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Language and Mental Disorders: A Psycholinguistic Study of the Impact of Psychosis on Language Usage and Thought.

Case Study: Psychotic Patients from the Psychiatric Center of Mostaganem

A Dissertation Presented in Partial Fulfilment for the Requirements of a Master's Degree in English Language and Linguistics

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Dedication

I dedicate this work to all of the people who prayed for my success and for my failure.

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In the name of Allah, who has granted me the patience, wisdom, and goodness necessary to be in this position.

I want to convey my gratefulness to my close friends and family for their help.

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I made sure to thank those who tried to break and weaken me because for every stride backwards you forced me to take; you also drove me to take ten steps forward.

You're all appreciated.

Abstract

The goal of the current study was to identify the linguistic markers of dysfunctional speech and thought in patients with psychosis. The study's major research question investigated how psychosis impact the way people think and use language. There are two sub-questions under the major problematic; the first question concerned the language characteristics that emerge from psychotic episodes and the second questioned whether all of the linguistic components were affected in all patients as a result of psychosis. This psycholinguistic analysis used qualitative and descriptive methods to address the research problem. Consequently, semi-structured interviews with doctors and psychotic patients, observations, and recordings, were used as data collection tools. The participants were all from the Psychiatric Center of Mostaganem, including a psychologist and a psychiatrist, as well as two male and three female psychotic patients. The recorded data of the psychotic patients were recorded and transcribed, and the obtained data were analyzed using the Thought, Language, and Communication Disorders scale of assessment. The results suggested that psychosis symptoms such as delusions, hallucinations, and formal thought disorders led to irregularities and disturbances in various linguistic levels. Psychosis caused language use and thought to be illogical, poor, blocked, under pressure, lost, repetitive, deviant, and occasionally incomprehensible. However, not all linguistic characteristics and all patients may experience language usage irregularity; it varied from patient to patient.

Keywords: speech, thought, psychosis, impact, abnormality, TLC assessment.

List of Abbreviations

APA: The American Psychological Association

ECT: Electroconvulsive Therapy

HSPA: Health and Safety Professionals Alliance

FTD: Formal Thought Disorder

TLC: Thought, Language, And Communication

AF: The Arcuate Fasciculus

PAC: The Primary Auditory Cortex

PMC: The Primary Motor Cortex

PVC: The Primary Visual Cortex

BA (s): Brodmann Area(s)

DP: The Dorsal Pathway

VP: The Ventral Pathway

SLF: The Superior Longitudinal Fasciculus

EFCS: The Extreme Fiber Capsule System

UF: The Uncinate Fasciculus

DSM-5: Diagnostic and Statistical Manual of Mental Disorders (5th ed)

ICD-10: The International Classification of Diseases (10th ed)

CBT: Cognitive-Behavioral Therapy

FI: Family Interventions

EEG: Electroencephalogram

Ps: Patients

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General Introduction

General Introduction

Mental illnesses like schizophrenia spectrum and other psychotic disorders are social phenomena that induce dysfunctions at the level of various cognitive processes, such as thought and language use. These dysfunctions may affect a person's performance and communicative competence, interfering with their ability to interact socially with others. Although they often affect children and adolescents, many illnesses can also emerge in adults. According to Hinzen and Rosselló (2015), in the prevalent perspective, language serves as a medium for communication that is based on already formed thoughts that supply its content. However, the onset of psychosis may impair a person's ability to speak and think clearly, which results in impairing communication.

Many studies shed the light on schizophrenia spectrum as a point of investigating language impairment along with other psychotic disorders, yet the current investigation establishes a qualitative and descriptive psycholinguistic research on the relationship between psychotic episodes, not only schizophrenia, and language and thought. Performing linguistic investigation on abnormal language and thought are quite uncommon because most linguistic studies examine the qualities of normal speech. In a similar vein, they investigated how people convey their thoughts through language. This study is crucial for educating people about the linguistic and cognitive deficits that affect their or others' ability to interact socially and communicate meaning because of psychosis.

The goal of the current study is to identify the linguistic markers of dysfunctional speech and thought in patients with psychosis. This qualitative and descriptive psycholinguistic study will start with the following questions:

1/ How does psychosis influence language, thought, and communication?

2/ What are the linguistic features that occur as a result of psychotic episodes?

3/ Do thought and speech disorganisation caused by psychosis encompass all the linguistic elements in all patients?

We have established the following hypotheses to address the above research questions:

1/ psychosis may affect a person's language, thought, and communication by causing hallucinations and delusions, in which his/her thought is disrupted and his/her speech becomes incoherent, incomprehensible, or he may not even speak, etc., causing the patient to have difficulty communicating with others and interacting with society.

2/ A person with psychosis may use invented words, mixed words, or speak incoherently. The patient might even speak continuously without interrupting, or he might be unable to express a notion, or he might stray from the topic.

3/ Speech and thought disorganisation may differ from one patient to another, according to the disorder, its severity, and the personality of the patient also.

To authenticate these assertions, this dissertation offers a qualitative analysis based on four methods of data collection and analysis: observation, listening to psychotic patients conversing with psychologists and psychiatrists, as well as with me and each other. Interviews have been conducted with patients, psychologists, and psychiatrists. Because of the study's focus on language, the interviews were taped. The scale for the evaluation of TLC disorders is the final instrument, and it is used for analysing the recorded data.

The participants that contributed to the study were a psychologist, a psychiatrist, and five mental patients; two men and three women. The participants range in age from 27 to 48, and the patients were diagnosed with different psychotic disorders. The research was conducted at the level of the Psychiatric Center, the Martyr Youcef Mejdoub in Tijdit, Mostaganem; from November 28, 2021 to January 28, 2022.

The dissertation is composed of three chapters. Language and communication in society are discussed in the first chapter from a psychological and neurological standpoint. The second chapter focuses on language processing in the human brain, provides a review of psychotic mental diseases, their symptoms, causes, and effects, and explains the scale used to evaluate TLC disorders. The last chapter outlines the research design, data collection and analytic procedures, and discussion of the findings.

Chapter One:

Language in Society: Psychological and Neurological Considerations

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1.1. Introduction

Language is the primary means, by which human beings communicate their intentions, think, act, and affect others in various ways. Linguistics is the study of language, and it is related to other scientific disciplines including sociology, psychology, and neuroscience.

Several topics required for the study of language are typically explained in the first chapter. First, a summary of language and communication is provided. Second, language in society is discussed. Psycholinguistics and the individual behaviour are then thoroughly investigated, along with an explanation of the differences between psychology and psychiatry and how they are related to language. The chapter also reveals how language is represented in the human mind and how it relates to thought. A detailed explanation of neurolinguistics sis provided at the end of the chapter.

1.2. Language: A Means of Communication

Language is a complex social phenomenon. It is a means of communication between social members to express thoughts, emotions, and share information. It is a system that starts from phonemes and is developed into words and sentences through linguistic rules. Language can be used orally, by writing, or by gestures and signs, in which it should be conventional among a particular social community.

According to Verderber (1999) “Language is the body of words and the system for their use in communicating that are common to the people of the same community or nation, the same geographical area or the same cultural tradition”(Verberder 1999 in Wulandari, 2021, P.34). Hassan and Djebar (2018) points out that “oral, written, and body languages contain a phonological framework that administers how images are utilized to shape arrangements known as words or morphemes, and a syntactic framework that represents how words and morphemes are joined to shape expressions and articulations” (p. 7).

Language has rules, by which social members use it to achieve certain goals such as successful communication. It is “adjusted to the situation, conditions, and needs, it can’t be separated from human life… it is just that certain situations human beings can experience problems in language” (Lamhot, 2021. Pp. 11-72). However, Language dysfunction can occur in grammar, and syntax, in addition to the meaning and intentional communication.

1.2.1. Communication: A Function of Language

The word function denotes the "potential orientation of the language system to meet the needs of communication and the needs of mental activity" (Korneeva et al., 2019, Pp. 1-2). It means that there must be a certain purpose for using language. Many linguists presented different functions of language. But the main one is, definitely, the communicative function.

