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Schizophrenic Language: The Possibility of Early Detection

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Abstract

This research attempts to find out the language and communicative impairments of the patients with schizophrenia so that early detection is possible through the analysis of the language patterns. It gives an introduction to language dysfunction in schizophrenic patients such as, problems in phonology, syntax, semantics, morphology and so on.Patients suffering from schizophrenia have also been found to be impaired in their pragmatic abilities in the comprehension of figurative language (e.g., metaphors, ironies, proverbs).The thought disorder is considered to be one of the most significant reasons behind their communication impairments. Along with this theory, other theories from Psycholinguistics and Discourse Analysis are used to identify and explain the impairments. This field of research is naturally bordering both psychology and linguistics, but has until now been ignored by most linguists. This paper provides an introduction to schizophrenia and language as an interdisciplinary field of research, as a way of integrating linguistic theory with psychological method.For the empirical data, interviews were conducted. This research study used a qualitative analysis of data addressing change in the production of language as measured by verbal fluency testing, as well as analysis of spontaneous speech of the participants. However, all the psychiatrists, speech therapists and the family members of the patients agreed that the patients with schizophrenia have several kinds of language impairments. They discussed about the patterns of the impairments and how those can be detected. This paper concluded with some of the ways in which the study of schizophrenia may offer new insights into the cognitive and neural architecture of the language system.

Keywords: Schizophrenic, Language, Detection

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1.0. INTRODUCTION

Over a century ago, Emil Kraepelin, one of the founders of modern psychiatry, asked his assistants Frank Nissl and Alois Alzheimer to look for brain abnormalities in "dementia praecox," which is now known as schizophrenia (Laruelle, 2000). The cortical and thalamic abnormalities they reported were controversial, but the search for the biological underpinnings of schizophrenia had begun (Bogerts, 2009). For much of the 20th century, Kraepelin‟s view that schizophrenia was likely caused by "a tangible morbid process in the brain" (Kraepelin 1896; Noll 2006) was overshadowed by the Freudian concept of schizophrenia as a "psychogenic" disease. However, since the 1970s, Kraepelin‟s theory of genetic and biological defects as key contributors to psychiatric illness has returned to prominence, and today it forms the foundation of biological psychiatry.

Schizophrenia research has come a long way since the days of Kraepelin. It is now clear that schizophrenia is

indeed a physical disease, and that structural brain abnormalities, genetic vulnerabilities, and altered brain chemistry are all key components of the disorder. Extensive biomedical research has implicated virtually every brain area and every major neurotransmitter system in schizophrenia (Pearlson and Marsh 1999; Bogerts et al. 2009; Glenthoj et al. 2009). This wealth of experimental findings has led to a large number of hypotheses regarding the causes and pathophysiology of schizophrenia, and recently, plausible accounts of possible interactions between biology, genetics, and symptoms have begun to emerge.

Despite these advances, the precise nature of schizophrenia is still largely a mystery. No laboratory or neuroimaging test can reliably identify persons who suffer from it, and the concept of schizophrenia itself remains a purely diagnostic construct. None of the hypothetical links between biology and symptoms have gained wide-spread consensus, and thus the century-old debate continues (Plum 1972; Ron and Harvey 1990; Kapur 2003).

At the same time, a better understanding of schizophrenia is badly needed, most importantly because the lack of knowledge translates directly into a lack of adequate treatment options. Dopamine-blocking antipsychotic drugs, which have been the mainstay of treatment interventions since the 1950s, are reasonably effective, but address only a subset of the symptoms, do not help all patients, and often cause dangerous side effects (Kane 1997; Kapur and Mamo, 2003). A better understanding of the pathophysiology of schizophrenia would likely lead to more effective drugs, and might suggest entirely new ways to treat or even prevent schizophrenia (Brewer 2005; Pearlson 2000).

Given all the advances in experimental techniques in neuroscience, and given the importance of developing a better understanding of schizophrenia, why has such an understanding has not yet emerged? One major problem is that schizophrenia is highly heterogeneous, i.e. both symptoms and observed biological abnormalities vary widely among patients. This heterogeneity suggests that, rather than a single well-defined illness, schizophrenia is likely to be a family of clinically related disorders that are, at least to some degree, the result of different underlying biological mechanisms. What these pathological mechanisms are, how they co-occur and interact, and how they lead todifferent patterns of symptoms are all open questions. In short, heterogeneity complicates the question of cause and effect, challenging researchers to infer complex combinations of causes from highly variable patterns of symptoms.

However, language disorder has long been considered a diagnostic indicator of schizophrenia (American Psychiatric Association, 1994; Bleuler, 1950; Kraepelin, 1919). Researchers have tried to describe and specify which aspects of language are disturbed in schizophrenia (Maher, 1972; Schwartz, 1978). Some studies have suggested that language disturbances are due to nonlinguistic factors, such as abnormalities of thought (Brown, 1973; Fromkin, 1975) or deficits in information processing (Frith, 1993; Frith & Allen, 1988; Schwartz, 1978). Despite the controversies, there is general agreement that the language of individuals diagnosed with schizophrenia is characterized by disorders in cohesion (Rochester & Martin, 1979), by reduced syntactic complexity (Morice & Ingram, 1983; Morice & McNicol, 1986), and by reduced clausal embedding and verbal production (DeLisi, 2001). This paper emphasized on the analysis of the language patterns of the patients with schizophrenia so that the early detection will be possible.

1.1. Problem Statement

Most people have heard the term "schizophrenia" and are aware that it is a mental disorder but few people understand what schizophrenia actually is or how pervasively it affects society. There is still a lot of misunderstanding of schizophrenia by the general public. Some would distance themselves from such a patient for fear of being victimized or fear of the unknown. Schizophrenia is often misunderstood, for example in our countrymost of the families try to hide mental illness of their family members. They think it is something that is to be kept secret.

Besides, the media often portrays people with schizophrenia as violent and dangerous. They sensationalize the disease by featuring chronic patients whose symptoms are not being treated. These depictions are unfortunate not only because they perpetuate society's lack of understanding of schizophrenia, but they create greater stigma for mental illnesses in general. Unfortunately there is still a lot of stigma and discrimination towards those with schizophrenia, which is helped by persistent myths about the illness. It is because schizophrenia is a very uncommon illness. People do not know much about it and make assumptions based on bits of rumors and trivia they have heard of.

1.2. Purpose of the Study

No current laboratory test can reliably identify patients with schizophrenia. Instead, key symptoms are observed via language, including derailment, where patients cannot follow a coherent storyline, and delusions,

where false beliefs are repeated as fact. The purpose of the study is to find out the language impairments of schizophrenic patients in the early stage so that the disease can be controlled to a certain extent that will enable them to live normal lives.

1.3. Central Research Questions

1. Is there any language impairment of the patients with schizophrenia?
2. What are the language impairments of the patients with schizophrenia?
3. How can we identify the patients with schizophrenia through the analysis of the use of their language?

1.4. Significance of the study

This research study explored the language impairments of schizophrenic patients and how we can identify them from the very beginning of the disorder which will improve the quality of lives of the patients along with the family members. Moreover, it will also help the medical science to deal with the disease not only from psychological perspective but also from the analysis of the linguistic features. Besides, it will raise awareness to locate the patients and to give them proper treatment and reduce the fear of losing them completely. Last but not the least, this study will provide a platform for simulating the effects of further research.

1.5. Delimitation

This study could not cover the whole country as it is a Dhaka based study. It could not project a vast amount of sample from the patients who lived in rural area. Another delimitation of the study was that, only few patients, psychiatrists, psychologists, speech therapists and some family members of the patients are encompassed instead of having a large group of them.

1.6. Limitations

There were various limitations in conducting the research. The family members of the patients were not helpful. They were reluctant to give information about the patient. Theydid not want to talk about the illness of their family members and their experience about it.
Also, it was difficult to talk with the psychiatrists, psychologists and speech therapists as they were too busy with their own work.

1.7 Operational Definitions

The following terms are defined by the American Psychiatric Association (APA), (2000).

1. Schizophrenia: A psychotic disorder characterized by loss of contact with the environment, by noticeable deterioration in the level of functioning in everyday life, and by disintegration of personality expressed as disorder of feeling, thought (as in hallucinations and delusions), and conduct.
2. Conscience: A person's moral sense of right and wrong, viewed as acting as a guide to one's behaviour.
3. Sub-conscience: Underneath the layers of critical thought functions of the conscious mind lay a powerful awareness that is called the subconscious mind.
4. Unconscious mind: The unconscious mind consists of the processes in the mind that occurs automatically and is not available to introspection and includes thought processes, memory, affect, and motivation.
5. Hallucination: Hallucinations are perceptions that appear real and occur without an outside stimulus. Such perceptions are symptoms only if they occur in a conscious and wakeful state.
6. Delusion: Delusions are pathological false beliefs that are held despite evidence to the contrary.
8. Disorganized speech: Disorganized speech is fluent spoken language that fails to communicate effectively or follow a coherent discourse.

