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Socio-demographic and Clinical Factors Associated with Defaulting Outpatient Appointments in a Psychiatric Clinic, Malaysia

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Abstract

Introduction: Management of psychiatric patients had shifted away from custodial care to community based outpatient setting. Defaulting psychiatric outpatient appointments can lead to poor outcome which will increase utilization of healthcare resource. Aim: The objective of this study is to determine the defaulting rate of psychiatric outpatient clinic and the associated socio-demographic and clinical factors. Methodology: This is a cross sectional observational study conducted in a psychiatric outpatient clinic in a specialist hospital in Perak, Malaysia. Medical records of 304 patients who were included in the study period were reviewed. The sociodemographic and clinical information were compared between those who had defaulted the follow-ups with those who attended their clinic appointments. Results: The psychiatry outpatient defaulting rate is 3% (n=9) while the rest attended their appointments (n=295). Factors which were associated with higher odds of defaulting are younger age of less than 40 years old (OR 8.978, p=0.017), patients who are staying alone (OR 6.205, p=0.03) and following up in the clinic for less than 36 months (OR 14.98, p=0.012). In multivariate analysis using logistic regression, patients staying alone is associated with higher odds of defaulting (adjusted OR 4.671, p=0.046). Conclusion: Identification of associated sociodemographic and clinical factors with defaulting could help the planning of preventive measures especially among the patients who stay alone.

Keywords: Default, Outpatient, Psychiatry Clinic

Introduction

Managing mental disorders is a global challenge worldwide [25]. Mental health related morbidity is one of the main concern in the utilization of healthcare resources locally in Malaysia as well. In the recent National Health and Morbidity Survey 2015, it was reported up to 29.2% adults suffering from mental health related problem using

General Health Questionnaire (GHQ). In the younger population, up to 12.1% children were facing mental health problems. [1]

Management of mental disorders has long moved away from the custodial in-patient care. With newer treatment approaches, patients care shifted to community based outpatient settings [2]. Mental health care planning focuses on the importance of outpatient based management to improve outcome [3]. Prognosis is affected by the compliance to the outpatient attendance and management plans. Defaulting outpatient appointments leads to poor treatment compliance which in turn predicts subsequent relapses and admissions [4]. Frequent relapses and readmissions increase mental health workload and deplete the resources in mental health care [5-6]. Ministry of Health in Malaysia had listed defaulter rate in outpatient psychiatry clinics as one of the key performance indicator in psychiatry clinical services, aiming to keep the rate to below ten percent of the outpatients [7].

Worldwide, defaulting rate in outpatient appointments is high among psychiatric patient, as high as 49% in certain centers [8]. Psychiatric patients miss their appointments almost twice the rate compare to other medical discipline [4].Failure to adhere to appointments in clinics may be due to numerous different factors. In previous studies, many sociodemographic determinants play an important role including financial background, educational level, family support and distance to referral centre [8-11]. Newer patients appeared to be more likely to default compare to those who had longer duration of contact [11-13].Past history of defaulting is also predictive of future missing out clinic appointments [14]. Predictive clinical factors includes psychiatric diagnoses including alcohol and other drug abuse [11, 15-16]. Patients who defaulted were more severe in their illness presentation and have more previous psychiatric admissions [9, 17]. Locally in Malaysia, in a study in four different hospitals in Kedah and Penang showed other risk factors including negative perception on illness, not given choice to choose treating doctors and preference to traditional medicine [18-19].

It is important to study the prevalence of defaulters in the local settings to help to plan out preventive measures. By preventing outpatient clinic defaulting, this will hopefully lead to a better care outcome among psychiatric patients and reduce morbidities. This study aims to determine the prevalence of outpatient clinic defaulters in a Malaysian psychiatric clinic and identify both the associated socio-demographic and clinical factors. The identification of these determinants will be beneficial in identifying patients at risk of defaulting and appropriate remedial steps could be taken.

Methodology

This study was conducted in Hospital Slim River which is located in the state of Perak, Malaysia. The hospital provides inpatient and outpatient psychiatric care, community psychiatric services and serves as a referral center for the surrounding area.