Language is a system of communication, based on speech statements. Communication is a universal process of exchanging information between groups of people. It is used to share ideas, express emotions, and solve problems among social members, within a social community. Furthermore, communication is a tool that enables social members to interact and converse with each other and to think and express identity (Harley, 2001). The process of communication can be verbal, nonverbal, or even both.

1.2.1.1. Verbal Communication

It conveys information, concepts, ideas, thoughts, feelings, and emotions through spoken or written messages (i.e. using words). Additionally, it is frequently used in speech, one of the linguistic information transmitters. However, verbal communications could be poorly phrased, misconstrued, or even taken differently from how they were meant to be.

1.2.1.2. Non-Verbal Communication

Without using words, non verbal communication conveys only attitudes, levels of interest, and other sensations. Images, actions, and body language such as gestures, appearance, facial emotions, eye contact, etc are used to convey non verbal messages. Other components of nonverbal communication include pitch (high/low), pace (slow/fast), the emphasis placed on words, volume (soft/loud), and lastly the physical context or the environment.

Non-verbal communication has a greater impact on verbal communication, in which the message communicated should be understood by each of the communicators (Fatimayin. 2018). Effective communication is a necessary component of healthy social connections. In which it is intended to elicit the necessary responses and comments from the recipient as well as a comprehension of what is personal and invisible. However, in other circumstances, the manner in which a person communicates is more crucial and may differ from the content of what is said; even silence can be very meaningful.

1.3. Linguistics: Science of Language

Linguistics is the scientific and systematic study of the structure and development of language. Akmajian et al (2010) claim that linguistics "is concerned with the nature of language and (linguistic) communication" (P.7). Which, describes the nature and components of the human language system (linguistic competence), and their use in thought and communication (linguistic performance) (Reishaan and Taha, 2008). Therefore, Linguistics focuses on studying language from different areas of grammar and meaning to achieve the purpose of describing language and its use.

1.3.1. Linguistic Aspects of Human Language

Language is an abstract human ability, and linguistics is a uniquely broad field of knowledge concerning language. Grammar and meaning are two distinct facets of language study in linguistics. These facets signify various layers of investigation into this human capacity, and these layers are described in the sections that follow.

1.3.1.1. Phonology and Phonetics

The study of sound vocalization is the responsibility of the branches of linguistics known as phonetics and phonology. Akmajian et al (2010) stated that "Phonetics is concerned with how speech sounds are produced (articulated) in the vocal tract, as well as with the physical properties of the speech sound waves generated by the larynx and vocal tract" (p.68). Whereas, the term phonology, he stated, is "often used to refer to the abstract principles that govern the form and distribution of sounds in a language" (Akmajian et al., 2010, P. 68).

1.3.1.2. Morphology

Morphology in linguistics refers to the study of word-formation. Particularly, it combines the structure and meaning of words with rules that underpin their construction to examine the relationship between them (Schmid, 2015).

1.3.1.3. Syntax

It looks into the patterns that give rise to a sentence. In addition to the syntactic principles that control how words work together, a syntactic analysis also takes into account phrases, sentences, and other words. However, as meaning is not taken into account, a phrase may be grammatically correct while still being meaningless.

1.3.1.4. Semantics

It is the study of meaning formation. It is responsible for examining the relationship between words and what they refer to as objects and concepts (Pardede, 2016). Semantics is a central subject matter in communication, the human mind; thought process, cognition, and conceptualisation (Pardede, 2016).

1.3.1.5. Pragmatics

The study of language in use is known as pragmatics. It has a connection to discourse analysis, where they jointly examine how connected sentences and language are used in a given context. Pragmatics focuses more on the interpretation of what speakers intend to convey. Yule (1996) argues that pragmatics should also consider aspects of context such as who people are talking to, when, where, and under what circumstances that will determine the way they say and what they want to say (Yule, 1996, cited in Agus, 2016. P.2). the analysis of pragmatics, which is concerned with how language is used in practice, heavily relies on speech acts. The concept of a speech act encompasses the sentence's literal meaning or content, the intended meaning, and the effect of the utterance.

1.4. Language and Society

Language is the tool by which people interact and communicate with each other in society. The study of language in society is a subject matter in linguistics, within the field of sociolinguistics. The term Sociolinguistics combines two disciplines, linguistics, and sociology.

Sociology is a social science that studies "the structure and function of society as a system, the nature, complexity and contents of human social behaviour, and social interaction" (Doda, 2005, Pp. 4-5). Sociology consists of two notions, society; a particular community or a group of people, where sociology is interested in families, social relationships, and social organizations (Broom and Selzinki, 1973 in Doda, 2005, Pp. 4-5). The second notion is Culture; a common way of life shared by a society (Doda, 2005, Pp. 4-5). It involves several elements such as language, symbols, Norms, and Values. These elements are explained by Doda (2005) as follows.

1.4.1. Symbols

Culture is built around symbols. They are everything to which humans attach meaning and with which they communicate. Symbols encompass Words, objects, gestures, sounds, and images. Symbolic thought refers to a person's ability to attach an arbitrary meaning to something or an experience, as well as to comprehend and value such meaning.

1.4.2. Language: Values and Norms

Language plays a crucial part in the transmission of culture and is a fundamental human talent and endowment. It is a set of linguistic traits that are employed to convey meanings. Social norms and values influence how people speak. This makes language use appropriate and conventional since social members use it in accordance with social conventions.

Values are broad, abstract principles that influence our lives, decisions, goals, choices, and actions. They are beliefs held by a group or culture about what is right or wrong, proper or inaccurate, desirable or undesirable, acceptable or unacceptable, ethical or immoral, and so on. They can be beneficial; such as honesty, truthfulness, and respect. Or they can be harmful; like theft, and dishonesty. Values can evolve and may survive without major changes. They may also differ from place to place and culture to culture. However, some values are universal due to the essential similarities of mankind's roots, nature, and desires.

Values are specific and detailed invisible rules that govern social life, interactions, and relationships. Norms are applied to certain situations, where they instruct us on what, when, why, and how we do things. Norms and values are related in that the content of norms is dictated by values. As a result, norms are generated from values. However, social members may disobey these norms and values, and this is a typical occurrence in societies.

Sociolinguistics seeks to understand the relationship between language and the context in which it is used, as well as to investigate the structure of language and how it functions during communication (Wardhaugh, 1986 in Mariani et al, 2019). Thus, it is not interested only in the relationship between society and language, but also in the context and function. Sociolinguistics focuses on different social units to study language in use.

1.4.3. The Social Units

The social units of language use include seven units. A speech community is “a group of people who use the same system of speech signals” (Mu’in et al., 2019. P.7). Speech

situation, is "a situation in which a speech occurs" (Mu'in et al., 2019. P.7). A Speech event "refers to activities or aspects of activities that are directly governed by rules or norms for the use of speech. An event may consist of a single speech act, and it often comprises several speech acts" (Mu'in et al., 2019. pp. 7-8). Speech act, "represents a level distinct from the sentence" (Mu'in et al., 2019. p.8), where meaning differs from the actual utterance according to a certain context. Speech style, the word style refers to a division of language varieties depending on the formality requirement (Mu'in et al., 2019). Ways of speaking, "refers to how a person speaks in accordance to the behaviour of communication governed by his/ her speech community" (Mu'in et al., 2019. p. 9). Speech components represent the elements of the context of the situation where speech occurs; such as participants, the topic, etc. These components vary according to each sociolinguist's perspective and research.

1.5. Psycholinguistics and the Individual Behaviour

Psycholinguistics is developed through the inspiring corporation between George Miller and Noam Chomsky during the 1950s, as a reaction against behaviourism. "It is the study of the psychological and neurological factors that enable humans to acquire, use, comprehend and produce language" (Altman, 2001, p.1 in Jodai, 2001, P.3). It is a branch of cognitive research that integrates linguistics and psychology. The couple disciplines conducts research on language in relation to the human mind, behaviour, and the brain. "Psycholinguistics addresses the question of how the mentally represented grammar (linguistic competence) is employed in the production and comprehension of speech (linguistic performance)" (Radford et al., 2009.P. 9). It investigates the factors and the cognitive processes underlying linguistic competence and performance in everyday speech through different theories of language processes.

