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STUDY TO EVALUATE THE PREVALENCE AND FACTORS ASSOCIATED WITH PSYCHIATRIC PATIENT DROP OUT AFTER FIRST VISIT IN A TERTIARY CARE CENTRE - PROSPECTIVE STUDY

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Abstract

Aim and Objective - To Assess the prevalence and factors associated with psychiatric patient dropout after first visit in a tertiary care centre. **Background -** Early identification of risk factors and their relative contributions to the dropouts, we Can plan appropriate management and prevention strategies. Factors that predict dropout need to be identified so that the problems facing patients who are likely to end their treatment inappropriately can be prevented. Greater knowledge of the factors related to dropouts might increase the likelihood of keeping patients in treatment. **Materials and Methodology -** A prospective study was conducted among the psychiatric population who were arriving at the Outpatient Psychiatry Department. Study duration: The duration of this study was 9 months from April 1st to December 31st during the year 2021. Once the study participants met the eligibility criteria, they were included in this study through a convenient Sampling technique. The data tool consists of two parts: first, demographic variables like age, gender, place of residence, socio-economic status, and marital and employment status. The second part consists of clinical factors such as onset and duration of illness, family history and past history, substance abuse, and diagnosis of the patient. The inferential statistics were done using SPSS version 21. **Results -** Those patients who had not attended the psychiatric OP for more than one month from the follow-up date were termed dropouts, from among 200 patients, the dropout rate was around 30 %. Among the socio-demographic variables, individuals who got separated, those who were in a nuclear family, those who hail from an urban area, and those who were unemployed were at high risk of being a psychiatric dropout. Clinical characteristics that put people at a high risk of being psychiatric dropouts included those who had a positive family history, a history of substance addiction, were unaccompanied by an informant, and lacked insight. **Conclusion -** Patient dropout is a frequent issue in outpatient psychiatric therapy. The socio-demographic risk factors for being a dropout are urban residence and belonging to a higher socio-economic status. The clinical risk factors for being a dropout are substance abuse and a past history of psychiatric illness. It is advised that more research be done on the causes of dropout and methods to lower dropout rates.

INTRODUCTION

Psychiatric diseases are common, causing significant morbidity and disability. Although there is treatment effectiveness, a significant majority of people with psychological illnesses do not obtain treatment or fall into the category of drop out. Drop out is another phrase for ending a course of therapy despite a therapeutic need. Research has looked at patient factors that might lead someone to stop receiving psychiatric therapy.

Substance addiction, low perceived need for treatment, and low socioeconomic level have all been found to be reliable indicators of dropout risk. [1] Untreated psychiatric

disorders have emotional, and socio-economic implications, as well as the potential to raise medical expenditure through a range of interconnected pathways. Understanding treatment hurdles is critical especially for those who dropout which helps in planning mental health care, allocating resource priorities, and thus decreasing the impact of psychiatric illness. [2–6]

Dropout rates during treatment among the psychiatric patient are significant, with the most common causes cited as service dissatisfaction and budgetary constraints. [7,8] The treatment provided will be ineffective if there is patient dropout since duration of treatment is most important in psychiatric illness. [9,10] There are many reasons for this dropout. The two main reasons are resource constraints and pessimism regarding the effectiveness of the treatment. In addition to this, most of the patients were disorganised in behaviour and more sensitive to the drug side effects. [11–13] Although past knowledge of treatment dropout exists, very little is known regarding the extent to which patients fail to complete the entire course of treatment. Small and very restricted study groups, such as patients with a specific mental condition, have often limited previous studies of treatment dropout. Because of these constraints, these studies have yielded mixed results in terms of the frequency and predictors of patient's dropout.

There are not many hospital-based research from India that have looked at the variables causing dropout from psychiatric care, despite the fact that dropout is a prevalent occurrence there. The goal of this study is to narrow this gap. With this background, this study has been conducted with the objective of assessing the prevalence of drop out and to identify the risk factors associated with the dropout during follow up period among the psychiatric patients

METHODOLOGY

Study design and study population:

In a tertiary medical care facility in Kanchipuram, a prospective study was conducted among the psychiatric population who were arriving to the Out Patient Psychiatry Department.

Study duration:

The duration of this study was 9 months from April 1st to December 31st during the year 2021.

Ethical clearance:

The current study has been commenced after getting the ethical clearance from the institutional ethical committee, Saveetha Medical College and Hospital (SMCH)

Eligibility criteria:

Inclusion criteria: The study comprised all patients, regardless of age group, who visited the psychiatric outpatient department during the study period. Both genders of people were included. Additionally, individuals who were referred for a psychiatric opinion from another department for any reason were included in this study.

