Original Article

Duration of untreated psychosis of first-episode psychotic disorders in Yogyakarta, Indonesia

Carla R. Marchira[1] ID , Irwan Supriyanto*[1] ID

[1] *Department of Psychiatry, School of Medicine, Public Health, and Nursing, Gadjah Mada University, Yogyakarta, Indonesia*

Abstract

Introduction: Duration of untreated psychosis (DUP) is an important predictor for prognosis in first episode of psychotic disorders. Caregivers often seek help from alternative healers first and health professional later. These would delay proper treatments for the patients, resulting in more severe symptoms and lower functioning on their visit to medical facility. The present study aims to find the association between DUP, symptoms severity, and global functioning in patients with first-episode psychotic disorders.

Methods: We identified 100 patients with first episode of psychotic disorders and their caregivers. The instruments used were Brief Psychotic Rating Scale (BPRS), Positive and Negative Syndrome Scale (PANSS), Premorbid Schizoid-Schizotypal Traits (PSST), and Global Assessment of Functioning (GAF).

Results: There were no significant association between BPRS, PANSS, PSST, and GAF scores and DUP in our subjects. Nevertheless, we found that men had significantly longer DUP compared to women.

Conclusion: We found significant association between sex and DUP in this study. Longer DUP leads to delayed treatments and poorer prognosis. Further study is required to confirm our finding.

Introduction

Psychotic disorder is a severe mental disorder with debilitating consequences. Psychotic symptoms will impair the patient's mental capacity, affective response, and capacity to recognize reality, communicate, and relate to others.[1] Prompt medical intervention often results in a better prognosis.

In Indonesia, instead of visiting health professionals, psychotic patients and their caregivers seek help from traditional healers or religious healers. Caregivers of psychotic patients, particularly in Asia, believe that the psychotic symptoms are not disorders but because of supernatural causes, they are something beyond human understanding.[2] These beliefs often prolong the duration of illness and delay their first contact to medical intervention.[3] The duration between the onset of the illness and the first contact to medical intervention is called duration of untreated psychosis (DUP).

Prior to their visit to health professionals, usually they seek help from alternative or traditional healers such as dukun (shaman) or religious healers (kyai, ustadz, ruqyah). This would delay the medical treatment and lengthen the DUP. The caregivers frequently delay help-seeking until the patients already exhibit more severe psychotic symptoms.[3] In this study, we examine the severity of symptoms, premorbid traits, and global functioning in a first episode of psychotic disorders and its association with DUP in Yogyakarta, Indonesia.

Methods

This descriptive-analytical study with

* Corresponding Author: Irwan Supriyanto, Email: irwan-psi@ugm.ac.id

cross-sectional design was conducted in hospitals of Yogyakarta area which had at least one psychiatrist who agreed to participate in this study (Sardjito Hospital, Grhasia Mental Hospital, Yogyakarta District Hospital, and Puri Nirmala Mental Hospital). The protocol of this study has been approved by the Ethical Committee of the Medical School of Gadjah Mada University.

One hundred patients with early psychosis and their caregivers were recruited. The inclusion criteria were: 1. first episode of any psychotic disorders diagnosis established by at least two psychiatrists according to the International Classification of Diseases-10th Edition (ICD-10) criteria; 2. patients' age between 15-30 years and caregivers' age between 18-70 years; and 3. obtained informed consent. Patients who were diagnosed as having affective disorders with psychotic symptoms, a history of substance abuse, and those with DUP exceeding 1 year were excluded from the study.

The instruments used in this study were Brief Psychotic Rating Scale (BPRS), Positive and Negative Syndrome Scale (PANSS), Premorbid Schizoid-Schizotypal Traits (PSST), and Global Assessment of Functioning (GAF).

The data were then analyzed statistically. Statistical analyses were performed using SPSS software (version 17, SPSS Inc., Chicago, IL, USA). Statistical significance was defined at P < 0.050.

Results

Most of our subjects were diagnosed as having brief psychotic disorders (63%), followed by schizophrenia and schizoaffective disorders (31% and 6%, respectively). Although our subjects were diagnosed as having first episode of psychotic disorders, one third of them were unemployed. This high unemployment rate was due to the fact that most of our subjects were at school age and still attending school (mean age 22.4 ± 4.5 years). The same also accounted for the marital status (Table 1). The mean DUP and BPRS, PANSS, PSST, and GAF scores were presented in table 1.