> "As the field of psycholinguistics developed, it became clear that theories of sentence comprehension and production cannot be based in any simple way on linguistic theories; psycholinguistic theories must consider the properties of the human mind as well as the structure of the language".
>
> (Treiman et al., 2003)

Psycholinguistics addresses different mental processes. First is the Language production process that enables to speak. It includes "deciding what to express (conceptualization),

determining how to express it (formulation), and expressing it (articulation)" (Traxler and Gernsbacher, 2006, P. 21). Second is the Language comprehension process that enables one to grasp and understand language and meaning. It seeks to understand speech perception, lexical access, sentence processing, and discourse (Ratner et al., 1998). Psycholinguists are interested in another process, which is the process of language acquisition. It allows people to acquire a native language unconsciously. The third process is a topic in developmental psycholinguistics, and it is mostly concerned with children. It was proposed by Noam Chomsky, a well-known linguist, in his cognitive approach to science and linguistics.

1.5.1. Psychology: A Branch of Psycholinguistics

Psychology is a scientific discipline that contributed to developing cognitive science along with other sciences such as philosophy, anthropology, linguistics, neuroscience, and artificial intelligence (Butler and McManus, 2014). It studies the mind and behaviour of an individual or a group of people in different contexts. It focuses on society as a whole as well as on interactions between individuals. "It encompasses the biological influences, social pressures, and environmental factors that affect how people think, act, and feel" (cherry. 2020).

Psychological researchers rely on scientific methods and empirical methods in their investigations. The Scientific method includes observations, hypotheses, experiments, rules, etc. whereas, the empirical methods include "the processes of collecting and organizing data and drawing conclusions about those data" (Cummings and Sanders, 2014, P. 8).
According to Cummings and Sanders (2014), the study of psychology encompasses a wide range of topics and explanation grades, which are used to comprehend behaviour; in addition, these levels may include one topic as a subject under study.

> "The lower levels of explanation are more closely tied to biological influences, such as genes, neurons, neurotransmitters, and hormones. The middle levels refer to the abilities and characteristics of individual people, and the highest levels of explanation relate to social groups, organizations, and cultures".
>
> (Cummings and Sanders, 2014, P.9)

Psychology as a scientific field is broad, diverse, and multifaceted. It is found in many areas of human life such as schools, organisations, companies, hospitals, and prisons, which means

in different areas of society and human sciences. As Cummings and Sanders (ibid) mentioned previously the levels of explanations in psychology, there are multiple branches of psychological studies. Abnormal psychology, biopsychology and neuroscience, and clinical psychology are among these branches.

1.5.1.1. Branches of Psychology

Abnormal psychology; or psychopathology, is one of the branches of psychology that studies abnormal behaviour, “with the intent to be able to predict reliably, explain, diagnose, identify the causes of, and treat maladaptive behavior” (Bridley and Daffin, 2020, P. 11). Bridly and Daffin (2020) also explained that "an abnormal behaviour is a combination of personal distress, psychological dysfunction, deviance from social norms, and more” (ibid, p. 12). In general, Abnormal psychology focuses on explaining mental disorders and abnormalities that resulted from mental dysfunction. Furthermore, Nevid et al (2011, 2014, 2018) stated that Normal and abnormal behaviours occur in the context of culture and community (p.84). It is also related to other psychological subfields such as biopsychology, cognitive, psychology, and clinical psychology.

Biopsychology and neuroscience is “the study of the biology of the psyche, including the anatomy, physiology, and pathology of the mind” (Thomas, 1985, p. 1406, cited in Health and Safety Professionals Alliance, 2012, P.3). This study involves the examination of the physiological bases of behaviour and the effect of hormones and neurotransmitters on that behaviour. Hebb's the Organization of Behavior, published in 1949, and was the first complete theory of how complex psychological phenomena like perceptions, emotions, thoughts, and memories may be formed by brain activity (Pinel, 2009-2014). Hebb's theory accomplished a lot to disprove the idea that psychological functioning is too complicated to be explained by brain physiology and chemistry (Pinel, 2009-2014).

Pinel (2009-2014) mentioned that Biopsychology is a field that encompasses a wide range of topics. Bio psychologists combine knowledge from a variety of neuroscientific disciplines to research behaviour. neuroanatomy; The study of the structure of the nervous system, and neurochemistry; The science of the chemical underpinnings of neuronal activity, are one of the neurosciences that are relevant to biopsychology.

Clinical psychology, according to the APA (2008), is “the psychological specialty that provides continuing and comprehensive mental and behavioural health care for individuals

and families; consultation to agencies and communities; training, education and supervision; and research-based practice”. It is a branch of psychology concerned with the assessment, diagnosis, causes, and treatment of abnormal behaviour, and psychiatric problems. Clinical psychologists operate in a variety of contexts, including universities, hospitals, private practice offices, and medical groups (Trull and Prinstein, 2005-2013). Trull and Prinstein (2005-2013) also mentioned several activities of clinical psychologists such as therapy, diagnosis and assessment, teaching and clinical supervision, developing research, consultation, and administration.

1.5.1.2 Psychology Vs Psychiatry

People often confuse psychology with psychiatry. Although psychologists and psychiatrists work together in mental health settings, their roles are different to some extent. Psychology is not on a medical basis. It studies human mental processes and behaviour. Psychological treatment is based on psychoanalysis and psychotherapy. Psychiatry, on the other hand, is a medical scene that focuses on the assessment and diagnosis, treatment, and prevention of mental, emotional, and behavioural disorders, as well as the patients’ social and biological context. It relies on medications and physical treatments such as ECT.

> “Psychiatrists treat the effects of emotional disturbances on the body and the effects of physical conditions on the mind…Psychologists assist people with everyday problems such as stress and relationship difficulties, and some specialize in treating people with a mental illness”.
>
> (APS, 2011 cited in HSPA, 2012. P.1)

Kirmayer et al (2015) mentioned that Social identity and relationships can be severely affected by mental health issues. They have the potential to disrupt our social function, sense of self, and identity by directly affecting basic cognitive and emotional processes. People who have been subjected to harsh treatment, such as physical isolation and stigmatisation, have benefited from psychiatric help. Psychiatry also helps people to shape the way they think about health and illness. It is concerned with interpreting and responding to the needs of persons who suffer from "mental diseases". This instantly raises the issue of defining what constitutes a mental illness (McNally, 2011 in Kirmayer et al., 2015).

There is a strong relationship between psychology and psychiatry together and language. Language is used to exchange information and express thoughts and emotions. In these two fields language is used to interview patients and gather information, diagnose and treat them appropriately. Broadly, language is the gate to understanding the nature of mankind in its normality and even abnormality. Tay (2019) proposes that “Language-related research into psychotic disorders involves the relationship between linguistic/pragmatic disturbances and mental disturbances, differential impairment across different aspects of language ability, and the use of linguistic variables in diagnosis, understanding symptom formation, and/or clinical intervention” (P.7).

Fine (2001) explained that Language is a signalling system utilised by social groupings to attain social goals that the organisations have defined. He stated that we can think of language as the meanings to be transmitted (the functions of language) and the tools to send those messages, rather than speech and language. Fine also mentioned that Specific types of language use are used to characterise or even define psychiatric conditions, which in turn suggest unusual meaning. These atypical uses of language implicitly contrast with the common place uses that people and clinicians accept as normal. However, language is used only in describing the clinical facts that the disorders exhibit. It can also reveal hidden or psychological processes (Fine, 2001).

> “Linguistic analyses at several levels have a practical role in psychiatry. Linguistic analysis has informed the description of features of disorders, and more formally, the definition of diagnostic criteria…Even before justifying diagnostic criteria; however, linguistic analyses can be turned to constructing checklists for the disorders. These checklists can simply list the linguistic features that may be relevant to different diagnostic criteria.”
>
> (Fine, 2001. p. 918)

For linguists, language is never a clear window into the reality it represents. Language models reality, inviting a point of view that can never fully capture the whole image, no matter how hard we try (Galasiński, 2018). In psychiatry, the question of what psychiatrists hope to accomplish while speaking with their patients is a matter of communication foundations (Galasiński, 2018).

