

Relationship between Awareness of Tardive Dyskinesia and Awareness of Illness in Schizophrenia

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Abstract

Background and Objective: One interesting addition to the growing literature on the multidimensional nature of insight or awareness deficits are recent studies which point to a relative unawareness of tardive dyskinesia (TD) in schizophrenia in spite of its debilitating consequences. This study was aimed to study the relationship between awareness of TD and awareness of illness in schizophrenic patients.

Methodology: Consecutive patients with schizophrenia on treatment at the Department of Psychiatry, Kilpauk Medical College, Chennai, with TD were chosen and rated for extent and severity of abnormal movements by the abnormal involuntary movement scale (AIMS). Insight was measured by the scale for unawareness of mental disorders. Awareness of abnormal movements was rated on a five-point severity scale (item 10 of AIMS) and a correlation between the scores was done. The influence of negative symptoms on awareness of abnormal movements was also studied.

Results: Awareness of TD was poor and was correlated with severity of dyskinesia, negative symptoms, and certain aspects of insight.

Conclusion: Unawareness of dyskinesia in schizophrenia is common, and hence active examination for early signs of TD is advisable. This unawareness may be associated with negative symptom severity and unawareness of illness symptoms.

Key words: Insight, Scale for unawareness of mental disorders, Schizophrenia, Tardive dyskinesia

INTRODUCTION

Schizophrenia is characterized by a loss of awareness of illness or insight (Carpenter *et al.*, 1976).¹ Studies also point to a relative unawareness of tardive dyskinesia (TD) in schizophrenia in spite of its debilitating consequences. Loss of awareness is related to the presence of cognitive deficits (Myslobodsky, 1985)² and may be a feature of frontal lobe dysfunction in schizophrenia (Sandyk *et al.*, 1993)³ or parietal lobe related agnosia (Arango *et al.*, 1999).⁴

Poor insight and anosognosia for dyskinesia may share a common biological basis (Amador *et al.*, 2004).⁵

TD is a common side effect of long-term neuroleptic treatment (Kane, 1982; Lieberman *et al.*, 1985).^{6,7} Edentulousness increases the risk for neuroleptic-induced orofacial dyskinesias (Sandyk *et al.*, 1993).³ Age and female gender is associated with TD (Turrone, 2000).⁸

Many studies have reported that schizophrenic patients exhibit unawareness of abnormal movements (Alexopoulos, 1979).⁹ Other patients with abnormal movements (e.g. Parkinson's disease) are aware of their movements. Unawareness of TD is persistent despite feedback (Caracci *et al.*, 1990)¹⁰ and is a cross-cultural finding. A lack of awareness of TD is greater for orofacial than limb-kinetic movements. The patients with cognitive deficit and negative symptoms have been found to be associated with lack

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of awareness of TD (Macpherson, 1992; Caracci *et al.*, 1990).^{10,11} This finding is contradicted by some studies (Chiu *et al.*, 1993).¹² Unawareness of TD has not been related to any sociodemographic or clinical variable such as severity or duration of TD though right-handedness has been associated (Amador *et al.*, 1997).¹³

Insight is multidimensional with awareness of illness, acceptance of need for treatment, and awareness of symptoms and consequences as its components. Awareness of dyskinesia is related to certain insight domains such as social consequences of the mental disorder (Arango *et al.*, 1999)⁴ and unawareness of symptoms (Amador *et al.*, 1997).¹³ These findings are contradicted by other studies (Cuesta and Peralta, 1994).¹⁴

Aim

To study the relationship between awareness of involuntary movements and awareness of illness in patients with schizophrenia and to study the relationship between “negative” symptoms and the degree of awareness into dyskinesia.