Correlation analyses revealed no significant associations between DUP, BPRS, PANSS, PSST, and GAF (Table 2). Analyses by gender revealed that male subjects had significantly longer DUP [t = 2.104; degree of freedom (df) = 88.134, P = 0.038] (Table 3).

Table 1. Characteristics of subjects with first episode of psychotic disorders (n = 100)

Variables		Value
Sex (%)	Male	39
	Female	61
Marital status (%)	Single	86
	Married	13
	Divorced	1
Education (%)	Elementary school	13
	Junior High School	22
	Senior High School	52
	Diploma/bachelor degree	13
Occupational status (%)	Employed	69
	Unemployed	31
Diagnosis (%)	F20 schizophrenia	31
	F23 brief psychotic disorder	63
	F25 schizoaffective disorder	6
Age (year) (mean ± SD)		22.4 ± 4.5
DUP (week) (mean ± SD)		3.1 ± 4.2
BPRS (mean ± SD)		49.4 ± 11.8
PANSS (mean ± SD)		76.7 ± 16.8
PSST (mean ± SD)		13.7 ± 3.7
GAF (mean ± SD)		2.3 ± 0.7

DUP: Duration of untreated psychosis; BPRS: Brief psychotic rating scale; PANSS: Positive and negative syndrome scale; PSST: Premorbid schizoid-schizotypal traits; GAF: Global assessment of functioning; SD: Standard deviation

Table 2. Association between duration of untreated psychosis (DUP), brief psychotic rating scale (BPRS), positive and negative syndrome scale (PANSS), premorbid schizoid-schizotypal traits (PSST), and global assessment of functioning (GAF) using Pearson's correlation analysis

Variables		r	P
DUP	BPRS	0.045	0.658
	PANSS	-0.030	0.766
	PSST	-0.059	0.561
	GAF	0.171	0.088

DUP: Duration of untreated psychosis; BPRS: Brief psychotic rating scale; PANSS: Positive and negative syndrome scale; PSST: Premorbid schizoid-schizotypal traits; GAF: Global assessment of functioning

Discussion

In this study, we found that sex was significantly associated with DUP, while symptoms severity, premorbid traits, and global functioning were not. DUP is the duration from the first time the psychotic symptoms are recognized or appear until the patients receive proper and effective treatments. DUP is an important predictor for prognosis for the current and future psychotic attacks.[4,5]

Table 3. Analyses by gender for duration of untreated psychosis (DUP), brief psychotic rating scale (BPRS), positive and negative syndrome scale (PANSS), premorbid schizoid-schizotypal traits (PSST), and global assessment of functioning (GAF) with t-test analyses

Variables		Mean ± SD	T-test		
			t	df	P
DUP	Men	3.7 ± 5.1	2.104	88.134	0.038
(week)	Women	2.2 ± 2.2			
BPRS	Men	50.2 ± 12.7	0.841	98.000	0.403
	Women	48.2 ± 10.4			
PANSS	Men	76.6 ± 15.9	-0.120	98.000	0.904
	Women	77.0 ± 18.3			
PSST	Men	14.1 ± 3.9	1.157	98.000	0.250
	Women	13.2 ± 3.3			
GAF	Men	2.4 ± 0.7	0.471	98.000	0.639
	Women	2.3 ± 0.8			

DUP: Duration of untreated psychosis; BPRS: Brief psychotic rating scale; PANSS: Positive and negative syndrome scale; PSST: Premorbid schizoid-schizotypal traits; GAF: Global assessment of functioning; SD: Standard deviation; df: Degree of freedom

We used BPRS and PANSS to assess psychosis symptoms. The BPRS is a frequently-used and psychometrically-sound assessment device collecting explicitly certain aspects of psychotic behavior, but it only assesses subjective global impression on the disorder. PANSS, on the other hand, measures multiple aspects of the disorder, including the positive and negative symptoms. The combined use of the two instruments was particularly useful to determine the current acute condition of the psychotic symptoms of our subjects and was used to determine the presence of sound psychotic symptoms.

Nevertheless, we did not find any significant correlation between the severity of symptoms and DUP. Our result is in contrast with previous finding which found that short DUP was associated with higher BPRS score.[6] This might be due to the relatively short DUP found in our subjects. The relatively short DUP resulted in relatively similar stage of illness in our subjects, and hence the lack of significant difference in the BPRS and PANSS scores.