2.0 LITERATURE REVIEW

“To speak is not only to utter words, it is to propositionise. A proposition is such a relation of words that it makes one new meaning”. J. Hughlings (Jackson, 1932)

It is very obvious that the functions of thinking and speaking overlap and cannot be readily separated from each other; at the same time, they are clearly different. The contents of this chapter are considering speech and language from a different perspective.

The study of language and schizophrenia has a long history dating back to the earliest reports of the disorder. These early reports have been enriched, in recent years, by empirical, theoretical, and methodological advances in the psycholinguistics and cognitive neuroscience. The goals of this chapter are to sample from this rich literature, with the hope of advancing both neurolinguistic theory and ideas about how to use this knowledge to diagnose the patient with schizophrenia. Nevertheless, for those unfamiliar with the way in which language and communication has been studied in schizophrenia, this chapter may serve as a useful introduction.

2.1. What is Schizophrenia?

According to American National Institute of Mental Health (2000), Schizophrenia is a chronic, severe disabling psychiatric disorder characterized by complex alterations in the perception and expression of reality. Patients may suffer from a wide range of symptoms, including hallucinations, bizarre and unusual behavior, delusions, and the inability to communicate effectively via language. The onset of schizophrenia, which usually occurs in adolescence or early adulthood, is often characterized by dramatic psychotic symptoms that tend to wax and wane over time. In later stages of the disorder, these psychotic episodes often give way to other more enduring deficits, including blunted emotions, social withdrawal, and reduced language output. Schizophrenia is diagnosed by observing a patient‟s behavior and self-reported experiences. No laboratory test for schizophrenia exists, and in fact underlying brain mechanisms are unknown.

Schizophrenia is therefore defined as a collection of symptoms, and while the diagnosis is reliable, its validity can be questioned (Pearlson, 2000). Specifically, symptoms and outcome in schizophrenia are highly variable, suggesting that it may not be a single illness but a family of clinically related disorders. This possibility is as real today as it was almost a century ago, when Eugen Bleuler deliberately referred to “the schizophrenias” in the plural when he coined that name (Bleuler, 1911).

2.2 Diagnosis

Bruner (1991) said that, the diagnosis of schizophrenia relies almost entirely on language. A clinical interview is conducted with the patient, and diagnosis is made based on the observed behavior. Information comes from two primary sources. The symptoms reported by the patient, and the signs observed through his or her language. Hallucinations, for example, would be diagnosed because the patient says something like “I hear voices,” not because the interviewer is able to hear them.

In contrast, disorganized speech is observed directly in the discourse structure and in abnormal speech patterns. Similarly, delusions can be observed directly, for example when a patient offers bizarre opinions or states patently false things as fact. Schizophrenia can also be directly observed when patients talk very little and volunteer no information in a conversation (Davis, 1974)

2.3 Schizophrenic Language Disorder

According to Crow (1997), defective communication in language is the defining characteristic of schizophrenia and it is associated with genetic variation at the time language was acquired by Homo sapiens. The schizophrenic patient‟s use of language and words are different from that of a normal person, and this difference is not just caused by delusional beliefs or the interruption of thinking caused by auditory hallucinations. However, the precise nature of this abnormality has so far defied clarification, and this account is provisional; it describes the way some of the phenomena have been viewed but cannot yet fit this into a single explanatory theory.

People with schizophrenia may not make sense when they talk. They may sit for hours without moving or talking. Sometimes people with schizophrenia seem perfectly fine until they talk about what they are really thinking (Mundt, 1995). The focus of this section is on symptoms that can be observed directly in the language of schizophrenic patients, most importantly disorganized language.

2.3.1 Disorganized speech

According to Dennett (1992), disorganized speech is fluent spoken language that fails to communicate effectively or follow a coherent discourse plan. It is a manifestation of positive formal thought disorder, i.e. it is believed to reflect an underlying impairment of verbal thought (ibid). The most prominent signs of disorganized speech are difficulties in maintaining a coherent story line (derailment refers to speech that switches topics without apparent cause), but patients may also show other signs like blocking (interruption of speech before it is complete), or rarely produce completely incoherent language which is called word salad (ibid).

Dennett (1992) also described that; language disorganization can take a variety of different forms. Patients with schizophrenia often have problems maintaining a consistent storyline. For example, circumstantiality describes extreme long-windedness or speechthat is delayed by unnecessary or irrelevant detail. Distractible speech means the patient changes subjects easily, but in response to a real stimulus (without apparent cause). The following example was taken from the Scale for the Assessment of Positive Symptoms (Andreasen, 1984), the patient was talking like “Then I left San Francisco and moved to

... where did you get that tie? It looks like its left over from the 50‟s".

Andreasen (1984) further explained that, Derailment is a speech pattern where a patient switches from one topic to another that may be only vaguely related or completely unrelated to the current one, leaving the listener in a bewildered state. Even if no single derailment is particularly severe, steady slippage can lead to answers that have nothing in common with the original question. Derailed language in schizophrenia often seems disjointed and fragmented, giving the impression of an arbitrary juxtaposition of discourse shards.

In extreme cases, disorganized language can be entirely incomprehensible at times. The main difference between such "word salad" and severe derailments is that the break- down occurs within the sentence structure, which is not the case for derailments (Andreasen, 1979).

Stevens (1992) said that, apart from these difficulties in following a coherent discourse plan, thought-disordered patients sometimes repeat words or phrases (perseveration), make word choices based on rhymes and puns rather than meaning (clanging), or stop speaking before a thought is completed (blocking).

Primarily, however, disorganized language in schizophrenia is characterized by a break- down at the level of overall discourse structure, not at that of words and sentences (Young, 2007).

2.3.2 The Relation between Language and Thought

Maher (1972) proposed a model that attempted to demonstrate the link between thinking and the behaviour of speech in language: "conceptualizing the relationship between language and thought. The model might be likened to a typist copying from a script before her. Her copy may appear to be distorted because the script is distorted although the communication channel of the typist‟s eye and hand are functioning correctly. Alternatively, the original script may be perfect, but the typist may be unskilled, making typing errors in the copy and thus distorting it. Finally, it is possible for an inefficient typist to add errors to an already incoherent script. Unfortunately, the psychopathologist can observe only the copy (language utterances): he cannot examine the script (the thought).

In general most theorists concerned with schizophrenic language have accepted the first of the three alternatives, namely that a good typist is transcribing a deviant script. The patient is correctly reporting a set of disordered thoughts. Any considerable aberration of thought or personality will be mirrored in the various levels of articulate speech –phonetic, phonemic, semantic, syntactic and pragmatic. The language is a mirror of the thought. The script is likened to thought and the typist to language (p. 3).

Most clinicians have taken the view that language closely mirrors thought and see the primary abnormality as the thinking disorder (Beveridge, 1985). Disordered language is then seen as merely a reflection of this underlying disturbance, with diagnosis of thought disorder only possible on the basis of what the patient says. Some of the more recent linguistic theories used for the analysis of schizophrenic speech contradict the primacy of thinking. The assumption that language directly mirrors thought can be challenged (Newby, 1995). There is a tradition that argues that language itself structures thinking and concepts and determines how the world is understood. This view derives from the works of Edward Sapir (1884–1939) and Benjamin Whorf (1897–1941).

In essence, the Sapir–Whorf hypothesis (1956) says that language influences cognition. There is very limited empirical support for this view, and Pinker (1994) concludes that„the representations underlying thinking, on the one hand, and the sentences in a language, on the other, are in many ways at cross-purposes. People do not think in English or Chinese or Apache; they think in a language of thought. This language of thought probably looks a bit like all these languages; presumably it has symbols for concepts, and arrangements of symbols that correspond to who did what to whom‟.

This radical view contradicts the point-to-point relationship between language and thought implicit in Maher‟s (1972) proposition and the linguistic determinism of the
Sapir–Whorf hypothesis. The relationship between thinking and language is as complicated for organic disorders as for schizophrenia: there can be quite marked disturbance in the use of language with no apparent thought disorder. This is revealed in the rare isolated abnormalities of specific function of language.

An understanding of how the healthy person expresses thoughts in language can be achieved only by study of the normal development of language. This is discussed in relation to perception in Carterette and Friedman (1976). Language is built up of a number of elements. Phonemes are the most basic sounds that are available for use in language, and any particular language, such as English, uses only a limited repertoire of phonemes. The repertoire used in English may share only a limited overlap with that used, for example, in Yoruba. Morphemes are produced from phonemes and are the smallest meaningful unit of a word, and combinations of morphemes make up words. A morpheme may be a word such as „do‟ or „un‟. Syntax (grammar) is the allowable

combination of words in phrases and sentences and includes the rules that determine word order. Semantics are the meanings that correspond to the words and include the meaning of all possible sentences.

According to Riedl (2010), Prosody refers to the modulation of vocal intonation that influences accents, and also the literal and emotional meanings of words and sentences. The pragmatics of language is the ways that language is used in practice. This is a relatively new area of study. It refers to the multiple potential meanings of any utterance, which requires knowledge of context and of the speakers for full interpretation. Forexample, the sentence „this room is cold" can have any of several meanings depending on the identity of the speaker, the actual context and who is being addressed.

