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Original Research Article

Prevalence of Thought Language Communication Disorder in Patients with Schizophrenia on More Than Two Year of Treatment with Anti Psychotics

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Abstract:

Introduction: Disorder language is a hallmark feature of schizophrenia. Varying degrees of aberrant language can be observed in up to 80% of patients with schizophrenia. Language disturbances in schizophrenia may negatively affect social relations in several ways. Thought language Communication disorder was once thought to be specific to schizophrenia but it is now established that it is seen in other psychosis, mood disorder and in organic conditions. This study was aimed at finding the effect of first generation and second-generation antipsychotics in treating formal thought disorder in schizophrenia patients.

Methodology: A cross sectional study with retrospective data collection from case sheets and standardized psychiatric clinical interview was conducted in fifty in-patients of Institute of Mental health, Chennai over a period of three months. 25 Patients diagnosed as Schizophrenia as per ICD-10 on FGAs and 25 patients on SGAs who are in admission as in-patient for more than two years, on continuous anti-psychotic medication of both sexes were included.

Results: Most common Thought language communication disorder is tangentially in both groups prior to treatment whereas group 1 (First generation) has illogicality as most common TLC after treatment. Tangentially is common in-group 2 (Second generation) after treatment. Word approximation and stilted speech is not reported in both the group. We also measured the Nancy and reason scale of severity of thought language disorder Patients in whom they were on Typical there was not much reduction in severity of TLC disorder while patient on atypical antipsychotics had a significant reduction of score post treatment.

Conclusion: Prospective studies with large sample is required in future to decide the antipsychotic of choice for treating thought language communication disorders. Also categorizing thought language Communication disorder with more sophisticated neurolinguistics methods for understanding the neurobiology and considering medications other than Anti- psychotics in treatment of formal thought disorder in future will give throw a light in management of thought language communication disorders in schizophrenia.

Keywords: Schizophrenia, though language disorder, Antipsychotics.

Introduction

Schizophrenia is a severe mental disorder affecting more than 21 million people all over the world 1. Usually, it starts during adolescence and lasts the whole life of a person, but with temporary variations. Its clinical picture is varied and complex, with symptoms encompassing most psychopathologies. Usually, its progression is deteriorating and frequently some other diseases are added. Despite therapeutic progress, its forecast is gloomy. Language disturbances are one of the main symptoms of the disease.

Disorder language is a hallmark feature of schizophrenia. Varying degrees of aberrant language can be observed in up to 80% of patients with schizophrenia [1] and have been shown to comprise a broad variety of abnormalities in semantics, syntax, and phonology [2–5]. Most common among these are poverty of speech (alogia), increased pausing, reduced variation in intonation (monotone speech), and disturbances in the (discursive) coherence, such as derailment and tangentiality [6–8].

Since language is of primary importance for social relations and daily interactions, it is a worrisome observation that language is affected in this patient group, as patients with schizophrenia are known to have trouble in maintaining trustworthy relations with others [9] and are at an increased risk of social isolation [10]. Language disturbances in schizophrenia may negatively affect social relations in several ways. For example, reduced speech rate is known to negatively influence judgments of the speaker by others. Slower speakers are considered less truthful, less fluent, and less persuasive [11,12]. Disturbances in spontaneous speech can therefore have a negative impact on a broad range of life experiences13. Moreover, abnormalities of language in schizophrenia are predictive of functional outcome [14,15], have a negative impact on both objective and subjective quality of life [16], and thus greatly impact rehabilitation.

Antipsychotics are considered the first choice of treatment for schizophrenia, with positive effects reported on hallucinations, delusions, and disorganization [17–19]. However, little is known about the remedying effects of antipsychotic medication on language disturbances. Importantly, there is reason to assume that antipsychotic drugs may contribute to some of these language perturbations [20,21]. Specifically, antipsychotic drugs' effects on dopamine receptors can be hypothesized to impair language, in several ways.

Firstly, negative language symptoms with a cognitive basis, such as poverty of speech and incoherence, are likely to be affected by antipsychotic medication, since antipsychotic drugs potentially increase these symptoms by blocking dopamine receptors in prefrontal brain areas that are thought to be hypodopaminergic in patients with a psychosis [22–24]. Thought disorder can be viewed as an inability to perform meaningful logical operations, an inability to conceptualize and a loss of goal directedness in its formal characteristics. Formal thought disorder or Thought language Communication disorder (TLC DISORDERS) was once thought to be specific to schizophrenia but it is now established that it is seen in other psychosis, mood disorder and in organic conditions. Formal thought disorder increases the total duration of stay in hospital and number of involuntary admissions, as patient cannot effectively communicate and not in touch with reality. Formal thought disorders may reflect a defect in cognitive, linguistic or an affective disturbance in patients. It is established that first generation anti psychotics are effective in treating positive formal thought disorders but the effect of second-generation antipsychotics in treating formal thought disorder in Indian population is less established.