METHODOLOGY

An observational prospective study conducted in the Department of Psychiatry, Kilpauk Medical College, Chennai. All the patients with a clinical diagnosis of schizophrenia and on follow-up treatment were screened for abnormal movements by the abnormal involuntary movement scale (AIMS) (Guy, 1976)¹¹ according to criteria proposed by Schooler and Kane in 1982.¹² The Ethical Committee Approval and informed consent from the patients were obtained. Data about sociodemographic variables and relevant clinical variables were obtained from the patients and caregivers at the time of the study. In selected patients, insight in different domains was assessed with the scale of unawareness of mental disorder (SUMD; Amador *et al.*, 1993).⁵ A similar approach to assess insight has been adopted by other authors (Arango *et al.*, 1999).⁴ The patients’ awareness of their TD was assessed by another interviewer who was blind to the patients’ score on insight into their mental disorder. Awareness of dyskinesia was measured by two methods. (i) Unawareness of symptom rating as per SUMD and (ii) the awareness item of AIMS. The severity of negative symptoms was rated by the negative symptom assessment - 16 (NSA - 16; Alps and Axelrod, 1993).¹³ The proportion of the population screened who had TD was determined. The correlation between awareness of TD and clinical insight dimensions, negative symptoms, and other variables were analyzed by appropriate statistical methods using the Statistical Package for Social Sciences Version 20 (SPSS-20.0).

RESULTS

A total of 356 patients were screened, and 33 patients were identified to have TD giving an observed prevalence rate of 9.3%. All the patients with TD were taken for further evaluation. The average age of the sample was 43.75 years (SD 10.5). The proportion of women in the sample was 33%. The majority of the sample (51.5%) had <5 years of schooling. Most of the patients were unemployed or working as unskilled laborers (cumulative 90.9%). 28 of the 33 patients studied (84.8%) had been ill for more than 10 years. About a quarter of all the patients had a positive family history of mental illness. Four patients (12.1%) had an early onset of illness (<18 years). There were no patients who had a late onset (>45 years). Most of the patients (72.7%) had been on prescribed both typical and atypical drugs at some point in time. All the patients in the sample were right handed. The frequencies are tabulated. There was no significant correlation between sociodemographic variables, clinical variables, and awareness of TD (Table 1).

Orofacial dyskinesias were more common than limb dyskinesia. Of these, jaw ($n = 23$) and oral ($n = 21$) were the most common. Six patients had loss of teeth and all of them had oral dyskinesia, they also had in addition minimal to mild facial and limb dyskinesia. Many patients had dyskinesia of multiple body areas. Most of the sample (75%) had a mild severity of dyskinesia. Distress due to dyskinesia was absent or minimal in most cases. The severity of dyskinesia was significantly associated with its awareness (Table 2).

The average unawareness scores obtained on SUMD ranged between 3.78 for achieved effects of medication to 4.30 for social consequences of illness. Thus, the most of the patients had a score on the higher range for unawareness. The average score for unawareness of TD was 4.39. The analysis for correlation between unawareness of illness and TD revealed a significant correlation between current unawareness of achieved medication effects and awareness of TD and current unawareness of symptoms and awareness of TD (Table 3).

The average global negative symptom score was 4.39 indicating that most patients had severe negative symptoms. Awareness of TD was significantly correlated with all domains of the NSA 16 except motivation. Awareness of TD was significantly correlated with global negative symptom scores (Table 4).

DISCUSSION

The overall prevalence of TD was 9.3%. This was lesser than that described by other studies which report

Table 1: Sociodemographic characteristics

Demographic details	Frequency (%) n (%)
Sex	
Male	22 (66.7)
Female	11 (33.3)
Education in years	
<5	17 (51.5)
5-10	9 (27.3)
>10	6 (21.2)
Occupation	
Unemployed	14 (42.4)
Unskilled	16 (48.5)
Skilled	3 (9.1)
Duration of illness (years)	
0-5	6 (0)
6-10	5 (15.2)
>10	28 (84.8)
Age at onset	
<18	4 (12.1)
18-45	29 (82.9)
>45	0 (0)
Family history	
Yes	8 (24.2)
No	25 (75.8)
Medication	
Typical	7 (21.2)
Atypical	2 (6.1)
Combined	24 (72.7)

a prevalence of up to one-third of the patients on treatment (Waln O, 2013; Kane JM, 1982).^{6,15} The lower prevalence could be due to the relatively younger age of the population.