Conversely, Chomsky"s theory of language is the most influential (Chomsky, 1986). It is perhaps important to distinguish between language and speech for our purpose. Speech is the aspect of language that corresponds to the mechanical and articulatory functions that allow language to be vocalized. Thus, for language to become speech the vocal cords, the palate, the lips and the tongue need to perform a complex and synchronized dance of intricate steps. The dissociation between poorly articulated speech and intact language indicates that these two functions are separate (ibid). Essentially, Chomsky (1986) argued that language is like an instinct, and furthermore that every „sentence that a person utters or understands is a brand-new combination of words, appearing for the first time in the history of the universe. Therefore a language cannot be a repertoire of responses; the brain must contain a recipe or program that can build an unlimited set of sentences out of a finite list of words (ibid). The program may be called a mental grammar" (Pinker, 1994). In addition to this, Pinker (1994) also said children rapidly develop these complex grammars without formal instruction. This suggests that they must be innately endowed with a plan common to the grammars of all languages, a universal grammar. How language develops, how word meaning is learned and the neuropsychology of language is all areas of increasing study (ibid).

2.3.3 Clinical description of thought disorder

According to McGaugh (2000), the only unequivocal demonstration of disorder of thinking can be through language. Thought disorder may be revealed in the flow of talk, disturbed content and use of words and grammar, and in the inability to conceptualize, appropriately. Critchley (1964) considered that the „causation of schizophrenic speech affection lies in an underlying thought disorder, rather than in a linguistic inaccessibility". The German psychopathological literature on schizophrenic language and speech disorders was concerned with the rules of language dysfunction; it consistently reported the schizophrenic patient"s uncertainty in choosing the correct metaphorical level in communication (Mundt, 1995).

Kraepelin (1919) defined akas aphasia as a disorder in the expression of thought in speech. Loss of the continuity of associations, which implied incompleteness in the development of ideas, was the first of the simple functions included among the fundamental symptoms of schizophrenia by Bleuler (1911). Gardner (1931) considered thought disorder to be a form of regression.

Cameron (1944), in describing asyndesis, considered there to be an inability to preserve conceptual boundaries and a marked paucity of genuinely causal links. He gave the example of a patient who, given these alternatives, completed the sentence „I get warm when I run because. ." with all the words: „quickness, blood, heart of deer, length, driven power, strength". The patient was prone to use imprecise expressions – metonyms – and over-inclusive thinking because of interpenetration of associations. Concrete thinking because of an inability to think abstractly was proposed by Goldstein (1944), but this has been challenged by Payne (1959). Allen (1984) considers that speech-disordered schizophrenic patients produce evidence of concrete thinking, thinking without inferring and restricted to what is explicitly stated, while non-speech-disordered schizophrenics do not.When the thematic organization of speech was analyzed for schizophrenic patients with positive speech disorder (incoherence of speech) or negative speech disorder (poverty of speech), there was no difference found: speech-disordered schizophrenics, positive as well as negative, showed cognitive restriction and produced fewer inferences than non- speech-disordered patients. A deficiency in the logic of deductive reasoning in schizophrenia was suggested by Von Domarus (1944).
An attempt has been made by Andreasen (1979) to classify description of patients" cognitive and linguistic behaviour on the phenomena demonstrated without making inferences for concepts of „global" thought disorder; these abnormalities occur in both mania and schizophrenia. Some types of thought disorder, such as neologism and blocking, occurred too infrequently to have diagnostic significance.

However, Andreasen (1979) found high reliability between raters with many types of thought disorder and also discrimination between different psychotic illnesses. Derailment, loss of goal, poverty of content of speech, tangentially and illogicality wereparticularly characteristic of schizophrenia. Derailment implies

loosening of association so that ideas slip on to either an obliquely related, or totally unrelated, theme. Loss of goal is the failure to follow a chain of thought through to its natural conclusion. Poverty of content of speech includes poverty of thought, empty speech, alogia, verbigeration and negative formal thought disorder; patients‟ statements convey little information and tend to be vague, over-abstract, over-concrete, repetitive and stereotyped. Tangentially means replying to a question in an oblique or even irrelevant manner. Illogicality implies drawing conclusions from a premise by inference that cannot be seen as logical (ibid).

2.3.4 Misuse of words and phrases

The schizophrenic patient sometimes shows misuse of words, the terminology of Kleist (1914) for this is called “a defect of word storage”. The patients have a restricted vocabulary and so use words idiosyncratically to cover a greater range of meaning than they usually encompass. These are called stock words or phrases, and their use will sometimes become obvious in a longer conversation in which an unusual word or expression may be used several times (ibid). Kleist (1914) gave an example, a patient used „dispassionate‟ as a stock word, and used it frequently with a bizarre and idiosyncratic meaning in the course of a few minutes‟ speech. A woman who was delusionally concerned that the police were intruding into her private affairs interspersed her conversation, often bizarrely, with the expression „confidentially speaking‟. This abnormality appears partly to reflect a poverty of words and syntax and also an active tendency for words or syllables by association to intrude into thoughts, and therefore speech, soon after utterance. In the sample of speech the following words could be seen as stimuli and responses, by intrusion: „means‟ – „ways‟, „opens‟ – „closed‟, „holding back the truth‟ – „by no means will I speak‟, „written questions – „by means of writing‟, „miracle‟ –„Holy land‟. They also appear to be stock words or phrases in that they are used with greater frequency and with a greater range of meaning than is normal and correct.

Kleist‟s (1914) research showed that, words carry a semantic halo, that is, their constellation of associations is greater than just the dictionary meaning of the word. A boy aged 16 steals an apple. If I call him „a trespasser‟, it has biblical associations; „a criminal‟ suggests a greater degree of viciousness than the action merits; „a delinquent‟ is readily associated with his youthfulness because of the phrase „juvenile delinquent‟. The constellations of associations in schizophrenic patients are disordered in that they often make apparently irrelevant associations. These may be explained by misperception of auditory stimuli with specific inattention; the actual mediation of associations in patients with schizophrenia may be similar to that in healthy people (ibid).

This comes some way to explaining why the associations seem appropriate subjectively to the schizophrenic patient himself, as he does not realize that he has misperceived the cue: it seems reasonable to him but is quite irrelevant to the interviewer (ibid).

To quote Maher (1972), “What seems to be bizarre is not the nature of the associations that intrude into the utterance, but the fact that they intrude at all”. Among the disordersof words, neologism is well recognized. This creation of a new word becomes necessary in schizophrenia to fill a semantic gap. A patient believed that his thoughts were influenced from outside himself by a process of „telegony‟. Although such a word does actually exist, the patient had neither notion of this nor what it meant. He created the word to describe a unique experience of his for which no adequate word existed. A 47- year-old male patient with schizophrenia and expansive mood described himself thus: „I am the triplicate act metric lipophilic telepathic multibillion million geniuses‟ – which does suggest certain grandiosity (ibid).

The unintentional puns of schizophrenia have been explained by Chapman (1964). If a word has more than one meaning, it is likely that one usage is dominant. For example, the majority of people, in most contexts, would be more likely to use the word „bay‟ to refer to an inlet of the sea than to a tree, the noise a hound makes, the colour of a horse, an opening in a wall, the second branch of a stag‟s horn, an uncomfortable place at which to stand or even, phonetically, a Turkish governor! There is a marked tendency in schizophrenia to show intrusion of the dominant meaning when the context demands the use of a less common meaning.

Chapman (1964) used a sentence such as „the tennis player left the court because he was tired‟ and asked schizophrenic patients to interpret its meaning with one of three different explanations: one referring to a tennis court, one to a court of law and one altogether irrelevant. An analysis of responses shows that dominant meanings, here a court of law, intrude into the responses of schizophrenics quite frequently, but intrusion of minor meanings is less frequent.

Maher (1972) has described disorder of schizophrenic language in which intrusion occurs through clang associations with the initial syllable of a previous word: „the subterfuge and the mistaken planned substitutions‟. This is unlike the clang associations that occur normally in poetry and in humor and also in manic speech, in which

the clang occurs in terminal syllables. The repetitiveness of speech disorder is also thought to be associated with the intrusion of associations: the normal process of eliminating irrelevant associations does not take place, so that a word in a clause will provoke associations by pun, clang and ideational similarity. When that clause is completed, a syntactically correct clause may then be inserted, disrupting meaning but demonstrably associated with that previous word or idea. Maher (1972) considers that an inability to maintain attention may account for the language disturbances seen in some schizophrenic patients. Disturbed attention allows irrelevant associations to intrude into speech, similar to the disturbance affecting the filtering of sensory input. In this theory, normal coherent speech is seen as the progressive and instantaneous inhibition of irrelevant associations to each utterance, and so the determining tendency proceeds with the active elimination of those associations that are not goal-directed.