Study setting and design

This is a cross sectional observational study with retrospective review of medical records. All medical records for patients with outpatient psychiatry clinic follow-up appointments from October 2017 to December 2017 are selected. Outpatient follow-up appointments rarely exceed three months. Selecting all patients from a three

months period would provide fair generalization and representation of the outpatient population. Using a three months duration would also minimize duplication during the data collection. A total of 304 records were included in the study. The records are reviewed and both the clinical and socio-demographic data are obtained.
In every outpatient clinics, patients who missed their given appointment are traced using appointment records, given reminder via phone calls within the week and assisted to reschedule their appointments. Defaulters are defined as patient who missed their appointments for one month of more, following the definition listed in the Ministry of Health Key Performance Index [7]. Patients who rescheduled their appointments or came later within a month of the intended appointments will not be considered as defaulters.

Sociodemographic and clinical information are obtained and analyzed with Statistical Package for Social Study (SPSS). Sociodemographic information included age, gender, ethnicity, employment, living arrangements, home distance to clinic, marital status and highest education level. Clinical information included diagnosis, comorbid substance use disorder, history of defaulting, previous side effect to treatment, ward admissions and duration of outpatient follow-up were obtained based on the medical records of the study centre. Patients who defaulted follow-ups are compared with the patients who were compliant. Chi square and Fisher's exact test are used where appropriate, to test for statistical significance and odds ratio for defaulting appointment was calculated.

Ethical consideration

This study is registered under National Medical Research Register (NMRR) and ethical approval is obtained from the Medical Research and Ethics Committee (MREC), Ministry of Health Malaysia. Formal institutional approval is also obtained from Director of Hospital Slim River.

Results

Among the total of 304 patients who were included, 3% (n=9) of the patients defaulted their outpatient appointments. The remaining patients were compliant to their outpatient follow-ups during the study period. Comparing the sociodemographic factors between the patients who defaulted follow-ups to those who attended their clinic appointments (Table 1), age and living arrangements showed statistically significant association using Fisher's exact test. Younger patients were more likely to default their clinic appointments. Patients less than 40 years old have higher odds ratio of 8.978 (p= 0.017) of defaulting compare to those above 40 years old. Patients staying alone were also associated with higher odds of defaulting with an odds ratio of 6.205 (p= 0.03) compare to those taken care by their families. The other sociodemographic factors such as gender, ethnicity and employment status did not show statistically significant association with higher odds of defaulting. Those staying further away from the psychiatric clinic of more than 20km also did not have higher odds of defaulting their appointments.

Table 1. Sociodemographic Characteristics of Patients Who Defaulted and Patients Compliant To Outpatient Clinics Appointments

		Default, n (%)	Compliant, n (%)	Odds ratio (95% CI)	P value
Age	≤40 years old	8 (5.4%)	139 (94.6%)	8.978 (1.109-72.691)	0.017*
	>40 years old	1 (0.6%)	156 (99.4%)		
Gender	Male	4 (2.6%)	148 (97.4%)	0.795 (0.209-3.018)	1
	Female	5 (3.3%)	147 (96.7%)		
Ethnicity	Malay	7 (3.7%)	181 (96.3%)	2.204 (0.450-10.797)	0.491
	Chinese, Indian, others	2 (1.7%)	114 (98.3%)		
Employment	Employed	1 (1.2%)	81 (98.8%)	0.33 (0.041-2.682)	0.453
	Unemployed	8 (3.6%)	214 (96.4%)		
Living arrangements	Self	3 (12.0%)	22 (88.0%)	6.205 (1.452-26.514)	0.03*
	Family	6 (2.2%)	273 (97.8%)		
Distance to clinic	≤20 km	3 (2.5%)	117 (97.5%)	0.761 (0.187-3.101)	1
	>20 km	6 (3.3%)	178 (96.7%)		
Marital status [a]	Single/ divorced/ widowed	6 (3.5%)	165 (96.5%)	1.552 (0.381-6.323)	0.736
	Married	3 (2.3%)	128 (97.7%)		
Highest education [a]	Primary school and below	3 (2.5%)	116 (97.5%)	0.733 (0.180-2.989)	0.744
	Secondary and above	6 (3.4%)	170 (96.6%)		