1.6. Language in Mind

Language is one of the processes that belong to the human mind network. It has a multidimensional relationship with the mind, which takes in and displays various layers of meaning and importance. In reality, because it is imperceptible and hidden, language is the embodiment of the human mind (Hossain, 2018). It is a tool for social interaction and achieving social goals, and its relationships are vague with the other mental activities to achieve the desired purposes of language use among social members. Psycholinguistics is the field in charge of this kind of abstract human systems' relationships. The interior thought, comprehension, and message of humans must be represented by language, which refers to the mind, implying the entire procedure of the mind-language highway that begins from and leads to both (ibid).

1.6.1. The Human Mind

The human mind is an abstract subtle machine that generates continuously different mental processes such as acting, feeling, thinking, and other processes. ". . . The mind is not located in any one place but is distributed among the brain, the body, and the environment" (Glannon 2009 Cited in Fuchs, 2003, P. 261). Concerning language, the mind exerts a constant influence on language, as a result of which others can learn about a person's mental state by examining his language (Hossain, 2018). The brain is the hardware that the mind uses for its functioning, and it is the main concern of biopsychology and neuroscience. This hardware is endlessly active by processing, planning, perceiving, etc, and this activity is one of the complex processes that are involved in cognition.

1.6.2. Cognition and Cognitive Processes

Cognition is, primarily, an activity that is based on the human mind (i.e. a mental process). It is the process of thinking and the power of reasoning, in which "it has been assumed that language is a conduit for thought "(Gleitman and Papafragou, 2012, P.504). It is the ability that we have to assimilate and process the information that we receive from different sources (perception, experience, beliefs, etc.) and convert them into knowledge. Furthermore, it includes different cognitive processes, like learning, attention, memory, language, reasoning, decision making, etc.

1.6.2.1. Perception

Perception is "The subjective experience of sensory information after having been subjected to cognitive processing" (Groome, 2014, P. 25). We can organise and interpret the world using stimuli from our numerous senses, such as sight, hearing, taste, smell, and touch, through cognitive perception. Our brain integrates all of the information obtained from the inputs and creates a new memory.

1.6.2.2. Attention

Attention is a fundamental cognitive function that selects information processing intentionally or unintentionally. Deubel (2002 in Groome, 2014) identified two possible functions of selectivity in visual attention. First, there is selection for perception (i.e. detecting and selecting what to process from a visual display) and second, selection for action (i.e. detecting and selecting which response or action to make). From perception through learning and complicated reasoning, it directs and regulates the rest of the cognitive processes.

1.6.2.3. Memory

Memory is a mental process that saves and keeps the captured external information in the mind and the brain, such as in learning. "The quality of memory, it turns out, results from interactions between encoding processes, the kinds of cognitive representations that are constructed, and types of retrieval operations that act upon those representations in fulfilling whatever goals a person is intent upon" (Braisby and Gellatly, 2005, p. 266). There are many types of memory, yet these are the most exemplified are Short-term memory and long-term memory.

1.6.2.4. Language

Language is the ability to express our thoughts and feelings through the spoken word and via its connection with perception, memory, and consciousness. It is a tool that we use to communicate and organise and transmit information that we have about ourselves and the world. The relationship between mind and language is recursive (Perlovsky and Sakai, 2014). Though the mind creates language, once spoken, words return to the mind to be comprehended (ibid). Moreover, when language and mind are seen as a whole system, it is clear that language functions are both a part of the brain and a component of the mind's operations (ibid).

1.6.2.5. Thought

Thought is a basic cognitive activity that allows people to reason, comprehend, represent, and predict their surroundings (Balasubramanian et al., 2013). It helps formulate plans for achieving desired goals (Balasubramanian et al., 2013). Thought distinguishes humans from other species in that it allows people to process and improve their life while also solving issues and making decisions. Furthermore, it is related to other cognitive processes such as memory, language, perception, and learning. Language and thought are tightly intertwined and mutually impact each other as they evolve.

1.6.3. Language and Thought

The relationship between thought and language has been studied in cognitive science and other relevant domains. Arakelyan (2007) said that "it is the relationship between inner linguistic and cognitive structures" (P. 51). The famous linguist Noam Chomsky (2006) also claimed that language mirrors human mental processes or shapes the flow and character of thought". This means that language is an independent entity that either forms thought or expresses thought.

Balasubramanian et al. (2013) mentioned that language is a tool for thought expressions. In which they explained that when someone thinks about a difficult topic or an idea, he/she frequently communicates with him/herself internally and with others. As a result, language expresses the thought, and thought enhances language, yet, "the absence of language would be the absence of thought itself" (Gleitman and Papafragou, p.3). On the other hand, Gleitman and Papafragou (2013) also explained that Language may be the influencer on thought as "Benjamin Whorf and Eric Sapir, proposed that language is not merely an interface but also plays a formative role in shaping thought itself" (p. 504).

The influence of language and thought on each other was also explained by Ježić (2017), who said that Language allows the mind to express itself. The mind, on the other hand, can affect, improve, and even overcome language through other verbal and nonverbal linguistic and symbolic forms of communication. Furthermore, he stated that language mastering via knowledge and creative utilisation affects our thoughts and attitudes, and makes us more aware of the communication and cognition limits that the language we use imposes. However, the impact may not be always positive, it may be also negative. Moreover, language may not always influence thought, because thoughts may be richer than language.

To some extent, we may not observe these relationships in some categories of people. In fact, "If the human language has evolved to serve the communicative function, it must be able to convey meanings. These are for most people's needs and for most of the time expressible by conventional linguistic means" (Težić, 2017, P. 367). Language and thought relationship course, or content, or even both, may experience problems due to some undesirable factors such as mental disorders.

To sum up, "language in mind" refers to all mental processes involved in language processing, from the nucleus to the surface. The idea of the human mind is very broad and includes cognition and cognitive processes; such as language and thought. Language in the mind, therefore, differs from language in relation to thought.

1.7. Neurolinguistics

Neurolinguistics is a subfield in cognitive neuroscience that seeks to understand the biological foundations and brain mechanisms underlying language processing and acquisition. Neurology is a branch of clinical medicine that studies the human nervous system. It investigates the structure and functions of the brain from several perspectives, including neuroanatomy, neurobiology, neurochemistry, neurophysiology, and neuropharmacology. We can also find neurology in psychiatry and psychology. Linguists are educated to examine patterns of language production and use them to better comprehend the complicated code that allows speakers and listeners to translate sound to meaning (Ingram, 2007).

The study of the human cognitive processes was a subject matter of the three neurology, psychology, and linguistics. Neuropsychology "draws material from neurology, cognitive psychology, and even psychiatry" (Stirling and Elliott, 2008. P. 3). In which it seeks to figure out how psychological processes work in connection to brain structures and systems (Stirling and Elliott, 2008). According to Stirling and Elliott (Stirling and Elliott, 2008, p. 4), neuropsychology is derived from clinical neuropsychology and cognitive neuropsychology. The former emphasizes investigating the impact of brain damage/disease on psychological processes such as memory, language, and attention. Whereas, the latter attempts to comprehend psychological process deficits in terms of the information processing aspects involved. It covers everything from brain damage to psychological dysfunction and its treatment.

Overall, neuropsychology and linguistics are concerned with the mental processes and neural foundations in the human brain that regulate language comprehension, production, and acquisition.

1.8. Conclusion

This chapter emphasised recognising language and communication in sociology, psychology, and neurology. It also discussed the connection between language and thought as cognitive processes that are included in the human mind, and used for social interaction. However, atypical elements such psychotic mental disorders, which include hallucinations, delusions, disordered thought and speech, and others, may produce a failure in their processing.