Exclusion criteria: Patients having diagnosis of an intellectual disability, dementia, or an organic psychosis were excluded from the study. Everyone who was admitted to the psychiatric unit after their initial consultation was excluded. Patients who visited

the psychiatric OPD to receive a fitness or medical certificate were also not included in the study.

Sampling technique and Sample size:

Once the study participants met the eligibility criteria, they were asked for informed consent. Then, they were included in this study through convenient Sampling technique. A study conducted by Krussel et al., states that the prevalence rate of dropout was 26 percent and setting the confidence interval at 95 percent, with an absolute error of six percent, we calculated the sample size using the formula $3.84*p*q/d^2$, where p is the prevalence, q is compliment of p, and d is an absolute error. The minimum sample size needed is around 200. [1]

Data collection:

After getting informed consent, the study participants were interviewed for socio-demographic variables and clinical features. The data tool consists of two parts: first, demographic variables like age, gender, place of residence, socio-economic status, and marital and employment status. The second part consists of clinical factors such as onset and duration of illness, family history and past history, substance abuse, and diagnosis of the patient. The clinical diagnosis for each patient was made as per the category of diagnosis provided in ICD 10 (International Classification of Diseases – 10): Mental and Behavioural Disorders. After getting the above details, the patients were given a follow-up date (ranging from one to two weeks) for a subsequent visit. Those patients who had not attended the psychiatric OP for more than one month from the follow-up date were termed dropouts. The outcome variable was whether the patient was on regular treatment or not (dropout).

Data entry:

The data obtained was entered into Microsoft Excel. The inferential statistics were done using SPSS version 21. The continuous variables were expressed in terms of their mean and standard deviation. The qualitative variables were expressed in terms of frequency and percentage. The association between the categorical variable and the outcome variable was assessed using the chi-square test. A P-value of less than 0.05 with a 95% confidence interval is considered statistically significant.

RESULTS

In our study, about 200 individuals participated. The mean age of the study participants was 37.74 years. The mean duration of illness among them was about three years, with a minimum of one year duration and a maximum of eight-year duration. The age and duration of the illness among the study participants are given in table 1.

Table 1: Distribution of the study participants according to their age and duration of illness (n = 200)

	Age	Duration of illness (In years)
Mean	37.74	2.99
Median	36.00	3.00
Mode	31	2
Std. Deviation	9.797	1.613
Minimum	22	1
Maximum	64	8

The current study's participants were mostly women (59 percent). Most of them were Hindu by religion. According to the modified P.G. Prasad scale, the majority of participants (43%) belonged to socioeconomic class 3. Almost 70 percent of the study's participants hail from rural areas. About one-third of them were unemployed. The general distribution of the study participants was shown in table 2.

Table 2: Distribution of the general characteristics of the study participants (n = 200)

S. No	General characteristics		Frequency	Percent
1	Gender	Female	118	59.0
		Male	82	41.0
2	Religion	Christian	30	15.0
		Hindu	149	74.5
		Muslim	21	10.5
3	Education	Any graduation	42	21.0
		Higher secondary	81	40.5
		No primary education	14	7.0
		Primary education	21	10.5
		Secondary education	42	21.0
4	Socio-economic class status (According to modified P.G. Prasad scale)	Class 1	22	11.0
		Class 2	33	16.5
		Class 3	86	43.0
		Class 4	35	17.5
		Class 5	24	12.0
5	Marital status	Divorced	30	15.0
		Married	125	62.5
		Separated	23	11.5
		Single	22	11.0
6	Type of family	Joint	66	33.0
		Nuclear	76	38.0
		Nuclear extended	58	29.0
7	Place of residence	Rural	140	70.0
		Urban	60	30.0
8	Employment status	Employed	133	66.5
		Not employed	67	33.5

The occupation of the study participants was shown in table 3. About one-third were unemployed and about one-fifth were involved in agriculture.

Table 3: Distribution of the study participants according to their occupation (n = 200)

Occupation	Frequency	Percent
Agriculture	42	21.0
Business	25	12.5
Clerks or office job	13	6.5
Non skilled worker	8	4.0
Professionals or executives	12	6.0
Skilled worker	33	16.5
Unemployed	67	33.5
Total	200	100.0

The clinical features of the study participants are described in table 4. Four-fifths of the patients had a insidious onset. Almost 2/3 of the patients were accompanied by an informant. About 1/4th of the patients had a history of substance abuse. Affective disorder was the most common psychiatric illness among study participants (33.5 percent). In the current study, the prevalence of psychiatric dropout was around 30%.

