggest receipt of treatment from multiple treatment sectors to be a protective factor against dropout.[10,21]

Conclusion

Despite its shortcomings, our study findings offer important insights into the prevalence and correlates of treatment dropout—given that it is one of the few studies that have looked into this area within an Asian context. Although past studies offered some evidence suggestive of ethnic differences in the dropout rate, this was not observed in this current study. Marital status however, emerged as a significant sociodemographic factor in influencing treatment dropout. Treatment providers should be cognisant of this and include family members and spouses in decision-making. Further studies based on a prospective design and a larger sample is, however, needed to validate the study findings and to explore how interactions across the various healthcare sectors influence treatment dropout over time.

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