Chapter Two:

Language in the Human Brain and Psychosis

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2.1. Introduction

The Brain is the computer that controls a number of cognitive functions, including language, through, a variety of regions and neural networks. It could, however, come under attack from undesired situations, including mental health issues. This chapter begins by outlining the organisation of the human brain, including the language areas, pathways, and planning. Next, it offers a general explanation of mental disorders, outlining their definitions, theoretical viewpoints on causes and treatments, and consequences. After that, it discusses Psychosis in general, including its definition, key symptoms, and other psychotic disorders; along with FTD, and TLC disorders scale of assessment. Finally, a quick summary of the various approaches to treating Psychosis is covered.

2.2. The Structure of the Human Brain

The Human Nervous System is a system of nerve cells that act together to "control the body's movements and to receive, process, and transmit information in the form of chemical and electrical signals" (Rogers, 2011, P. 19). The interaction of those chemical and electrical communication neural circuits is responsible for all the cognitive functions, such as memory, perception, emotion, thought, language, etc (Rogers, 2011). The Human Nervous System is divided into two systems, The Central Nervous System, which consists of the brain and spinal cord. Whereas the second is The Peripheral Nervous System, which is made up of all the neural elements like skin, ears, eyes, and other sensory receptors.

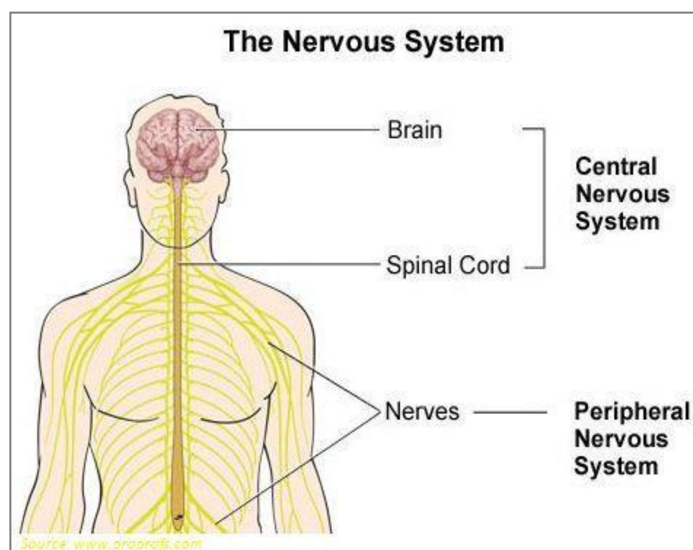

Figure2.1: The Central and Peripheral Human Nervous Systems (Goyal 2019 in Machesa, 2012, p.24)

The Brain is a complex organ that controls the cognitive abilities of the human body. It is composed of three main sections: The Cerebrum, The Brainstem, and The Cerebellum.

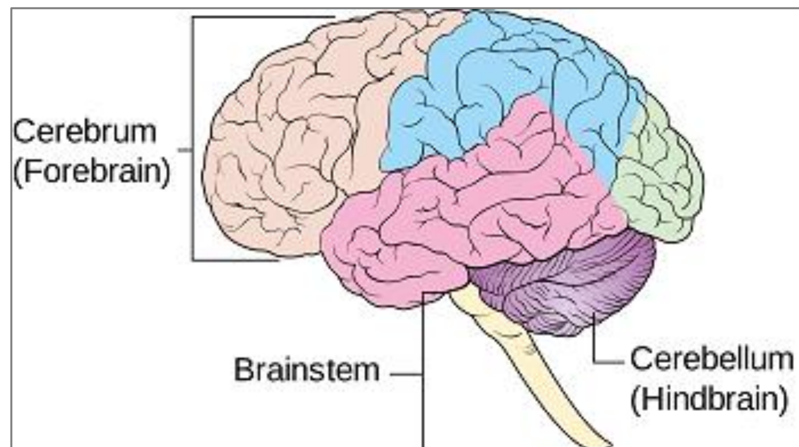

Figure 2.2: Main Areas of the Brain

2.2.1. The Cerebrum

According to Rogers (2011), The Cerebrum "is the largest portion of the brain. It controls voluntary movement, and higher intellectual functions, such as speech and abstract thought" (P.20). It is divided into two duplicated cerebral hemispheres covered by an outer layer of gray matter, called The Cerebral Cortex. These hemispheres are separated, to some extent, by a deep grove called "The Longitudinal Fissure" (Rogers. 2011). Under the fissure, we find the "Corpus Callosum" that serves as a communication link between the hemispheres (Rogers. 2011).

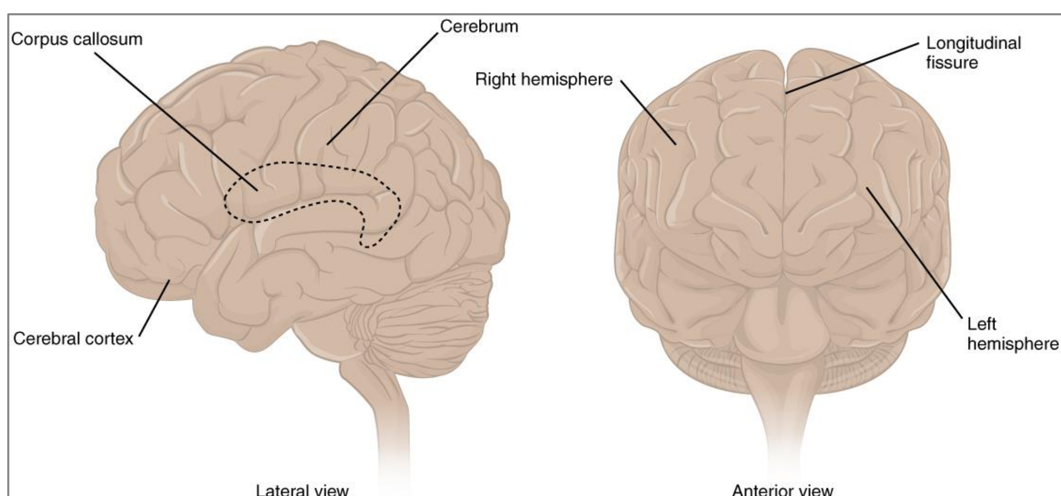

Figure2.3: The Cerebrum

Each hemisphere is responsible for specific abilities. The left hemisphere is the dominant hemisphere that serves speech, language processing, comprehension, and rationality, while the right hemisphere is responsible for creativity, emotion, and recognition of faces, places, or objects.

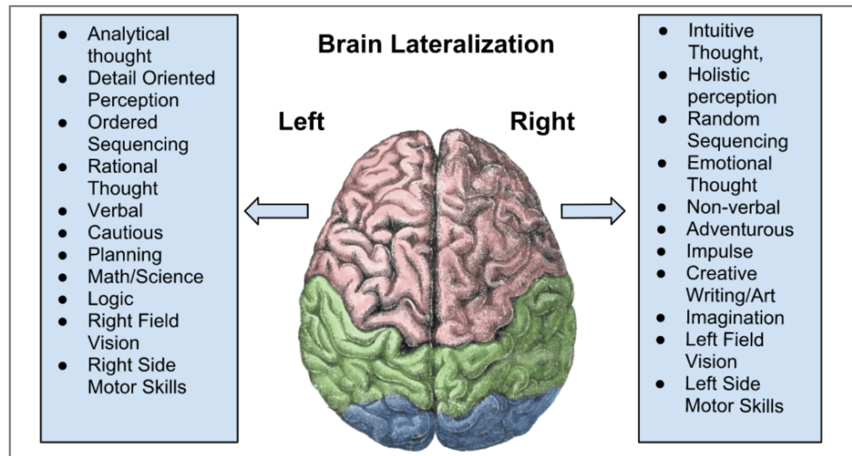

Figure 2.4: The Hemispheric Function

The surface of each hemisphere, The Cortex, is divided into four lobes. "The Frontal Lobe of the cerebrum handles thinking, intelligence, memory, speech, and movement. The Temporal Lobe takes care of hearing, taste, and smell. The Parietal Lobe manages to touch. And The Occipital Lobe functions in sight" (Rogers. 2011, p.13). The lobes are arranged from front to back, and their division is based on morphological characteristics rather than actual separations (Benamara, 2017).