2.3.5 Destruction of words and grammar

Neely (1991) described that, Alogia is a term used to describe negative thought disorder, or poverty of thoughts as expressed in words. Correspondingly, paralogia is used to describe positive thought disorder, or the intrusion of irrelevant or bizarre thought. Paraphasia is a destruction of words with interpolation of more or less garbled sounds. Although the patient is only able to produce this nonverbal sound, it clearly has significance or meaning to him. Literal paraphasia is gross misuse of the meaning of words to such an extent that statements no longer make any sense. Verbal paraphasia describes the loss of the appropriate word but the statements are still meaningful, for example a patient described a chair as „a four-legged sit-up".

Neely (1977) defined that, disturbances in the words and their meanings are much more common in schizophrenia than disturbance of grammar and syntax. However, grammar is also sometimes altered; the loss of parts of speech is described as agrammatism.

Neely (1977) also expressed that; adverbs are occasionally lost, resulting in coarsening and poverty of sentences, a form of telegramese. For example, „rich table is worn; the woman is rich to write; son is also lamentation". This, as well as showing stock words (rich – lamentation), shows loss of parts of speech, for example the indefinite article. The meaning is more disjointed than the grammar. Paragrammatism occurs when there are a mass of complicated clauses that makes no sense in achieving the goal of thought.

However, the individual phrases are, in themselves, quite comprehensible. It seems probable that the rules of syntax are preserved in schizophrenia long after a marked disturbance in the use of words, so that, if in the preceding sentence an intrusive association were to replace the word „rules", the word used would probably, correctly, be a noun. For instance, the patient above might have said in this context „the lamentations of syntax are. . ." (Miikkulainen, 1997).

2.3.6 Psychogenic abnormalities

There is no specific abnormality of language in affective psychosis or the neurotic disorders. However, the prevalent mood influences the flow and choice of words in the former, and neurotic thinking is manifested in the latter, perhaps by greater emphasis in speech on the first person singular. Manic speech has been analyzed, and the speech and number of associations demonstrated in flight of ideas and pressure of talk is seen in the greater number of cohesive links occurring in manic speech. The content of depressive speech is, of course, influenced by the mood state, and so also is the choice of words.

Sentences tend to be short and have fewer and simpler associations, with retardation (Miikkulainen, 1990).

Anderson and Mallinson (1951) experimented that, Hysterical mutism may occur as an abnormal reaction to stress. A man aged 35 had been unable to tolerate the continual nagging from his wife and her two sisters who lived with them. One day, after heavy drinking the previous evening, he smashed his wife"s furniture at home and then becamemute for 24 hours. He was eventually referred from the accident and emergency department to the psychiatric ward, and speech returned gradually over the next 2 to 3 days without other treatment. With the phenomenon of approximate answers, the patient just avoids giving a correct answer to a simple question: „How many legs has a sheep?" –
„Five". This is, according to Anderson and Mallinson, „a false response to the examiner"s question where the answer, although wrong, indicates that the question had been grasped".

World Health Organization (1992) labeled, Paraphasia is the production of an inappropriate sound in place of a word or phrase. It may be caused by an organic disturbance of speech but is closely mimicked in the situation in which the patient produces a sound, deliberately or unconsciously, to change the topic of conversation. This may be used to avoid a certain subject or because the patient is so preoccupied by internal or external experiences that other questions seem irrelevant.

It also labeled (1992), Pseudologia fantastica is the condition of fluent plausible lying, often associated with

histrionic or asocial personality disorders. The patient appears to believe in the fantastic statements. The characteristic picture is of a very isolated person, without family or friends, drifting into the accident and emergency department of a large hospital in a strange city late at night with stories of his own importance and exploits and the unfortunate vicissitudes these have engendered resulting in his need for help

There is considerable overlap with Munchausen‟s syndrome. Eccentric and pedantic use of words may sometimes be seen in those with anankastic personality; obsessionality obtrudes into the choice of words and construction of sentences (Kranz, 1967).

2.3.7 Statistical model of language

The Cloze procedure involves deleting words from the transcripts of speech and assessing whether the omitted word can be predicted. Maher (1972) considered that, in schizophrenia, the greater the severity of the illness, the greater is the degree of unpredictability of the utterance of language. In normal speech, a large part of every sentence could be omitted without losing the meaning. For example, if the words „a . . . part . . . could be . . . the‟ were omitted from the last sentence, the meaning would still be obvious; if letters were omitted from words, for instance normal speech, the meaning is still clear.

According McGuire (1998), predictability is the ability to predict accurately the missing words; in this sense, schizophrenics are unpredictable in their speech. They are likely to use unexpected words and phrases. In the perception of language, the schizophrenic patient is less able to gain information from the redundancies, both semantic and syntactic, in everyday speech. A sophistication of the Cloze procedure has been investigated by Newby (1998). This involves the following:

2.3.7.1 The modified Cloze procedure, in which the nature of the inserted words is noted, such as its part of speech.

2.3.7.2 In the reverse Cloze procedure, thought-disordered patients were asked to make sense of a script that had been mutilated by instituting the Cloze procedure, for example by deleting every fourth or fifth word. Patients with schizophrenia performed significantly worse than a control group of orthopedic patients, with manic–depressive patients intermediate on both modified and reverse Cloze procedures.

Schizophrenic speech is considered less predictable than normal speech, and lack of predictability is more marked with clinically manifest thought disorder (Manschreck, 1979). An experiment was carried out on the Cloze procedure, in which raters were asked to assess passages of schizophrenic or normal speech with the fourth or fifth word deleted. With fifth-word deletion, thought-disordered schizophrenic speech was significantly less predictable than normal or non-thought-disordered schizophrenic speech; this latter was no less predictable than normal speech.

Whether schizophrenic speech is really less redundant than normal has been questioned by Rutter (1979), who was able to demonstrate no difference. The view that schizophrenic language can be reduced to such simple mathematical rules has been rejected by Mandelbrot (1965).

The type: token ratio is a measure of the number of different words as compared with the total number of words (Zipf, 1935). Maher (1972) concluded that the type: token ratio of schizophrenics was lower than for normal subjects. The tendency of schizophrenic patients to repeat certain words and use them in an idiosyncratic way is referred to as the use of stock words.

2.3.8 Linguistic approaches to schizophrenia

Various linguistic theories have been applied to schizophrenia. These methods of analysis of schizophrenic language are tentative and do not yet cover the range of abnormalities occurring in the condition. Chomsky (1959) proposed that humans are able to use strings and combinations of words they have never heard before through use of a limited set of integrative processes and generalized patterns.

However, Moore and Carling (1982) have labeled Chomskyan linguistics a container view of language, separated from the real way users of language apply it to their own meanings and contexts. Individual case studies have used tape-recorded interviews with patients with schizophrenia to demonstrate distinctive abnormalities. However, on closer analysis such abnormalities are often found to occur in the speech of normal people, although less frequently.

A further study of bilingual patients showed psychotic symptoms to be present in their native language but absent in their second language. The problem of individual studies is, of course, the extent to which they can be generalized to all patients with schizophrenia.

2.3.9 Syntactical analysis

In two studies of speech analyzed for syntax,

compared with manic and normal controls patients with schizophrenia showed less complex speech, fewer well-formed sentences, more semantic and syntactic errors and less fluency (Kuperberg, 2010). Such studies do not, of course, justify the conclusion that differences are due directly to the disease or to thought disorder, nor does it take into account the social context or emotional aspects. However, marked differences are of interest when one considers that the majority of patients with schizophrenia do not show overt disorder of language.

2.3.10 Cohesion analysis

A method of examination of schizophrenic speech has been developed by Rochester and Martin (1979) looking at the links between sentences that occur in discourse. These links are called cohesive ties. Schizophrenic patients use fewer of these cohesive ties, and of the five types of tie described they use fewer reference ties (connection through meaning) and more lexical ties (connected words). For instance, consider the following two sentences.

2.3.10.1„A commuter and a skier are in a ski lift and he looks completely unconcerned.“

2.3.10.2„Mother needed independence she was always dependent on my father.“

Sentence 1 shows an unclear reference, in that this person with schizophrenia fails to guide the listener as to whom he is describing. In sentence 2, independence and dependent are lexically tied because of similar derivation. This type of tie is a weaker bond between sentences, and the result of these abnormalities is that they make it more difficult for a listener to follow what the patient is meaning. However, even in the most severe group of schizophrenic speakers, 80 per cent of their speech was still normal. Studies with manic patients have shown more times than for schizophrenics but also some disruption. Cohesion analysis does not explain all the abnormalities of schizophrenic speech; appropriate ties would still leave much material that is abnormal.

2.3.11 Propositional analysis

This is a form of textual analysis in which the text is broken down into its component propositions, and these are then represented diagrammatically to show the „mental geometry“ (Hoffman, 1982). Normal speech is considered to proceed as in a single tree diagram with all branches leading from a single key proposition, but psychotic speech more often breaks the „rules“ of propositional relationships.