Table 4: Distribution of study participants according to their clinical features (n = 200)

S. No	Clinical features		Frequency	Percent
1	Onset of illness	Acute	38	19.0
		Insidious	162	81.0
2	Course of disease	Continuous	62	31.0
		Episodic	138	69.0
3	Accompanied with informant	No	60	30.0
		Yes	140	70.0
4	Family history	No	101	50.5
		Yes	99	49.5
5	Past history	No	119	59.5
		Yes	81	40.5
6	History of substance abuse	Absent	149	74.5
		Present	51	25.5
7	Insight	Absent	58	29.0
		Partial	76	38.0
		Present	66	33.0
8	Diagnosis	Affective disorders	67	33.5
		Psychotic disorders	30	15.0
		Anxiety disorder	30	15.0
		Obsessive compulsive disorder	15	7.5
		Other disorders	58	29.0
9	Regular treatment	Dropout	60	30.0
		Regular	140	70.0

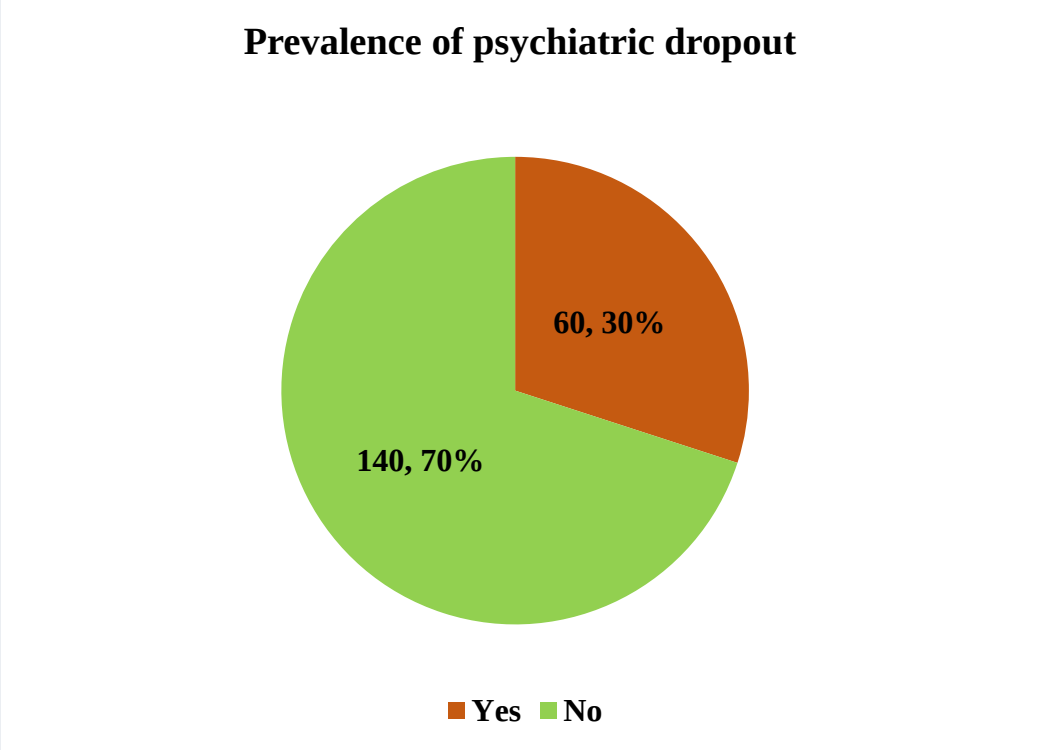

Figure 1: Distribution of study participants according to Psychiatric dropout (n = 200)

The association between general characteristics of the study participants and psychiatric dropout was shown in table 5. Among the socio-demographic variables, individuals those who got separated, those who were in nuclear family, who hail from urban area, and those who were unemployed were high risk for being a psychiatric dropout. This association was statistically significant according to the Chi-square test (p 0.05).

Table 5: Association between general characteristics of the study participants and dropout

S. No	General characteristics			Regular treatment		Chi-square test	P-Value
				Dropout	Regular		
1	Gender	Female	N	37	81	0.252	0.616
			%	31.4%	68.6%		
		Male	N	23	59		
			%	28.0%	72.0%		
2	Religion	Christian	N	8	22	0.273	0.873
			%	26.7%	73.3%		
		Hindu	N	45	104		
			%	30.2%	69.8%		
		Muslim	N	7	14		
			%	33.3%	66.7%		
3	Marital status	Divorced	N	7	23	27.218	< 0.001
			%	23.3%	76.7%		
		Married	N	37	88		
			%	29.6%	70.4%		
		Separated	N	16	7		
			%	69.6%	30.4%		