* Statistically significant at $p < 0.05$

[a] subjects with missing information excluded from analysis

Comparing the clinical factors (Table 2), the duration of outpatient follow-ups from the initial consultation have significant association to the odds of defaulting. The patients who have been following up in the outpatient clinic for less than 36 months have higher odds of 14.98 of defaulting (p=0.012) compare to those who had been following up in the same clinic for more than 36 months. Other clinical factors did not show significant association with defaulting clinic appointments. There were no difference in between defaulters and attenders in regards to the primary psychiatric diagnoses, history of outpatient defaulting, previous side effect with treatment or past psychiatric admissions. Presence of co-morbid substance use disorder did not raise the odds of defaulting outpatient appointments.

Table 2. Clinical Characteristics of Patients Who Defaulted and Patients Compliant To Outpatient Clinics Appointments

		Default, n (%)	Compliant, n (%)	Odds ratio (95% CI)	P value
Diagnosis	Psychotic disorders	4 (2.7%)	146 (97.3%)	0.816 (0.215-3.101)	1.000
	Non psychotic disorders	5 (3.2%)	149 (96.8%)		
Co-morbid substance use disorder	Yes	1 (4.0%)	24 (96.0%)	1.411 (0.169-11.763)	0.543
	No	8 (2.9%)	271 (97.1%)		
History of defaulting	Yes	4 (3.4%)	113 (96.6%)	1.288 (0.339-4.899)	0.737
	No	5 (2.7%)	182 (97.3%)		
Previous treatment side effect [a]	Yes	0 (0%)	73 (100%)	0.159	0.121
	No	9 (3.9%)	222 (96.1%)		
Ward admission	0	5 (2.7%)	183 (97.3%)	0.765 (0.201-2.909)	0.736
	≥1	4 (3.4%)	112 (96.6%)		
Outpatient duration [a]	≤36 months	9 (5.2%)	165 (94.8%)	14.98	0.012*
	> 36 months	0 (0%)	130 (100%)		

* Statistically significant at $p < 0.05$

[a] Haldane-Anscombe correction applied

Age of the patients, living arrangements and duration of outpatient contact which showed statistically significant association with defaulting were further analyzed using logistic regression. In the multivariate analysis (Table 3), only living arrangements showed significant association. Patients who stay alone have higher adjusted odds ratio of 4.671 (p=0.046) of defaulting clinic appointments compared to those who stay with the family.

Table 3. Multivariate Analysis of Sociodemographic and Clinical Factors Associated with Defaulting

		P value
Age	≤40 years old	0.105
	> 40 years old	
Living arrangements	self	0.046 *
	family	
Outpatient duration	≤36 months	0.996
	> 36 months	

* Statistically significant at $p < 0.05$

Discussion

Defaulting clinic appointments among psychiatric patients is an important treatment issue. The rate is more significant compare to other medical discipline at times [20].The defaulting rate for our study sample is 3% (n=9) which is kept in line with the National Indicator [7]. In comparison with other studies, the defaulting rate differ vastly in between centres. Adenpole et al found the defaulting rate as high as 49.4% in Nigeria [8] while Lim et al found the defaulting rate of 42.7 per 1000 appointments in Singapore [21]. Direct comparisons between studies are difficult as each studies have different definition of clinic appointment default. Furthermore, every studies are conducted in heterogeneous treatment settings which provide different services in different health care systems.

It is important to determine the associated factors with defaulting to plan preventive measures so there would be no disruption to the continuity of care to each patient. Many other studies had tried to describe possible factors to predict psychiatric clinic non-attendance. Mitchell and Selmes divided the predictors generally to environmental and demographic factors, patient factors, illness factors and clinician factors which help to understand the behaviour [4].