Observers, listening to the speech of schizophrenic patients, are often struck with its oddity and deviance. It has been considered by Chaika (1995) that this is not purely a deficit of syntax but more a phenomenon like severe and repeated slips of the tongue, in which the error is a lapse of executive control, a lapse of volition.

It has been shown by Morice (1995) that with increasing complexity of syntax there is an increase in the number of errors in the speech of schizophrenic patients; speaker expressing very simple sentences made relatively few errors. One of his patients expressed this: „and communicating ordinarily I can get lost in the chaos of the language“. This finding was confirmed by Thomas and Leudar (1995) using the Hunt test, a written test in which subjects produce syntactically complex sentences from simple input phrases. Communication-disordered schizophrenic patients made more errors than non-communication-disordered schizophrenic patients or normal controls, and these errors were more likely to occur with more complex syntactic structures. The patients were therefore thought to have a discrete failure of language processing that was distinct from the more general cognitive disorders of the condition.

Although these methods are still experimental, the patient‟s use of language and syntax does enable a quantitative method of evaluating the mental state and subjective experience to be developed. Study of language disorder should be an area in which descriptive psychopathology can contribute to psychiatric research.

2.4 Schizophrenia in the perspective of Bangladesh

Unfortunately, a very few cases of schizophrenia in Bangladesh have been published. People of Bangladesh are very scared to publish any kind of mental illness. If someone has heart disease or even diabetes society understands it, talks about it and considers the person to be ill. Most people in Bangladesh do not understand how the chemical reactions within a human being cause mental illness. There are still attitudes within our society that view symptoms of psychopathology as threatening and uncomfortable, and these attitudes frequently foster stigma and discrimination towards people with mental health problems.

The most commonly held belief was that people with mental health problems are dangerous, especially those with schizophrenia. They believe that people with mental health problems are generally hard to talk about. People tend to hold these negative beliefs and as a result they hide the disease of their family members. Perhaps surprisingly,

stigmatizing beliefs about individuals with mental health problems are held by a broad range of individuals within society, regardless of whether they know someone with a mental health problem or have a family member with a mental health problem. Throughout history people with mental health problems have been treated differently, excluded and even brutalized. This treatment may come from the misguided views that people with mental health problems may be more violent or unpredictable than people without such problems, or somehow just "different", but none of these beliefs has any basis in fact. Similarly, early beliefs about the causes of mental health problems, such as demonic or spirit possession would almost certainly give rise to reactions of caution, fear and discrimination.

The Daily Star published the story of Rita and Mita in 2005 that, two sisters found to have been leading an abnormal and secluded life in their house at Mirpur in the city since 1996. They have been suffering from serious mental and behavioural disorders. The two, Dr. Ainun Nahar Rita and chemical engineer Nurun Nahar Mita, have been leading an extremely confined and secluded life, being engrossed in religious practice and supernatural beliefs at their paternal house. Their strange lifestyle caused a stir for the last several days after a team of the Bangladesh Society for the Enforcement of Human Rights (BSEHR) managed to convince the sisters and enter the house with the cooperation of Pallabi police and took them to a clinic for immediate treatment. They were reduced to bone and skin, with younger one seriously ill, caused by lack of proper food and care in isolation. "The incident is nothing ghostly or mysterious. This is just a case of serious mental disease caused by a multi-factorial situation," said psychiatrist Dr. Mohit Kamal, who is attending to them. Of the two, younger sister Mita showed enough symptoms of schizophrenia while the state of the elder one shows a shared or induced delusional disorder, he said at a press conference organized by the BSEHR at the National Press Club. The psychiatrist said one isolates oneself from the society and social life the way the two sisters have done only when one is schizophrenic. He also said mental breakdown, suspicion, sense of insecurity and various social pressures might have caused their serious mental disorder. Dr. Mohit said that one percent of the population in Bangladesh suffer from serious mental diseases while 10 percent suffer from minor mental disorders. (The Daily Star, 2005)

Additionally, this news story was also published in The Daily Star in 2008. Saleha Begum of Bagerhat's was married off in 1975 with a schoolteacher when she was only 16. The adolescent bride did not get the mental support from her in-laws what she needed. Her husband used to move to town leaving Saleha back in the village because of his job. In his absence, Saleha had to endure all the mental and physical tortures by her in-laws. As she was married off at an early age, it took some time for Saleha to have a baby. And this had provoked her in-laws to raise question even about her fertility. Having failed to endure the long ordeal, the poor lady broke down mentally in 1999. Initially, no one cared a great deal about it. But, at one stage, her mental distress went out of control. Under pressure from the relatives, Saleha's husband first resorted to unscientific methods conducted by fakirs (holy men). Last of all, Saleha was taken to a psychiatrist only to know that she had been suffering from schizophrenia. Unhappiness, mental torture and negligence were blamed for the psychological problem (Biswas, 2008)

Take the example of Sabrina's mom. She is also a victim of negligence and mental torture. Sabrina, a second year university student, says, "My dad is the second husband of my mom and he could not normally accept her first marriage. So he had a lack of passion for her. My dad never gives my mom the attention she deserves as a wife. My father humiliates and lets others humiliate her. As a result, my mother broke down psychologically" (ibid)

3.0. METHODOLOGY

This chapter of dissertation discusses the methods used by the researcher to collect data in order to find out the language patterns of the patients with schizophrenia so that early detection is possible.

3.1. Research Design

The study used a qualitative design. This design was selected because it gave the researcher a chance to explore in depth factors behind the language patterns in patients with schizophrenia.

Respondents included patients with schizophrenia, their care givers, psychiatrists and the speech therapists. The design enabled the researcher to capture and understand the participants‟ social world from the language impairments of the patients with schizophrenia. The design sought meaning and understanding which was described in narrative form. Qualitative design involves the systematic collection and analysis of subjective narrative materials using procedures in which there tends to be a minimum of researcher imposed control. The design attempted to understand the entirety of some phenomenon rather than focusing on specific concepts. The researcher explored the multiple language impairments of the patients with schizophrenia.

3.2. Theoretical Framework

The theoretical framework of the research study consisted of several theories; however, the main focus was on the theory of The Relation between Language and Thought. The other methods discussed were the Misuse of Words and Phrases, Linguistic Approaches to Schizophrenia, Syntactical Analysis, Cohesion Analysis and Propositional Analysis etc.

Maher (1972) proposed a model that attempted to demonstrate the link between thinking and the behaviour of speech in language: "conceptualizing the relationship between language and thought. Any considerable aberration of thought or personality will be mirrored in the various levels of articulate speech – phonetic, phonemic, semantic, syntactic and pragmatic. The language is a mirror of the thought. Most psychiatrists have taken the view that language closely mirrors thought and see the primary abnormality as the thinking disorder (Beveridge, 1985). Disordered language is then seen as merely a reflection of this underlying disturbance, with diagnosis of thought disorder only possible on the basis of what the patient says.

3.3. Sampling

3.3.1. Patients and their family members

In the research, there were 12 patients and their family members. Researcher observed the patients during the conversation and tried to find out the communication and language difficulties from their conversation with the doctor. The age range was from 16 to 27 years old and they were from good academic background. There were 7 female patients and 5 male patients. It was possible to take interviews of the family members of the patients as they are spending the whole time with the patients from the very beginning to the present.

3.3.2. Psychiatrists

All these psychiatrists are highly qualified on how to deal with the schizophrenic patients and had the knowledge on different language difficulties of the schizophrenic patients that they face in their day-to-day life. It was possible to get the interview of 12 psychiatrists.

3.3.3. Speech therapist

Since there were strict rules and regulations about interviewing the therapists, it was possible to take the interview of only 12 speech therapists. They talked about the problems in articulation, phonetics, and word use and sentence structure of the schizophrenic patients.

3.4. Setting

The researcher took interviews of the psychiatrists and speech therapists from different clinics and hospitals. The interviews of the family members were taken from their houses. The researcher also observed a conversation of the patients with two doctors. The conversation took place in Dhaka Medical College Hospital. At the time of the conversation there were 4 police officers standing in the room in case of any emergency situation and the door was closed.

3.5. Instrumentation

The researcher used separate interview questions for the psychiatrists, speech therapists, and the family members of the patients. There were 8 questions for the psychiatrists and 8 questions for the therapists and 8 questions for the family members of the patients in the interview. They had to briefly discuss the answers as responses on different questions. In observation, the researcher observed the patients language and communication skills and also errors.

3.6. Data Collection procedure

The data were collected from the psychiatrists, speech therapists, the family members of the patients and from the conversation of the patients with the doctors.
For the collection of the data, the researcher had to contact with psychiatrists, speech therapists and the family members of the patients and told them the purpose of the research. However, the psychiatrists and speech therapists gave a vast amount of time for the interview as oppose to the family members of the patients.

3.7. Data Analysis Procedure

Triangulation methods were used to find the communicative and linguistic impairments of the patients with schizophrenia. Interview and observation were done for the research. Psychiatrists, speech therapists and the family members of the patients participated in the interview and patients participated during the observation. Observation was done for the empirical research and to find out what are the language and communication problems the schizophrenic patients experience in their everyday life.