		Single	N	0	22		
			%	0.0%	100.0%		
4	Type of family	Joint	N	7	59	93.824	< 0.001
			%	10.6%	89.4%		
		Nuclear	N	53	23		
			%	69.7%	30.3%		
		Nuclear extended	N	0	58		
			%	0.0%	100.0%		
5	Place of residence	Rural	N	15	125	82.653	< 0.001
			%	10.7%	89.3%		
		Urban	N	45	15		
			%	75.0%	25.0%		
6	Employment status	Employed	N	15	118	66.265	< 0.001
			%	11.3%	88.7%		
		Not employed	N	45	22		
			%	67.2%	32.8%		

The association between the socio-economic status of the study participants and psychiatric dropout was shown in table 6. Among the individuals who belonged to class 1 and class 2, about 68.2 percent and 39.4 percent of the participants were termed as psychiatric dropouts when compared to other socio-economic classes. This difference in the proportion between the above groups was statistically significant according to the Chi-square test (p 0.001).

Table 6: Association between socio-economic status of the study participants and dropout

Socio-economic class status (According to modified P.G. Prasad scale)		Regular treatment		Total	Chi-square test	P-Value
		Dropout	Regular			
Class 1	Count	15	7	22	27.593	< 0.001
	%	68.2%	31.8%	100.0%		
Class 2	Count	13	20	33		
	%	39.4%	60.6%	100.0%		
Class 3	Count	13	73	86		
	%	15.1%	84.9%	100.0%		
Class 4	Count	9	26	35		
	%	25.7%	74.3%	100.0%		
Class 5	Count	10	14	24		
	%	41.7%	58.3%	100.0%		

Table 7 depicts the relationship between research participants' clinical characteristics and psychiatric dropout. Clinical characteristics that put people at a high risk of being psychiatric dropouts included those who had a positive family history, a history of substance addiction, were unaccompanied by an informant, and lacked insight. The Chi-square test determined that this association was statistically significant (p 0.05).

Table 7: Association between clinical features of the study participants and dropout

S. No	Clinical features			Regular treatment		Chi-square value	P - Value
				Dropout	Regular		
1	Family history	No	N	21	80	8.238	0.004
			%	20.8%	79.2%		
		Yes	N	39	60		
			%	39.4%	60.6%		
2	Past history	No	N	45	74	8.546	0.003
			%	37.8%	62.2%		
		Yes	N	15	66		
			%	18.5%	81.5%		
3	History of substance abuse	Absent	N	23	126	59.017	< 0.001
			%	15.4%	84.6%		
		Present	N	37	14		
			%	72.5%	27.5%		
4	Insight	Absent	N	37	21	46.259	< 0.001
			%	63.8%	36.2%		
		Partial	N	16	60		
			%	21.1%	78.9%		
		Present	N	7	59		
			%	10.6%	89.4%		
5	Diagnosis	Affective disorders	N	23	44	0.923	0.630
			%	34.3%	65.7%		
		Other disorders	N	29	74		
			%	28.2%	71.8%		
		Psychotic disorders	N	8	22		
			%	26.7%	73.3%		
6	Onset of illness	Acute	N	16	22	3.274	0.070
			%	42.1%	57.9%		
		Insidious	N	44	118		
			%	27.2%	72.8%		
7	Course of disease	Continuous	N	16	46	0.752	0.386
			%	25.8%	74.2%		
		Episodic	N	44	94		
			%	31.9%	68.1%		
8	Accompanied with informant	No	N	45	15	82.653	< 0.001
			%	75.0%	25.0%		
		Yes	N	15	125		
			%	10.7%	89.3%		

Table 8 describes the odd ratio and adjusted odd ratio of the risk factors that are associated with psychiatric dropout. The adjusted odds ratio was assessed by using binary logistic regression analysis. The regression analysis was done for each risk factor by considering the other risk factors as confounding variables. Patients with a negative past history had a 9.186 times higher risk of being a psychiatric dropout than those with a positive past history.