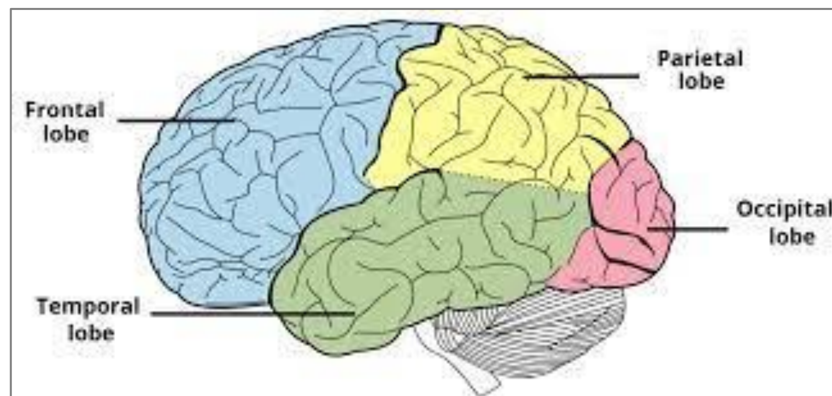

Figure 2.5: Lobes of the Cerebrum

Beneath the cortex, we find The Corpus Callosum, which is a thick band of White Matter made up of nerve fibers (axons). These nerve fibers convey impulses to and from the brain

and connect the cerebral hemispheres via the white matter. These fibers are wrapped by myelin, which is necessary for fast electrical impulse transmission (Wake et al., 2011 in Friederici, 2015). The Gray Matter in the brain's thinking, is the active section (like a hard drive in a computer), whereas the white matter, is the wiring (Rogers, 2011, P. 13)

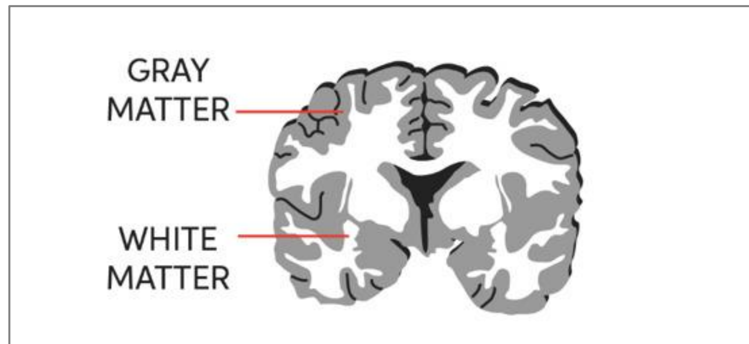

Figure 2.6: The Gray Matter and the White Matter

2.2.2. The Brainstem

It connects The Brain and The Spinal Cord and controls all the main processes of the body, such as breathing, heartbeat, blood circulation, and digestion. Rogers (2011) explained briefly the components of The Brainstem and their functions; he stated that The Brainstem contains The Midbrain that is in charge of head and eye movement, as well as turning off the stimuli during sleep. The Pons control sleep-related functions. The Medulla Oblongata connects to the spinal cord, relays motor abilities, and controls breathing, heart rate, coughing, swallowing, and vomiting. The Brainstem includes also the thalamus, which regulates alertness and attention. And The Hypothalamus maintains a variety of body functions and behaviours.

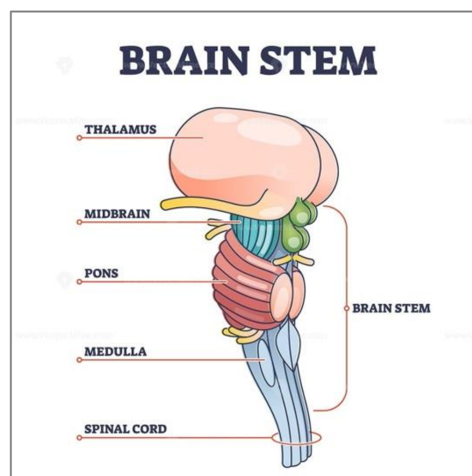

Figure 2.7: The Brainstem

2.2.3. The Cerebellum

It means The Little Cerebrum that regulates movements, balance, and coordination between muscles and nerves to respond appropriately (Rogers. 2011).

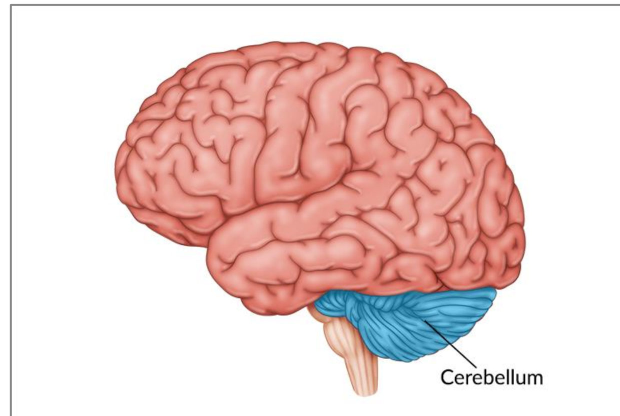

Figure 2.8: The Cerebellum

2.3. Language Processing Basis in the Brain

The Linguistic capacity in human beings is based on the relationship between cognitive and neurological foundations in the mind/brain. Friedrici (2011) mentioned that sentence processing goes through three levels, firstly, the creation and structure of sounds and words. The sentence's syntactic and semantic relations are then computed. The final step is the context's influence or world knowledge (Friedrici, 2011). On the other hand, neurologists and linguists made contributions to human sciences by representing and explaining language areas in the brain, as well as its processing, neural activities, and pathways.

2.3.1. Language Areas and Pathways

Many questions and research emerged to understand and describe language location in the brain. Language is located in the dominant hemisphere, and The Left Hemisphere, and there are two areas responsible for language. They are known as Broca and Wernicke’s Areas, in technical terms, The “Anterior Speech Cortex” and The “Posterior Speech Cortex” (Oreč, 2017).

Broca's Area is found, precisely, where The Frontal, Parietal, and Temporal Lobes come together. This part is in charge of the production of speech, and the damage in this part causes speech loss known as "Broca's Aphasia. Wernicke's area is located in The Temporal Area. This region is responsible for language comprehension, and the damage in this part causes

comprehension difficulties and is named Wernicke's Aphasia. These areas are connected through “The Arcuate Fasciculus” (Hagoort, 2014). They establish a cortical network with other neural circuits in the brain to process language generation and comprehension.

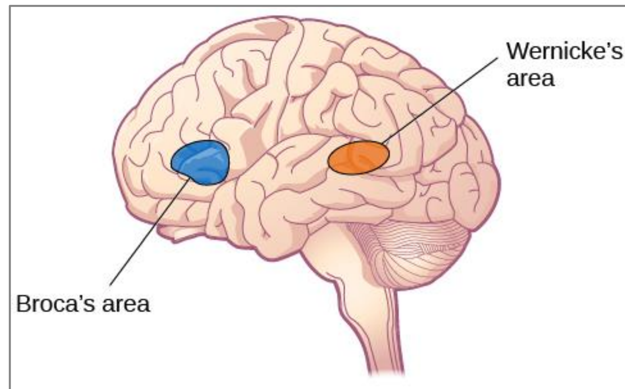

Figure 2.9: Broca and Wernicke's Areas

The language processing network consists of Broca and Wernicke's areas and The Arcuate Fasciculus (AF). The Primary Auditory Cortex (PAC) is responsible for receiving external sounds. The Primary Motor Cortex (PMC) serves the muscles that are responsible for articulation. The Primary Visual Cortex (PVC) absorbs and converts visual information such as written material into signals. Rouse (2020) mentioned, precisely, other elements also in the process of language in the brain and described Brodmann Areas for more understanding.