3.8. Obstacles Encountered

It was very hard to find the patients with schizophrenia. The hospital authorities were not helpful or co-operative. They were reluctant to give permissions for the conversation with the patients as it was very difficult to control them without constant supervision. The relatives also did not want to talk about their experience about how they deal with the patients. It was difficult to conduct interview with the psychiatrists and speech therapists because they hardly get any free time to give an interview. Moreover, due to political unrest there were so make blockades and that is why it was very tough to do the research work during the first semester of the dissertation.

4.0. FINDINGS AND DISCUSSION

The purpose of this chapter is to develop and analyze the research data that was collected from the psychiatrists, speech therapist, family members of the patients, and from the conversation of the patients to determine the language impairments of the patients with schizophrenia.

4.1. Results of the interview of the psychiatrists

For the psychiatrists‟ interview, there were 8 questions which were asked to 12 psychiatrists and the psychiatrists had to briefly explain the answers.

Question 1: What is the average age when patients can be diagnosed with schizophrenia?

In answer to this very first question all the psychiatrists agreed that Schizophrenia affects men and women equally. It occurs at similar rates in all ethnic groups around the world. Symptoms such as hallucinations and delusions usually start between ages 15 to 25. Men tend to experience symptoms a little earlier than women. Most of the time, people do not get schizophrenia after age 45. Schizophrenia rarely occurs in children, but awareness of childhood-onset schizophrenia is increasing.

It can be difficult to diagnose schizophrenia in teens. This is because the first signs can include a change of friends, a drop in grades, sleep problems, and irritability behaviors that are common among teens. A combination of factors can predict schizophrenia in up to 80 percent of youth who are at high risk of developing the illness. These factors include isolating oneself and withdrawing from others, an increase in unusual thoughts and suspicions, and a family history of psychosis.

Question 2: How can the supportive and encouraging social and linguistic environment have an impact on the diagnosis process of language and communication impairments of the schizophrenic patients?

Every psychiatrist agreed on this point that supportive and encouraging environment work as a blessing for the schizophrenic patients. It is because it places great emphasis on the role of parental and social supervision to diagnose the language and communication impairments. They also talked about some parents those who cannot take this fact easily that their children are schizophrenic but the only thing they realize is that their children are different from others. The main problem that can be found is that the patients are already very much reluctant to talk to other people and on the top of that, when they do not get any encouragement or motivation to talk, their existing knowledge of language and communication starts diminishing.

Nevertheless, when the friends and parents try to make them communicate for a long time, some changes can be noticed. The patients start realizing that when someone asks a question, they need to answer or they need to greet the people. These are the practical use of language that can be easily identified by the people who are close to the patient. The psychiatrists gave more importance on the parental observation because the patients spend more time with their parents in home than with the friends in outside.

Question 3: What types of articulation problems do the schizophrenic patients experience?

Several psychiatrists discussed various articulation problems observed in their patients. Five of them focused specifically on difficulties patients face when pronouncing certain Bengali letters, such as /g/, /c/, and /j/. For instance, sometimes the /g/ sound is replaced with a different sound, /c/ with another, and /j/ with yet another (e.g., “becomes,” “becomes,” “becomes”).

Additionally, seven psychiatrists reported that patients also struggle to differentiate between certain similar sounds, such as the palatal /k/ and the cerebral /l/, as well as the dental /m/ and alveolar /U/. They also have trouble distinguishing between the alveolar /z/, the vowel /e/, and /f/. For example, /k/ might be substituted with /l/, /l/ with /k/, /m/ with /n/, /U/ with /Z/, /e/ with /f/, and so on.

However, these articulation issues tend to vary from patient to patient. It’s challenging to identify specific letters as problematic because different individuals may have difficulty with different sounds. Generally, the main issues involve bilabial and alveolar sounds, as well as

consonant clusters. All psychiatrists agreed that many patients tend to pronounce words nasally and lack proper intonation in their speech. Interestingly, when patients become angry or excited, they often speak with a higher pitch.

Question 4: What types of language impairments can be found among the patients?

93% psychiatrists said that, fragmented thinking is a characteristic of schizophrenia. Externally, it can be observed in the way a person speaks. People with schizophrenia tend to have trouble concentrating and maintaining a train of thought. They may respond to queries with an unrelated answer, start sentences with one topic and end somewhere completely different, speak incoherently, or say illogical things.

Common signs of disorganized speech in schizophrenia include:

- Loose associations – Rapidly shifting from topic to topic, with no connection between one thought and the next.
- Neologisms – Made-up words or phrases that only have meaning to the patient.

- Perseveration – Repetition of words and statements; saying the same thing over and over.
- Clang – Meaningless use of rhyming words ("I said the bread and read the shed and fed Ned at the head").

Question 5: What types of communication impairments can be found among the patients?

98% psychiatrists said that, Schizophrenia contributes to serious difficulties in communicating with others. Schizophrenic patients are known to experience two broad classes of communication difficulties: problems in conveying meaning to others (expressive language) and disturbances in understanding the messages of others (receptive language). The difficulties are given below:

- Abnormalities in semantic memory in schizophrenia – Sometimes they forget the meaning of a particular word.
- Abnormalities in language processing including semantic and syntactic abnormalities in schizophrenia- Wrong choice of word that has no meaning and use of unstructured grammar.
- Abnormalities in affect processing from face and voice cues- Lack of facial expression and tone of voice that represent key signals of emotional communication.

Question 6: What types of difficulties do the schizophrenic patients have in word use and sentence structure?

All the psychiatrists agreed that, the patients have very limited vocabulary. Sometimes they use words which do not go with the context. Again, nine psychiatrists talked about the problem that the patients do not understand the cognitive terms and their understanding of a word is related with only one specific type of object. For example, when they heard the word „tree", they think that this word can be applied to only one specific type of tree but they cannot make the generalization of the concept „tree" which can be applied in different types of plants. Moreover, it was agreed by all the psychiatrists that they also have problems in understanding the metaphorical or hypothetical meaning of word or phrase.

All the 12 psychiatrists mentioned that the patients have problems in forming sentences. That is why; they hardly utter a full sentence. For example, if the psychiatrist asks a student, " ?" (Have you combed your hair?)" In most of the cases, the patient will reply either " " (yes) or " (combed) but never say, "(Yes, I have combed my hair). They also have problems in comparing and asking questions.

Question 7: What are the common grammatical errors found in the schizophrenic patient's language? (using tense, pronouns, subject-verb agreement)

The most common problem shared by all 12 psychiatrists was in the use of pronouns. The patients reverse the pronouns „I", „me", „mine" with „you", „your" or „yours" very frequently. That is why they are always taught to use the proper nouns instead of pronouns. For example, instead of saying " (I am hungry), they will say it by using their name, such as " " (Attri is hungry). Few psychiatrists also talked about the point that the patients have problems with subject verb agreement.

In Bengali, they cannot differentiate among " (I go), " (You go), " (S/he goes) or " (S/he goes). These differences in verb that take place because of the changes in subject cannot be comprehended by them. As a result, their sentence structure also becomes faulty.

Moreover, all the psychiatrists gave their consent on this point that these patients have problems in tense and most of the time, they use future tense; such as "

(Attrii will go home) or “ ” (Attri will play now).

Question 8: How does the ‘Thought Disorder’ affect the communicative impairment of the schizophrenic patients?

All the psychiatrists said that schizophrenic thought disorder comprises four relatively independent components: delusion; intrinsic thinking disturbance; formal thought disorder; and deficient real-world knowledge - a new concept. Schizophrenic and neurotic control subjects were given tests of thinking, perception, appreciation of conversational discourse, and social and practical knowledge. Not all deluded schizophrenics had intrinsic thinking disturbance. Those that did tended to have over inclusive categorization as the most apparent deficit. Formal thought disorder was associated with a poor performance on the test of conversational discourse. The most striking result was that 75% of schizophrenic patients were markedly deficient, relative to neurotic patients, on their knowledge of everyday social issues.

4.1. Analysis of speech therapists’ interview

For the speech therapists‟ interview, there were 8 questions which were asked to 12 therapists and the therapists had to briefly explain the answers.

Question 1: Do the patients with schizophrenia have any language impairments?

All the therapists agreed that, patients with schizophrenia often display unusual language impairments. This is a wide ranging critical review of the literature on language in schizophrenia since the 19th century. Many, though not all, patients diagnosed with schizophrenia display abnormalities of language. These abnormalities are highly variable and often hard to characterize.

Question 2: What types of articulation problems do the schizophrenic patients experience?

75% therapists said that the patients have difficulties with bilabial sounds like /c/, /e/ or /g/ and with alveolar sounds like /U/, /W/ or /j/. They do not understand how to utter the bilabial sounds with the help of two lips because they cannot recognize the system of joining and detaching the lips. Again, in case of alveolar sounds, they cannot understand how to move their tip of the tongue and touch the alveolar ridge. According to them, some articulation problems they face because of the problems in differentiating the sounds. They always have problems with /U/ and /Z/ and they replace the later with the first one (sometimes “zoo” becomes “uoo”). Not all the patients lack intonation but some of them and they sometimes use wrong pitch in the wrong place.