Orofacial dyskinesia was the more common than limb dyskinesia as has been reported previously.¹⁵ All the patients who were edentulous had oral dyskinesia, suggesting that the two might be associated as reported (Sandyk *et al.*, 1993).³ In our sample, more male patients were observed contradictory to the view that older women are prone to develop dyskinesia (Waln O, 2013).¹⁵ This finding may be influenced by sample demographics. Mild level of symptom severity and dyskinesia of multiple regions was commonly noted.

Most patients were unaware of abnormal movements as has been previously noted (Amador *et al.*, 1997).¹³ There was no relation between sociodemographic correlates and awareness of TD. This is in line with previous studies.³ The severity of dyskinesia was correlated with awareness, indicating that the patients with more severe dyskinesia had better awareness of symptoms. This was contradictory to results of the previous research.⁴

Poor insight into symptoms and unawareness of medication effects were significantly correlated suggesting that insight

Table 2: Distribution and frequency of TD and its awareness

Body area	Grading	Frequency	Total	Percentage	Cumulative
		(n)		(%)	Percent
Face	Mild	8	14	24.2	42.4
	Moderate	4		12.1	
	Severe	2		6.1	
Lips	Mild	14	21	42.4	63.6
	Moderate	7		21.2	
	Severe	0		0	
Jaw	Mild	14	23	42.4	69.7
	Moderate	8		24.2	
	Severe	1		3	
Tongue	Mild	10	12	30.3	36.4
	Moderate	2		6.1	
	Severe	0		0	
Upper limb	Mild	8	10	24.2	30.3
	Moderate	2		6.1	
	Severe	0		0	
Lower limb	Mild	0	2	0	6.1
	Moderate	2		6.1	
	Severe	0		0	
Trunk	Mild	2	2	6.1	6.1
	Moderate	0		0	
	Severe	0		0	
Severity	Mild	25	33	75.8	100
	Moderate	6		18.2	
	Severe	2		6.1	
Incapacitation	Mild	12	16	36.4	48.5
	Moderate	3		9.1	
	Severe	1		3	
Edentulous	Yes	6	33	18.2	100
	No	27		81.8	
Awareness	Not aware	20	33	60.6	100
	Aware, no distress	11		33.3	
	Aware, mild distress	2		6.1	
	Aware, severe distress	0		0	

TD: Tardive dyskinesia

Table 3: Correlation of unawareness of illness with awareness of TD using Pearson's correlation coefficient

Insight item	Mean score	Correlation coefficient	P value
Current unawareness of illness	4.27	-0.339	0.054
Unawareness of effects of medication	3.78	-0.366	0.036
Unawareness of social consequences	4.3	-0.123	0.495
Unawareness of symptoms	3.84	-0.511	0.022
Attribution of symptoms	4.24	-0.278	0.117
Unawareness of TD	4.39	-0.784	0.001

TD: Tardive dyskinesia

into illness is related to awareness of dyskinesia. We did not find any association between unawareness of social consequences and unawareness of dyskinesia as has been

Table 4: Correlation of negative symptom scores with awareness of TD

Symptom	Correlation coefficient	P value
Emotion	-0.385	0.027
Motivation	-0.296	0.094
Communication	-0.472	0.036
Social dysfunction	-0.35	0.046
Motor retardation	-0.457	0.017
Global	-0.415	0.016

TD: Tardive dyskinesia

suggested.⁴ The results might have been influenced by the skew of the sample toward poor insight hiding any statistically significant differences.

Poor awareness of TD was significantly correlated with all domains of the NSA 16 except motivation. The strong association between negative symptoms and unawareness has already been shown by various authors (Chiu *et al.*, 1993).¹²

CONCLUSIONS

Unawareness of abnormal movements is common in patients undergoing treatment for schizophrenia; hence active examination for early signs of TD is advisable during follow-up. The patients who are edentulous are at particular risk. Lack of awareness of dyskinesia is correlated with both negative symptom severity and unawareness of illness symptoms.

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