Among the socio-demographic factors in our study population, the age and living arrangements were found to have significant association with defaulting risks. The younger age group below 40 years old has higher odds of defaulting with odds ratio of 8.978 compared to those above 40 years old. Similar results were shown in other studies that the younger age group are at risk [4, 10, 13, 15]. Living arrangements is an important predictor; it is the only factor which shows significant association in multivariate analysis in our study. Patients staying alone have higher adjusted odds ratio of 4.671 of defaulting compare to those who were staying with their family, in line with other studies [13, 22]. Balikci found similar result in a 2 years prospective study with higher defaulting risk among patient who stayed alone [9]. This emphasizes the importance of the role of family support to ensure the continuity of care in psychiatric patients.

The other sociodemographic factors such as gender, ethnicity, employment, marital status, education level, clinic distance from home were not significantly associated with defaulting in our study population. In comparison to other studies, there are varying diverse result on associated sociodemographic factors. We found no gender differences in defaulting appointments, which show similar findings as many other studies [9-10, 12, 15, 21, 24] while Reneses found male patients have higher risk of defaulting [13]. Educational background did not play an important role, in line with other studies [10, 13] while few other studies found lower educational background to be a risk [9, 21]. Interestingly, marital status yield inconsistent result in between studies. We found no increase in odds of defaulting, with similar result to a few studies [9-10, 13, 21]. However, Akhigbe noted that there were increase risk in patients who are single [22], postulating the lack of support in this group of patients; while Smyth found higher risk among those married, citing marriage provide social stability, and therefore reduce dependence to treatment [15]. Employment did not show significant association, in line with other studies [9-10, 13] while Smyth found a higher rate of defaulting among those who are employed, signifying that this group of patient who were less ill, and therefore less reliant on treatment [15].

Many other studies had shown that patients who stayed further away from the health services had higher risk of defaulting [4, 11, 14, 23] but clinic distance from home did not yield significant result in our study population. In our study population, patients stay further away would usually be followed-up in their nearest primary care health facility but those with more complex need requiring further care would be referred out to the clinic in our study center which serve as a referral centre. Those who agreed to be referred out would have higher motivation to attend the appointments, with enough motivation to compensate for the travel distance [24].

Patients who started their consultation less than 36 months have higher odds of defaulting with an odds ratio of 14.98. Similarly Melo found patients with less than 4 clinic appointments have higher risk [11] while Pang found in his study in Hong Kong, patients with follow-up less than a year tend to default [12]. Melo further describe that the risk is due to the lack of time to develop bond and therapeutic relationship [11].

Other clinical determinants did not show significant association. Diverse findings had been shown in other studies concerning primary psychiatric diagnoses. Smyth found that psychotic disorder tend to default less due to reliance on treatment while Lim found schizophrenia tend to default more [15, 21]. Some found personality disorders, neurotic patients tend to default more [4, 15]. In our study population, the primary diagnoses did not played a major role. Presence of comorbid substance use disorders also did not have significant association, comparable to other studies [9-10]. Our findings echo with Reneses which past psychiatric admission did not predict defaulting risk [13] while a few studies found significant association [9, 11]. Past defaulting or treatment emergence adverse event were not found to be significant predictor of future attendance.

There are limitations to the findings in this study as our study depend on the medical records of the patients. The information of those who had received treatment or admitted to inpatient services in other centers may not be captured fully and may be liable for recall bias. There are other factors related to defaulting appointments which are not studied especially factors related to service delivery such as choices of doctors, which yield significant result in another local study [18]. Certain sociodemographic and clinical factors such as financial status, stigma, and severity of illness are beyond the scope of the methodology of this study. The low incidence of defaulting may also affect the statistical analysis of the study. Due to the varying treatment availability and different practices in other treatment facilities, the findings in this centre may have limited generalizability to other population. With the limitations, further studies could be planned to identify managing strategies to minimize defaulting rate among psychiatric outpatient in order to improve the outcome of their treatment.

Ensuring continuous care is an important consideration in our psychiatric patients to improve outcome and to raise the quality of life. Concerted efforts should be initiated and maintained to prevent defaulting. Findings in this study identify population at risk with higher odds of defaulting to help plan preventive strategies. Further studies can be initiated in different centers to help to determine other associated factors.

Declaration of Interest

This study did not receive any financial support from any company or institution and the authors did not have any commercial relationship.

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