25% therapists said that the patients face problems with the velar sounds of /K/ and /M/ because they cannot comprehend the process of taking out the sound from their velum. That is why; sometimes “ (banana) becomes “ (bottom). Again, they also have a tendency to make every sound nasal and cannot pronounce the cluster letters correctly. Like the previous speech therapists, they also mentioned the problems in differentiating same type of sounds like /k/, /l/ and /m/ or /U/ and /Z/. About intonation, they said that, even if the patients can overcome the articulation problems that they have with different phonemes and sounds, it is quite hard to make them understand about when or how to apply different intonation.

Question 3: Do the patients with schizophrenia utter disorganized speech?

In response to the question most of the therapists said that disorganized thinking causes illogical, nonsensical thought patterns. This disorganization is also noticeable in the way an affected person talks. A person with disorganized thinking may not be able to stay on track in a conversation, instead jumping from one unrelated idea to another, so that it's impossible to understand what the person is trying to say. Making up words is common. Written communications also are much disorganized.

Question 4: What types of difficulties do the schizophrenic patients have in word use and sentence structure?

50% therapists said that they never say the full sentence. There are some words theymhardly use while forming a sentence. For example, they do not say “(with) in a

sentence like “ (Attri combs her hair with comb) or “ (from) in a sentence like “ ” (Attri took the book from his aunt house). Again, they do not understand the word or phrases for jokes or satires and they never use cognitive terms. As they have thought disorder, they cannot get the concept of thinking or justifying their own ideas and understanding others‟ thoughts or perspectives and express them in words.

The other 50% therapists said that they also talked about the same things of not understanding jokes and cognitive terms or saying the full sentence. He also added that the patients sometimes do not understand the interrogative

sentences. If the psychiatrist asks, “ ?” (Will Attri eat now?), the patient may not reply to the psychiatrist by saying yes or no. However, if the psychiatrist says, “ .”(Attri will eat now), then the patient will say yes or no. As they have difficulty in understanding questions, they also have problems in asking questions. They also do not understand metaphor or simile, such as “ (The girl looks like a fairy) because they do not know how to compare a girl with an abstract thing like fairy.

Question 5: What are the common grammatical errors found in the schizophrenic patient's language? (e.g. using tense, pronouns, subject-verb agreement)

60% (Sixty percent) of therapists reported that their patients have difficulty understanding the changes in verb forms according to tense. For example, they struggle with sentences like "I play," "I played," and "I will play." They also face challenges with subject-verb agreement and tend to use "in" when referring to everyone. Moreover, they rarely use "he" or "she" when talking about teachers or elders.

A common issue among schizophrenic patients is the reversal of pronouns; for instance, they often confuse "I" and "you." This means that when a patient says, "You are hurt," they actually mean, "I am hurt."

Forty percent of therapists mentioned that their patients also experience similar problems, as discussed by other speech therapists. Additionally, they pointed out difficulties with using prepositions correctly, such as "in," "on," "after," and "before." For example, a patient might say, "Attri has come to the class before/after Rimi," but their understanding of "before" and "after" is often unclear.

Patients also tend to overuse newly acquired grammatical structures. For instance, if they have learnt the continuous present tense, like "Attri is now playing," they might use this form in place of the simple present or future tense. Instead of saying, "Attri will go to the room," they might say, "Attri is going to the room."

Question 6: Does he/she lack the conversational conventions (politeness, turn taking, levels of formality)?

Schizophrenic patients lack the characteristics of pragmatics and discourse analysis. They usually do not follow the conversational principles and they do not understand when and how to talk with different people in different circumstances and contexts. Most of the therapists (80%) agreement on this point proves that the schizophrenic patients have problems in maintaining the rules of conversation. They fail to maintain the formality and the topic in any conversation and do not follow the procedure of turn taking, adjacency pair and politeness.

Question 7: Does the patient lack intonation in his/her speech and does it make his/her speech boring and monotonous?

Schizophrenic patients talk in the same tone and they do not change the pitch or intonation while they are talking. That is why, their speech sounds dull and boring and machine like. All the speech therapists agreed on this point.

Question 8: Do you think that early diagnosis is possible through the observation of the language impairments of the patients with schizophrenia?

All the speech therapists said that the first step in getting treatment for schizophrenia is getting a correct diagnosis. This can be a more difficult than it might seem because the symptoms of schizophrenia can be similar at times to other major brain disorders such as bipolar disorder (Manic/Depression) or even major depression, or because a person with schizophrenia may be paranoid or believe that nothing is wrong and may not want to go to see a doctor, because many regular family doctors may not be very familiar with schizophrenia. It is important to see a good psychiatrist who is experienced in the diagnosis and treatment of schizophrenia. However, if the syntactic structure of schizophrenic speech were subjected to a detailed linguistic analysis, clear differences would be demonstrated between schizophrenic and control populations. It was confirmed that schizophrenics do have less syntactically complex speech which contains more errors. Using linguistic variables in a discriminant function analysis, it was possible to predict diagnoses correctly in 79% of cases.

4.2. **Results of the Interview of the Family Members of the Patients**

For the interview of the family members‟, there were 8 open-ended questions and the members had to briefly explain the answers.

Question 1: Have you noticed any kind of language impairments of the patient?

All the family members said that all the patients are suffering from language impairments. At first the family members thought that those might be slip of tongues but gradually they understood that something is wrong and

then they took the patients to the hospitals.

Question 2: When did you start observing the language impairments of the patient?

80% family members said that they started observing the language impairments of the patients from the initial stage of the disease while 20% of the family members said that it took a long period of time as they started noticing the impairments.

Question 3: Do you think that schizophrenia is responsible for the linguistic and communicative impairments of the patient?

All the family members agreed to this point that schizophrenia is responsible for the linguistic and communicative impairments of the patient. They talked about some situations when the patients gave some sort of unrealistic responses, for example, "I cannot get up because I am paralyzed." "I am supposed to stay in bed today because it's the Lord's day." "If I get up, I will get hurt." These kinds of explanations sound odd to others but to the schizophrenic patients they seem warranted. They do not understand why others see them merely as "excuses".

Question 4: Does the patient lack intonation in his/her speech and does it make his/her speech boring and monotonous?

Schizophrenic patients talk in the same tone and they do not change the pitch or intonation while they are talking. That is why, their speech sounds dull and boring and machine like. Not all the family members agreed on this point but 75% members agreed that the patients lack intonation. On the contrary, 25% members thought that the patients do not lack intonation and their speech is not monotonous.

Question 5: Does the patient have problems in understanding the non-literal sequences (metaphor, joke, irony, mockery)?

As 95% said „yes" to this question, it has been proved that patients cannot understand the non-literal sequences or any hypothetical ideas. They only understand the literal meaning of words and phrases. This is also one of the most crucial reasons of their communicative impairments. However, only 5% responded „no" to this question.

Question 6: Is the patient able to explain his/her thoughts?

All the family members said that, what the patient says becomes incomprehensible to those around him/her either because sentences are unconnected to each other, or else because there seems to be no point to the stories told, or else because topics seem to switch with great frequency. Words may take on special meanings in schizophrenia either because they trigger private associations or because attention is paid to individual sounds rather than whole words. For instance "psychiatry" may sound like "sigh Kaya tree" & the topic may switch suddenly from a discussion of psychiatry to a discussion about mystical trees. Certain words may be avoided because they sound harsh or evil. Sometimes intonations are changed for similar reasons. Sometimes language is used as an incantation to word off threats. Sometimes it is almost impossible to communicate with patients and it is very frustrating to family.

Sometimes the patients try to communicate non-verbally. Sometimes communication take place through writing words, as thoughts tend to be more organized in writing. Sometimes when talking to others, however, they do not speak as if the patient were absent.

Question 7: Does he/she lack the conversational conventions (e.g. politeness, turn taking, levels of formality)?

Most of the family members (90%) agreement on this point proves that the patient have problems in maintaining the rules of conversation. They fail to maintain the formality and the topic in any conversation and do not follow the procedure of turn taking, adjacency pair and politeness.

Question 8: Do you think that linguistic and communicative difficulties of the patient can be overcome with the help of supportive family and friends?

Only 17.5% members agreed on the point that with the help of supportive friends, family and teachers the linguistic and communicative difficulties can „always" be overcome and 82.5% agreed that the difficulties can „sometimes" be overcome with the support and encouragement.

Though the supportive and encouraging environment

has always been emphasized for the linguistic and communicative development of the schizophrenic patient, it is not always possible that the patients will overcome their linguistic and communicative impairments with the help of such environment. However, even if they cannot overcome all their difficulties, to some extent, it will help them. The family members of the patients also agreed on the point that the families and friends should keep trying to encourage them.