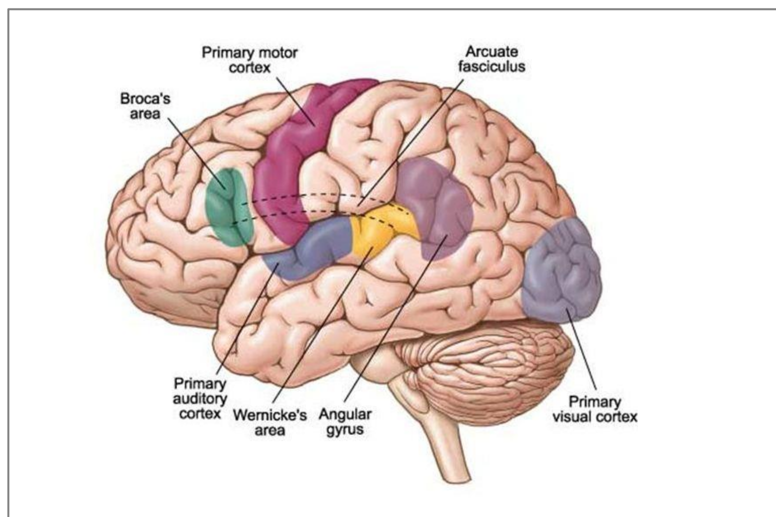

Figure2.10: Language Areas in the Brain

> “Important language regions of the cortex have been known since the time of Wernicke. These include the inferior frontal gyrus (BAs 44, 45), the superior temporal gyrus (BAs 41, 42, 22), some of the middle

temporal gyrus (BAs 20, 21, 37, 38), and the inferior parietal lobe (BAs 39, 40). Together, these are known as the perisylvian region because they all border the Sylvian fissure, also known as the lateral fissure".

(Rouse, 2020, P. 165)

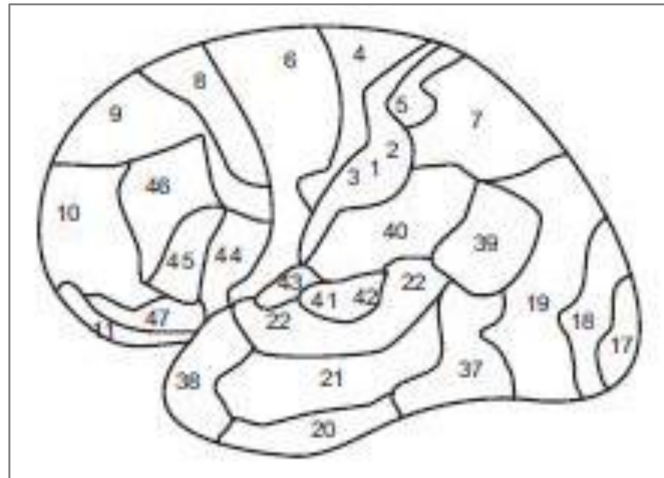

Figure 2.11: Brodmann Areas (Murериwa, 2017, p. 53).

Brodmann Areas are explained according to location and function by Guy-Evans (2021) as follows.

Brodmann Areas	Name/location	Function
BAs 44 and 45	Broca's Area	Associated with Speech production and articulation
BAs 41 and 42	Primary and Secondary Auditory Cortex	the first station of the auditory information
BA 22	Wernicke's Area	Associated with speech comprehension
BA 20	Inferior Temporal Gyrus.	processes visual information and it is involved in memory
BA 21	Medial temporal gyrus.	It is for semantic memory processing, visual

		perception, and language processing
BA 37	Occipital-Temporal Cortex.	higher level of visual processing
BA 38	Temporal Pole.	The higher-level visual area is involved in visual cognition, face recognition, and visual memory.
BA 39	The Angular Gyrus.	It is related to language and number processing, spatial cognition, memory retrieval, and attention.
BAs 40	The Supramarginal Gyrus.	It is in charge of phonological processing and emotional responses.

Table 2.1: Brodmann Areas

Two pathways connect The Frontal-Temporal regions of language in the brain. The Dorsal Pathways which involve in mapping sound to articulation. Ventral Pathways are in charge of mapping sound to meaning. Each of these pathways is separated into two other pathways explained, briefly, by Friederic (2015, Pp. 267-268) as follows.

The Dorsal Pathways		The Ventral Pathways	
DP1	DP2	VP1	VP2
Connects Wernicke's Area (BA 22) to The Premotor Cortex (BA 6) via The Arcuate Fasciculus (AF) and The Superior Longitudinal Fasciculus (SLF).	Connects Wernicke's Area to Broca's Area (BA 44) via the same tracts (AF and SLF).	Connects The Superior Temporal Gyrus (BA 41, 42) to Broca's Area (BA 45) via The Extreme Fiber Capsule System (EFCS).	Connects The Anterior Superior Temporal Gyrus to The Frontal Operculum via The Uncinate Fasciculus (UF).

Table2.2: Language Pathways

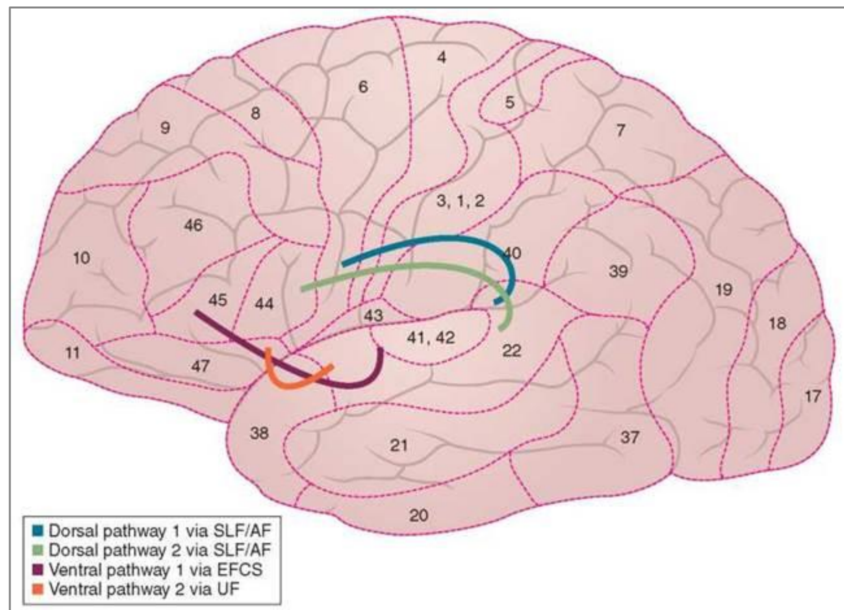

Figure 2.12: Frontal-Temporal Language Regions and Their Connections via Two Dorsal and Two Ventral Pathways (Rouse, 2020, P. 268)

2.3.2. Language planning

Linguistic planning contains two directions. Non-Motor Linguistic Planning contains linguistic content (semantics), form (grammar), and use (pragmatics) (rouse, 2020). It starts by taking an idea, thought, or a feeling, and expressing it or addressing it through language (encoding) (rouse, 2020). And Motor Linguistic Planning, which is the articulation pathways.

The process of language includes production and comprehension. This process has a certain path, following multiple steps and stages to be achieved. The combination and organisation of these complex systems provide us with the full process of language. First, the auditory components (sounds) are converted to chemical-electrical signals, and routed to The Primary Auditory Cortex (PAC) in The Temporal Lobe for processing and analysing with the left PAC sensitive to speech sound characteristics (i.e., distinctive features) and the right PAC sensitive to pitch. Second, the processed and analysed information is sent to Wernicke's area (in The Temporal Lobe also) for meaning and comprehension attachment. Third, the data are sent to the Broca's area via The Arcuate Fasciculus involved in The Dorsal Pathways. Finally, Broca’s area will prepare the data received and then send it to The Primary Motor Cortex to be articulated (rouse, 2020).

The Dorsal and Ventral Pathways are also included in the process. in which they contribute to articulation and meaning involved in the data processed via sending these data to other regions such as The Premotor Cortex, The Superior Temporal Gyrus, and The Frontal Operculum which is suggested to be responsible on some cognitive processes with the collaboration with other pathways within The Dorsal and The Ventral. However, language processing is not always successful; it may struggle in either Motor Mapping or Meaning Mapping in both competence and performance.

