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Brief communication

Association of duration of untreated psychosis and functional level, in first episode of schizophrenia attending an outpatient clinic in Sri Lanka

Miyuru Chandradasa[1], Layani Champika[2], Kavinda Gunathillaka[2], Jayan Mendis[2]

[1] Faculty of Medicine, University of Kelaniya, ,Sri Lanka, [2]National Institute of Mental Health, Sri Lanka

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Abstract

Schizophrenia is a progressive disorder that affects thoughts, emotions, perceptions and psychosocial behaviour. The duration of untreated psychosis (DUP) is the time period from development of initial psychotic symptom in the patient to the beginning of adequate treatment. Studies in the west have indicated that longer DUP is associated with poorer prognosis and functional level in schizophrenia. This study aimed to quantify the DUP retrospectively in a group of patients in their first episode of schizophrenia attending the outpatient psychiatry clinic of National Hospital of Sri Lanka. Their functional level was assessed using the modified general assessment of functioning scale (mGAF) prospectively over three months. The mean DUP was 35.5 months and a longer DUP was significantly associated with lower mGAF scores. This DUP is higher compared to western and Indian data, and indicates the need for early recognition and management.

Corresponding Author: Miyuru Chandradasa, E-mail: < miyuruc@kln.ac.lk>
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Introduction

Schizophrenia is a progressive disorder that affects thoughts, emotions, perceptions and psychosocial behaviour. This disorder is associated with occupational, academic and social functional impairment[1]. The cost of this decline in functioning is borne not only by the patient, but also by his or her family, community, and the government. The duration of untreated psychosis (DUP) is the time period from the development of initial psychotic symptom, which is a delusion, a hallucination or formal thought disorder, to the beginning of adequate treatment[2]. Studies in the west have indicated that longer DUP is associated with poorer prognosis and functional level in later years of life[1].Different factors such as social stigma, mental health literacy and accessibility to services could lead to delayed presentation of Schizophrenia[3].

In a recently published study, which was done among patients with variety of psychotic illnesses from Sri Lanka, the average DUP was found to be 14 weeks. Out of the 60 participants studied in that study, only 33 were diagnosed of schizophrenia

and others were diagnosed of other psychotic disorders[4].There is a dearth of studies on functional level in schizophrenia for South Asia. Sri Lanka is a developing country with limited health care resources. It is documented that only 1.6% of the health budget is spent on mental health and that is highly inadequate considering the burden of psychiatric disorders[5]. Therefore it is imperative that the available financial resources are channelled towards identified targets to achieve the maximum mental health benefits to the nation. Since schizophrenia lasts a life time the economic and social burden of such a patient is immense and needs to be curtailed as much as possible[6]. This study aimed to quantify the DUP in a practical and rational manner and find its association to functional level of patients presenting in their first episode of schizophrenia.

Methodology

The study was an observational analytical study. The DUP was determined retrospectively using a cross-sectional design and the functional level was assessed prospectively in a cohort of patients. Adult patients presenting first time to services, who fulfil the International Classification of Diseases 10th edition criteria (ICD 10) for schizophrenia were included in the study. The study setting was the outpatient psychiatry clinic of National Hospital of Sri Lanka (NHSL).

The outpatient psychiatry clinic at NHSL provides services for adult clients on all weekdays. This study examined a convenient sample of all patients visiting the clinic on three predefined week days, during the recruitment period of six months from late 2013to early 2014. The diagnosis was made clinically by the consultant psychiatrist.
The DUP was decided by inquiring the onset of symptoms and/or behavioural change in the client from him/herself and at least an immediate family member separately. This assessment was based on key principles and core features of the instrument for assessment of onset and early course of schizophrenia (IRAOS)[7]. If there was a discrepancy of the duration of symptoms for more than six months between the patient and family member, that participant was excluded from the study due to unreliability of data. In the event that the stated duration having a discrepancy of less than six months but more than three months, a third family member was contacted via telephone interview, and if the discrepancy between the patient and third person was still more than three months, the participant was excluded from the study. The average of two considered values was calculated for each participant.

In all participants the functioning level was determined by an interviewer administered scale. The tool was the modified version of global assessment of functioning scale (mGAF),used at baseline, one and three months by an interviewer blind to the DUP value[8]. The target of assessment was to quantify the functioning level based on this scale at three time points mentioned above. But not all patients were available at the clinic for all three assessments and patients who were present for at least two of the above assessments were considered for the analysis. That is baseline functional assessment plus at least one more assessment at one or three months follow up from the initiation. This meant that some patients considered for analysis had faced all three functional assessments, but a minority were only assessed for functional level on two occasions during the three month follow up. Therefore, the average mGAF score was considered for the statistical analysis.

Furthermore, the symptoms were quantified using the clinician administered Brief Psychiatric Rating Scale (BPRS) at same time periods[9]. Ethics approval for the study was obtained from the ethics review committee of NHSL. Informed written consent was obtained from all participants. Data was analysed using Excel© and Openepi© software. The comparison of mean mGAF and BPRS scores was done using the independent t test method.