4.1. Analysis of the conversation of the patients with the doctors

It is observed during the conversation of the patients with the doctors (Appendix D) that, the subject (8) did not answer when he was asked in a question-answer format about favourite food and actor while he gave the answers when those were not asked in a question-answer format. In response of telling a funny story the subject (6) told something which was not at all funny. Sometimes they responded on only "yes", "no" form instead of saying a full sentence (Subject 5). In response to the very first question, the subject (1) uttered some sentences which do not make any sense. One subject (3) said that "police should policing the police", it is clearly visible that he had problems expressing himself through the correct use of grammar and choice of words. Another subject (2) said that he wanted to kill his brother. Here he surely lacks the formal style of conversation as these are not something one could say in public. When doctor asked a subject (7) that is she likes to be there or not, she replied " ", which is an example of lacking the conversational politeness. However, one subject (4) said that she knows that she is schizophrenic and she feels pity for her mother but on the other hand she said that she wanted to go to a clinic. May be she forgot that she is under treatment or she was not able to express her thought in full extent though her knowledge of grammar was good enough. Moreover, the other 4 subjects behaved irrationally. Sometimes they interrupted the others by sayingetc. Sometimes they were lost and they did not give any answers to the doctor's questions as if they have not heard the questions. They were frequently looking at the police officers so it can be assumed that they felt uncomfortable on that situation and may be this is the reason for their silence.

4.2. Discussions on the central research questions

1. Is there any language impairment of the patients with schizophrenia?

All the psychiatrists, speech therapists and the family members of the patients agreed that schizophrenic patients have language impairments.

2. What are the language impairments of the patients with schizophrenia?

The patients with schizophrenia have several language impairments. For example, loose associations, neologisms, perseveration, articulation problems, abnormalities in semantic memory, difficulties in in word use and sentence structure, problems regarding grammar (using tense, pronouns, subject-verb agreement) etc.

3. How can we identify the patients with schizophrenia through the analysis of the use of their language?

The language pattern of schizophrenic patient is different from others. For example, sometimes they get lost during a conversation, they lack the conversational politeness and level of formality, they have problems in understanding the non-literal sequences (metaphor, joke, irony, mockery), they lack intonation in speech etc. If we can concentrate on their use of language then the difference is very clear and we can identify the patients easily.

5.0. CONCLUSION

5.1. Conclusion

Concerning earlier detection, we obviously need to know more about the very early signs and symptoms indicating the development of schizophrenic disorder with a reasonably high degree of probability. We also need to know the biological, psychological, and social factors that influence the treatment-seeking behavior of subjects in the earlier phases of schizophrenia. Although the earliest signs and symptoms of schizophrenia may be universal and thereby easily generalizable, treatment-seeking behavior may be differently influenced by individual, family, social, and health service factors in different cultures and countries. Therefore, general knowledge about the most influential factors on treatment seeking must be based on studies from different countries and continents.

However, Schizophrenia demands detection as early as possible and adequate treatment opportunities for subjects who are in the early phases of the disorder. Symptoms of schizophrenia are expressed as language behavior, specifically as defects of communicating with other people. These symptoms are diagnosed through clinical interviews, where narrative language is used as a window to the schizophrenic mind.

5.2. Recommendations

Schizophrenia is a highly complex disorder that affects many aspects of higher-order thought and meaning. Language is a highly complex system. Both, arguably, are unique to humans and there has even been some speculation that their evolution may be linked (Crow, 2000). Understanding the relationships between the two is clearly extremely challenging. While I do suggest that examining the two systems (psycholinguists and neuroscience) alongside one another may lead to new insights into the architecture of the schizophrenic language system.

However, the authority should be friendlier to the researchers because if there will be more and more researches on this area, it will help to find out the loopholes and take necessary steps.

Above all, people in our country still have some wrong notions about schizophrenia and the schizophrenic patients. I suggest promoting a campaign called “Time to Change” to raise awareness and improve attitudes towards people with mental health problems.

5.3. Practical implication

Firstly, this research will motivate others to do research on this area. It will increase peoples‟ knowledge on schizophrenia and how it can be detected in early stage through the analysis of language. It will also help the medical science and linguistics research field.

5.4. Further studies

Except for semantic priming and discourse cohesion, hardly any aspects of schizophrenic language are well explored. Thus, this entire literature review is practically an agenda for future research. Current psycholinguistics which is advancing rapidly can shed light on old issues. This research is a pathway for further research as it was a Dhaka based study but researching in more than one place can help us to get more information. Above all, researchers in this field can do in depth research on individual language items (Morphology, Phonology, Semantics etc.) rather than holding the items all together. Numerous lines of investigation lie open before us and should be pursued.

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Appendix A

Interview Questionnaire (Psychiatrists)

1. What is the average age when patients can be diagnosed with schizophrenia?
2. How can the supportive and encouraging social and linguistic environment have an impact on the diagnosis process of language and communication impairments of the schizophrenic patients?
3. What types of articulation problems do the schizophrenic patients experience?
4. What types of language impairments can be found among the patients?
5. What types of communication impairments can be found among the patients?
6. What types of difficulties do the schizophrenic patients have in word use and sentence structure?
7. What are the common grammatical errors found in the schizophrenic patient‟s language? (e.g. using tense, pronouns, subject-verb agreement)
8. How does the „Thought Disorder‟ affect the communicative impairment of the schizophrenic patients?

Appendix B

Interview Questionnaire (Speech Therapists)

1. Do the patients with schizophrenia have any language impairments?
2. What types of articulation problems do the schizophrenic patients experience?
3. Do the patients with schizophrenia utter disorganized speech?
4. What types of difficulties do the schizophrenic patients have in word use and sentence structure?
5. What are the common grammatical errors found in the schizophrenic patient‟s language? (e.g. using tense, pronouns, subject-verb agreement)
6. Does he/she lack the conversational conventions (e.g. politeness, turn taking, levels of formality)?
7. Does the patient lack intonation in his/her speech and does it make his/her speech boring and monotonous?
8. Do you think that early diagnosis is possible through the observation of the language impairments of the patients with schizophrenia?

Appendix C

Interview Questionnaire (Family members of the patients)

Questions for the Therapist:

1. Have you noticed any language impairments in the patient?
2. When did you first observe these language difficulties?
3. Do you believe that schizophrenia is responsible for the patient’s language and communication problems?
4. Does the patient speak without much intonation, making their speech sound dull or monotonous?
5. Does the patient have trouble understanding non-

literal language, such as metaphors, jokes, irony, or sarcasm?
6. Is the patient able to express their thoughts clearly?
7. Does the patient struggle with conversational norms, like politeness, taking turns, or adjusting speech levels according to the context?
8. Do you think that the patient's linguistic and communication challenges can be improved with support from family and friends?

Appendix D: Conversations Between Patients and Doctors

Questions were asked to 12 patients with schizophrenia. Their responses are summarized below:

Doctor: Did you enjoy college?

Subject 1: Yes, I enjoyed some groups I was part of. One day, I decided to bleach my hair myself. My roommate from Rangpur was going to college, and we lived in Dhanmondi. She helped me apply peroxide to my hair. When I looked in the mirror afterward, tears filled my eyes. I was aware of everything happening, but I couldn't understand why I was crying.

Doctor: Do you love your brother?

Subject 2: My brother was upset because he had to work, and I didn't, so he wouldn't give me even fifty taka. He would eat and drink in front of me without sharing anything. That hurt me deeply. I started thinking he wanted me to kill myself. I stayed up all night fantasizing about hurting my father and brother. I was so angry I wanted to stab them, but I was afraid of going to prison. If I had a gun, I might have shot them and then taken my own life to escape the consequences.

Doctor: Have you participated in the election?

Subject 3: No, I think the police should be policing the police.

Doctor: (No response)

Subject 4: I might be schizophrenic or worse, but I haven't told my mother because I don't want to disappoint her. I'm scared and want to get help. I'm thinking about visiting a mental health clinic for assessment.

Doctor: (Pointing at the researcher)

Subject 5:

Doctor: Can you share a funny story from your life?

Subject 6: Once, I was going to take a shower and turned up the heat. Just then, the other person also came out with their stuff, ready to shower. When he saw me, he stared for a few seconds and then went back to his room.

Doctor: (No question recorded)

Subject 7:

Doctor: (No response)

Subject 8:

Appendix E: Background Information of the Patients

Subject	Age	Gender	Education	Occupation	Economic Status
1	20	Female	A-levels	Student	Upper middle class
2	27	Male	MBA	Unemployed/Working	Middle class
3	20	Male	H.S.C	Student	Middle class
4	26	Female	Graduate	Employee at a well-known company	Middle class
5	19	Male	S.S.C	Student	Middle class
6	26	Male	Master's in English	Call center worker	Middle class
7	22	Female	Undergrad in Sociology	Student	Middle class
8	16	Female	Class 10	Student	Middle class
9	16	Female	Stopped at Class 9	Student	Middle class
10	27	Female	B.B.A. graduate	Student/Employee	Middle class
11	19	Male	H.S.C	Student	Middle class
12	26	Female	Attended university (but not currently)	Student	Middle class