In Indonesia, most of caregivers seek help from traditional or spiritual healers prior to their visit to medical facilities. This often results in failure and worsening of the illness and deterioration of functioning. Nevertheless, we failed to show significant association between DUP and GAF as shown by previous study.[7] This might also be attributed to the relatively short DUP in our subjects.

We found that men had significantly longer DUP which would result in a longer delay in treatment. This result was in accordance with previous finding in first-episode schizophrenia by Thorup et al.[8] This might be the result of cultural bias of gender, particularly among Javanese. Men are considered to be stronger and should be able to overcome stress by themselves. On the other hand, women are viewed to be weak and unable to fend for themselves. Hence, the caregivers of female patients immediately seek medical help once the traditional spiritual method failed.

Another explanation of the gender bias in our results is that women hold the central role for household management among Javanese families. Therefore, disruption in the female member of the family will significantly disrupt the family and hence women have shorter DUP. This is particularly true for mothers, wives, and

daughters alike, since Javanese families live in an extended family comprising of multiple generations in a single roof.

There were limitations in this study. The first was recall bias as the onset of the psychotic episodes was established based on the memory of the caregivers on the disease progression. Thus, subjects with DUP of more than one year were excluded from this study. The second was that the subjects were patients in hospitals. We did not include the patients who failed to reach medical facility or whose caregivers refused to get medical help.

Conclusion

We found significant association between sex and DUP in this study. DUP is an important prognostic factor for patients with psychotic disorders. Delayed medical intervention has been reported to be associated with a higher risk of violent suicide attempts, poor prognosis, incomplete and slow remission, and psychological and social impairments. These will distress the family and caregivers and will place a burden on them, resulting in lack of family support and increased burden on the family and caregivers.[4,9] Further study with a prospective design is required to further confirm the findings of this study, particularly regarding the outcomes and prognosis of first-episode psychosis and their association with DUP.

Authors' Contribution

Carla R. Marchira developed the study protocol and was responsible for data collection. Irwan Supriyanto was responsible for data analyses and manuscript writing.

Conflict of Interest

Authors have no conflict of interest.

Ethical Approval

The protocol of this study has been approved by the Medical Health Research Ethics Committee (MHREC), School of Medicine, Public Health, and Nursing, Gadjah Mada University.

References

1. Stahl SM. Stahl's essential psychopharmacology: Neuroscientific basis and practical applications. 4th ed. Cambridge, UK: Cambridge University Press; 2013. p. 608.
2. Jorm AF, Korten AE, Jacomb PA, Rodgers B, Pollitt P, Christensen H, et al. Helpfulness of interventions for mental disorders: Beliefs of health professionals compared with the general public. Br J Psychiatry 1997; 171: 233-7.
3. Yang LH, Wonpat-Borja AJ. Causal beliefs and effects upon mental illness identification among chinese immigrant relatives of individuals with psychosis. Community Ment Health J 2012; 48(4): 471-6. DOI: 10.1007/s10597-011-9464-z
4. Edwards J, McGorry PD. Implementing early intervention in psychosis: A guide to establishing psychosis services. London, UK: Taylor and Francis; 2002.
5. McGorry PD, Killackey E, Yung A. Early intervention in psychosis: Concepts, evidence and future directions. World Psychiatry 2008; 7(3): 148-56. DOI: 10.1002/j.2051-5545.2008.tb00182.x

6. Qin H, Zhang J, Wang Z, Min H, Yan C, Chen F, et al. Duration of untreated psychosis and clinical outcomes of first-episode schizophrenia: A 4-year follow-up study. Shanghai Arch Psychiatry 2014; 26(1): 42-8. DOI: 10.3969/j.issn.1002-0829.2014.01.006
7. Keshavan MS, Haas G, Miewald J, Montrose DM, Reddy R, Schooler NR, et al. Prolonged untreated illness duration from prodromal onset predicts outcome in first episode psychoses. Schizophr Bull 2003; 29(4): 757-69. DOI: 10.1093/oxfordjournals.schbul.a007045
8. Thorup A, Petersen L, Jeppesen P, Ohlenschlaeger J, Christensen T, Krarup G, et al. Gender differences in young adults with first-episode schizophrenia spectrum disorders at baseline in the Danish OPUS study. J Nerv Ment Dis 2007; 195(5): 396-405. DOI: 10.1097/01.nmd.0000253784.59708.dd
9. Nielssen OB, Large MM. Untreated psychotic illness in the survivors of violent suicide attempts. Early Interv Psychiatry 2009; 3(2): 116-22. DOI: 10.1111/j.1751-7893.2009.00117.x