Results

A total of 96 participants were considered for the analysis, who completed at least two functional assessments during the follow up as described above. The socio-demographic details of these participants are shown in table 1.

Table 1: Socio-demographic, substance use and medical diagnosis details of participants with schizophrenia

Main category	Sub-category	N (%)
Gender	Males	46 (47.9)
	Females	50 (52.1)
Age group in years	< 20	02 (02.1)
	20 - 30	34 (35.4)
	30 - 40	52 (54.2)
	>40	08 (08.3)
Civil status	Never married	42 (43.8)
	Married	40 (41.7)
	Separated /divorced	14 (14.6)
Current employment status	Employed	44 (45.8)
	Unemployed	54.2 (52)
Substance use during the previous week	Nicotine	26 (27.0)
	Alcohol	12 (12.5)
	Other substance	00 (00.0)
	None	60.5 (58)
Comorbid medical disorder (Diabetes, Hypertension, Dyslipidaemia)	Present	26 (27.1)
	Absent	70 (72.9)

*N= 96

Table 2: The means of average BPRS and mGAF scores of two participant groups with a DUP below and above a year.

	DUP less than a year N (%) 50 (52.0%)	DUP more than a year N (%) 46 (47.9%)
Males	20 (40.0%)	26 (56.5%)
Females	30 (60.0%)	20 (43.5%)
Currently Employed	26 (52.0%)	18 (39.1%)
Mean DUP in months	06.8 (SD = 05.3)	66.8 (SD = 44.1)
Mean of average BPRS scores	28.2 (SD = 07.1)	29.1 (SD = 10.2)
Mean of average mGAF scores	76.8 (SD = 12.0)	70.4 (SD = 15.3)

*N= 96

The mean DUP for all the participants was 35.5 months (SD = 42.9). The average mGAF and BPRS scores were calculated for each participant for all assessments. A DUP of less than a year was present in 52% (50) of participants and 48% (46) reported a DUP longer than a year. The means of average BPRS and mGAF scores are shown in table 2.

Compared to participants with a DUP of less than a year the participants with a DUP more than a year had significantly lower average mGAF scores (t = 2.290, p = 0.024).The difference between means of average BPRS scores in the group of patients with a DUP less than a year compared to the group with a DUP more than a year was not statistically significant (t = 0.5050, p = 0.614).

Discussion

The main finding of this study was that a majority (52%) of the participants of this study had a DUP less than a year. But since there was a significant proportion with a longer DUP than a year (48%) the mean DUP for all participants was almost three years (35.5 months). The distribution of data on DUP was wide (SD = 42.9). Considering the functional level according to the average mGAF scores, the participants with a DUP less than a year had significantly higher values compared to the participants with a DUP more than a year. However there was no significant difference in the symptom scores according to the BPRS between the above two groups.

Schizophrenia is responsible for a high amount of disability adjusted life years (DALY), which is comparable to epilepsy, in the world[6]. Therefore the disability caused by schizophrenia has an important significance to a country's productivity. Studies have shown that major psychiatric disorders such as schizophrenia and bipolar disorder and their treatment in Sri Lanka, could significantly impact on earning a livelihood, by affecting occupational skills such as driving a motor vehicle[10]. Since DUP is known to impair the prognosis in this mental disorder, the knowledge of DUP is vital for planning rehabilitation efforts for patients with schizophrenia in Sri Lanka[1]. The found value of 35.5 months for DUP is much higher compared to 14.1 months stated in a meta-analysis of mainly western studies and 20.7 months found by a retrospective assessment in a study done in neighbouring India[11, 12]. But the association of longer DUP to lower functional scores were agreeing with many of the studies from west and India[1,2,11,12].

There is a marked difference between the DUP values obtained from this study and a recently published study from Colombo Sri Lanka (14 weeks)[4]. But the other study was conducted among participants with many forms of psychosis, not only schizophrenia. Furthermore the other study considered inpatients for the assessments compared to outpatients in the current study. The need for inpatient care may mean that the patients had more severe symptoms and presented earlier to the services. Also the method of assessment of the DUP might have contributed to the difference, where the current study used key principles and core features of an internationally accepted method, the instrument for assessment of onset and early course of schizophrenia (IRAOS)[7]. In addition the current study considered collateral information in all participants when determining the DUP. The possible differences in

socio-economic status, accessibility to psychiatric services and area of residence may also have contributed to the disparity in DUP values between the two studies. This would mean that future multicentre studies are required to quantify the DUP for the whole country.

The retrospective method with vulnerability for recall bias was one of the limitations of this study. Therefore, attempts to increase the accuracy of the data were made by using the internationally accepted methodology for assessing DUP[7]. Further research is required to determine the reliability of the results concerning DUP for Sri Lanka. Nevertheless it is evident that the Sri Lankan patients with schizophrenia in this study reported higher DUPs compared to west. Effective measures need to be taken for the early recognition and initiation of treatment for patients with schizophrenia, to minimize the future functional decline and resultant burden to patient and society.

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