Table 8: Description of risk factors according to their odds ratio and adjusted odds ratio (n = 200)

S. No	Risk factors			Regular treatment		P - Value	Odd's ratio (CI)	Adjusted Odd's ratio (CI)
				Dropout	Regular			
1	Family history	No	N	21	80	0.004	0.404 (0.216 – 0.756)	0.00
			%	20.8%	79.2%			
		Yes	N	39	60			
			%	39.4%	60.6%			
2	Past history	No	N	45	74	0.003	2.676 (10366 – 5.239)	9.186 (6.786 – 15.124)
			%	37.8%	62.2%			
		Yes	N	15	66			
			%	18.5%	81.5%			
3	History of substance abuse	Absent	N	23	126	< 0.001	0.669 (0.032 – 0.148)	0.00
			%	15.4%	84.6%			
		Present	N	37	14			
			%	72.5%	27.5%			
			%	10.7%	89.3%			
4	Place of residence	Urban	N	45	15	< 0.001	25 (11.316 – 55.23)	0.00
			%	75.0%	25.0%			
		Rural	N	15	125			
			%	10.7%	89.3%			
5	Employment status	Not employed	N	45	22	< 0.001	0.062 (0.03 – 0.130)	0.00
			%	67.2%	32.8%			
		Employed	N	15	118			
			%	11.3%	88.7%			

DISCUSSION

Our study discusses the socio-demographic and clinical factors that are associated with psychiatric dropout among patients visiting psychiatric OP. The current study found that about 70 percent of the study participants hail from rural areas. Similar to our study, a study done in India in 2017 showed that about 71.9 percent of the respondents hailed from rural areas. [14] But they didn't find a statistically significant association between a patient's residence and dropout. However, the current study found an association between patients who reside in urban areas and more dropouts than patients who reside in rural areas. This discussion needs further research.

Our study found that about one-third of the participants were unemployed. In contrast to our findings, Jain et al.'s study in India found only 15% unemployment. [14] This difference in the rate of unemployment might be a reason for the association found in the current study with dropout. Thus, this needs further exploration. In our study, the prevalence of substance abuse was nearly 25%. A 30-percent prevalence rate was found in a study done in India by Jain et al., which is similar to our study finding. Though our study found a statistically significant association between substance abuse and dropout, the study done by Jain et al., found no association between them. [14] The most prevalent psychiatric illness in the current study was affective disorder. In contrast to our findings, a 2016 Japanese study by Minamisawa et al. concluded that anxiety disorder is a more common illness. [15] Another study done by Henzen et al., in Switzerland, shows similar results. In that study, they found a statistically significant association between anxiety disorder and psychiatric dropout. [16] This difference might be due to the variations in the rate of admissions of the various cases in different centres. The prevalence of psychiatric dropout in our study was 30 percent. Similar results were found by Minamisawa et al. in 2016, in Japan. They discovered a

35% prevalence of psychiatric dropout. [15] Another study, conducted by Henzen et al. in 2016, found a 37.5 percent prevalence rate for dropouts. [16] Many previous studies show similar results for dropouts. [17–19] Also, a meta-analysis was done by Kan et al. in 2020 with 21 studies with the aim of reviewing dropout. They discovered a similar dropout rate (28%) as well. [20] This suggests that, in any setting, dealing with dropouts was a top priority in the psychiatric outpatient department. Our study results imply that psychiatric patients who belonged to the upper socio-economic status had a higher rate of dropouts than the middle and lower classes. A study done by Minamisawa et al. in 2016, in Japan, found a statistically significant association between higher education level and dropout. [15]

The current study found that among the socio-demographic variables, individuals who got separated, those who were in nuclear families, those who hailed from urban areas, and those who were unemployed were at high risk for being psychiatric dropouts. A study done by Khazaie et al. in 2012 in Iran concluded that there was a statistically significant association between unemployment and dropout. The same study also found that patients who got divorced and had low levels of education had an association with dropout. [21] In contrast to our findings, a Japanese study conducted by Minamisawa et al. (2016) concludes that being married is a risk factor for dropping out. [15] This discussion needs further research. Patients with a negative past history had a 9.186 times higher risk of being a psychiatric dropout than those with a positive past history, according to a regression analysis of the study results. A study done by Jain et al. in India found a similar association between dropout and the presence of a past history of illness with statistical significance. [14]

LIMITATIONS OF THE STUDY

Those patients mentioned as dropouts in the current study may receive treatment in some other hospital. But due to a lack of a psychiatric registry, we were unable to follow those patients and we considered them dropouts. This may influence the prevalence of the study. Our study population was heterologous in terms of their diagnosis, which varies for different hospitals. And also, the current study was a hospital-based study, which may have an impact on dropout prevalence. Our study didn’t acquire any qualitative data about the reasons for dropout. However, our study found useful information which can aid further studies.

CONCLUSION

Patient dropout is a frequent issue in outpatient psychiatric therapy. The socio-demographic risk factors for being a dropout are urban residence and belonging to a higher socio-economic status. The clinical risk factors for being a dropout are substance abuse and a past history of psychiatric illness. It is advised that more research be done on the causes of dropout and methods to lower dropout rates.

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