This study was aimed at finding the effect of first generation and second-generation antipsychotics in treating formal thought disorder in schizophrenia patients. In addition, to compare severity of Thought language communication disorders prior to treatment vs After 2 year of treatment in 25 patients on First Generation Antipsychotics (FGA) and 25 patients on Second Generation Antipsychotics (SGA).

Methodology:

A cross sectional study with retrospective data collection from case sheets and standardized psychiatric clinical interview was conducted in fifty inpatients of Institute of Mental health, Chennai over a period of three months. Ethical committee clearance was obtained from Institutional Ethical committee. 25 Patients diagnosed as Schizophrenia as per ICD-10 on FGAs and 25 patients on SGAs who are in admission as in-patient for more than two years, on continuous anti-psychotic medication, both male and female patients and whose relatives are willing to give consent are included in the study. Patients who has no formal thought disorder prior to treatment and, patients who are not on continuous antipsychotic treatment, those who have other psychiatric comorbidity and those not willing to participate in study are excluded.

Patients are interviewed using standard psychiatric clinical interview of 45-minute duration and patients are administered Scale for assessment of TLC disorder by Nancy Andreason. It is an 18 item scale with severity grading from 0 to 4 and an inter rater reliability of 0.74. More pathological forms of thought language communication disorder are scored 2 and less severe forms are scored 1. Prevalence of thought language communication disorder and their severity are analyzed. Thought language communication disorder is compared during admission and after two years of antipsychotic treatment. Group1 consist of patients on first generation antipsychotics and group, 2 consist of patients on second-generation antipsychotics. Data's are statistically analyzed using paired T test. P value less than 0.05 is considered statistically significant. IBM SPSS version 24.0 was used.

Results

In our study, the most common age group is 40 to 60 years in both the group and duration of illness 5-15 years in both groups. Nicotine use is present in 40% in-group 1 whereas about 68 % patients are nicotine users in 2nd group.

Most common Thought language communication disorder is tangentiality in both groups prior to treatment whereas group 1 (First generation) has illogicality as most common TLC after treatment. Tangentiality is common in-group 2 (Second generation) after treatment. Word approximation and stilted speech is not reported in both the group. The number of TLC disorder reported in-group 1 (First generation) prior to treatment and after treatment is 45 and 40 respectively. Number of TLC disorder reported in-group 2 (Second generation) two prior and after treatment is 62 and 42 respectively. P value for group 1 is 0.139 where's in-group 2, the p value is 0.003 which is significant ($p<0.05$).

Table 1: Type of though language disorder

frequency	Group 1 before treatment	Group 1 after treatment	Group 2 before treatment	Group 2 after treatment
Most common	tangentiality	illogicality	tangentiality	tangentiality
Total number	45	40	62	42
P value	0.136		0.003*	

We also measured the Nancy andreason scale of severity of thought language disorder. It is an 18 item scale with severity grading from 0 to 4 and an inter rater reliability of 0.74.More pathological forms of thought language communication disorder are scored 2 and less severe forms are scored 1, Patients in whom they were on Typical there was not much reduction in severity of TLC disorder while patient on atypical antipsychotics had a significant reduction of score post treatment.

Table 2: Nancy Andreason scale

Group		Mean	Std. Deviation	P value
First generation	before	3.64	1.977	0.139
	after	3.08	1.525	
Second generation	before	5.12	2.279	0.003*
	after	3.28	2.821	

Discussion:

In our study the most common age group is 40 to 60 years in both the group and duration of illness 5-15 years in both groups. Nicotine use is present in 40% in-group 1 whereas about 68 % patients are nicotine users in 2nd group. Most common Thought language communication disorder is tangentiality in both groups prior to treatment whereas group 1 (First generation) has illogicality as most common TLC after treatment. Tangentiality is common in group 2 (Second generation) after treatment. Word approximation and stilted speech is not reported in both the group. The number of TLC disorder reported in-group 1 (First generation) prior to treatment and after treatment is 45 and 40 respectively. Number of TLC disorder reported in group 2 (Second generation) two prior and after treatment is 62 and 42 respectively. P value for group 1 is 0.139 where's in group 2, the p value is 0.003 which is significant ($p<0.05$). Majority of TLC disorders are positive thought disorder except few like poverty of speech or blocking. The most common thought language communication disorder is Tangentiality.

We also measured the Nancy andreason scale of severity of thought language disorder. It is an 18 item scale with severity grading from 0 to 4 and an inter rater reliability of 0.74.More pathological forms of thought language communication disorder are scored 2 and less severe forms are scored 1, Patients in whom they were on Typical there was not much reduction in severity of TLC disorder while patient on atypical antipsychotics had a significant reduction of score post treatment.

It is well established that positive formal thought disorder respond well for first generation antipsychotics but in this study second generation antipsychotics are equally or more effective in bringing down positive formal thought disorders.

Conclusion:

Prospective studies with large sample is required in future to decide the antipsychotic of choice for treating thought language communication disorders. Also categorizing thought language Communication disorder with more sophisticated neurolinguistics methods for understanding the neurobiology and considering medications other than Anti- psychotics in treatment of formal thought disorder in future will give throw a light in management of thought language communication disorders in schizophrenia.

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