2.4. Mental Disorders

2.4.1. Definition

Psychological Abnormality or a Mental Disorder is a psychological and biological disturbance that causes mental dysfunction in thought, emotions, and behaviour. They are neurological disorders that affect the central nervous system and are treated by psychiatrists. Psychological disorders sometimes begin early in life, in which they interfere with the ability of people to function in society. Seefeldt (2014) stated that "Psychologically abnormal behaviour" was described differently according to different cultures and people's beliefs over history as madness, mental disorders, psychopathology, behavioural disturbances, personal problems, etc. The American Psychiatric Association's Diagnostic and Statistical Manual (DSM-5) describes some specific abnormal psychiatric conditions and defines these "Mental Disorders" as:

> "Syndrome[s] characterized by clinically significant disturbance[s] in an individual's cognition, emotion regulation, or behaviour that reflects a dysfunction in psychological, biological, or developmental processes underlying mental functioning. Mental disorders are usually associated with significant distress or disability in social, occupational, or other important activities".
>
> (APA, 2013, p.20)

The diagnosis of these disorders is guided by the DSM-5, which is the Diagnostic and Statistical Manual of Mental Disorders (5th ed). It is the most common means of classifying mental disorders, along with the ICD-10, the International Classification of Diseases 10th edition. The DSM-5 contains diagnostic criteria and codes for 19 specific categories of mental

disorders. The ICD-10 is a system used for the classification of all diseases including the classification of mental and behavioural disorders.

2.4.2. Causes of Mental Disorders

The DSM-5 mentioned that Psychiatric Illnesses are defined according to cultural, social, and familial norms and values (APA, 2013). In which "Culture provides interpretive frameworks that shape the experience and expression of the symptoms, signs, and behaviours that are criteria for diagnosis" (ibid. p. 14). However, mental disorders are a fundamental subject to a variety of theories concerning the development, expression, and factors behind these illnesses. Seefeldt (2014) summarised numerous theoretical perspectives on mental disorders in his book "Psychological Disorders: a Unit Lesson Plan for High School Psychology Teachers". He classified them into six models, The Biomedical Model, Psychodynamic Model, Existential–Humanistic Model, Cognitive–Behavioural Model, Socio-Cultural Model, and Meta-Theoretical Models. They are classified and explained according to their different perspectives about the reasons behind abnormality, as well as the treatment they follow.

2.4.2.1. The Biomedical Model

It presumes that all forms of abnormality are best understood as illnesses or diseases. For this model abnormality may be caused by Germs; Such as the bacterium causing syphilis and general paresis, Genetic mutations, Imbalances in neurotransmitters, Or even Abnormal brain structures. The biomedical model relies on drug therapies in treatment that either kill the germs or theoretically restore the balance of neurotransmitters that are producing the illness.

2.4.2.2. The Psychodynamic Model

It is assumed that abnormality is caused by unconscious psychological processes. Abnormality, according to this idea, is the outcome of repressed instinctive desire that is not expressed. It could also be the outcome of dissociated trauma. This model focuses on a special treatment, which consists of making the unconscious conscious. This treatment is either by having the person experience the repressed instinctual desires or re-experience the traumas at the source of the repression or dissociation.

2.4.2.3. Existential–Humanistic Model

According to humanistic perspectives, Human abnormality is caused by different reasons. Either when a person makes life decisions based on the need to be approved by others. Or blame other people or external factors for their unhappiness and poor choices (incongruence or inauthenticity). Or when a person’s life loses a sense of meaning based on the person’s own experience (Frankl, 1958). In this model, Treatments emphasise "empathy, authenticity, and unconditional positive regard" for a person to acquire self-esteem and, as a result, to learn to trust his or her own experience and develop a sense of meaning.

2.4.2.4. Cognitive–Behavioural Model

The Cognitive-Behavioural Model combines the traditional behavioural model with the cognitive model. The Behavioural Model views abnormal behaviour as any behaviour influenced by the environment. Behavioural Treatment of problems involves eliminating undesired behaviours and shaping and reinforcing desired behaviours via classical and operant conditioning. The Cognitive Model sees that abnormality is caused by irrational and/or maladaptive thinking. The goal of cognitive treatment is to expose maladaptive and irrational thought patterns and replace them with "the unbreakable logic of rational thinking" (Ellis, Harper, & Powers, 1975). The Social Cognitive Model believes that behaviour (abnormal and otherwise) is influenced by a complex interaction of environmental, behavioural, and individual variables, which are cognitive. Its treatment is based on modelling, building self-efficacy, and facilitating self-regulation of behaviour.

2.4.2.5. The Socio-Cultural Model

This model believes that Abnormality is an outcome of an individual’s living within systems that create problems. Individual problems consist of poor family communication, racism, poverty, societal change, oppression, and dysfunctional institutions such as schools, governments, housing, churches, etc. Individual treatment is ineffective because the basis of individual problems lies beyond the individual level. Treatment from this perspective involves family therapies, to eliminate social ills such as poverty and racism, or initiatives to change how institutions such as schools and governments operate.

2.4.2.6. Meta-Theoretical Models

These models allow for research within all theoretical models to fit into the overall understanding and treatment of abnormality. Two of the most prominent are the Bio-psychosocial Model and the diathesis-stress model. The Bio-Psychosocial Paradigm proposes that a variety of biological, psychological, and socio-cultural factors play a role in the emergence and maintenance of abnormality. However, none of these aspects should be disregarded when attempting to comprehend a person's issues. The Diathesis-Stress Paradigm holds that various biological elements create a vulnerability to various forms of abnormality (diathesis) and that illnesses arise when an individual's vulnerability is exceeded by environmental stress.

2.4.3. Consequences of Psychological Disorders

A psychiatric disorder is characterized by a pattern of thoughts, feelings, or actions that produce severe personal distress, significant impairment in everyday life, and/or significant risk of harm, and they are unusual for the context and culture in which they arise (American Psychiatric Association, 2000 in Rosenberg and Kosslyn, 2011, P. 4). Rosenberg and Kosslyn (2011) explained the previous elements and stated that If two (or even one) of them are present to a severe degree, the person's situation may warrant a psychological disorder diagnosis.

2.4.3.1. Distress

It is suffering or discomfort that everyone experiences in daily life. Yet for mental patients, it is out of proportion to the situation. Some patients express their distress by crying and sharing anxieties and anger, and others hide their distress.

2.4.3.2. Impairment

It is a significant decrease in a person's capacity to perform in one or more areas of life. A person suffering from a psychological disorder may struggle in school, at work, or in relationships. The degree of impairment indicates the psychological disorder. One type of impairment is psychosis, which is the loss of ability to perceive reality to the point where regular functioning is no longer possible.

2.4.3.3. Risk of Harm

A patient who is suffering from a psychological disorder may behave outside the normal range in taking risks, either accidentally or intentionally. They may even put other people's lives at risk.

2.4.4. Clinical Assessment and Diagnosis

It is a process followed by mental health professionals to gather data about the patient, to come up with the appropriate diagnosis and treatment. The data collected involves the patient's personal information, personality characteristics, cognitive and emotional functioning, behaviour, social context, clinical history, etc. This process relies on observation, clinical interviews, and neurological and psychological tests.

The Clinical Interview is “a face-to-face encounter between a mental health professional and a patient in which the former observes the latter” (Bridley and Daffin, 2020, P. 132). It is where the patient is being asked open-ended or specific questions by the doctor. At the same time, the doctor observes and analyses the patient's appearance and behaviour through those questions. Behaviour observation and evaluation include "grooming and body posture, thought processes and content such as disorganised speech or thought and false beliefs, mood and affect, intellectual functioning like speech and memory, and awareness of surroundings” (Bridley and Daffin, 2020). This process in the clinical interview is referred to as "The Mental Examination" in professional clinical terms.

Clinical Assessment includes numerous tests such as “psychological tests to examine the patient’s personality, social skills, cognitive abilities, emotions, behavioural responses, or interests. It also includes neurological tests to diagnose cognitive impairments caused by brain damage due to tumours, infections, or changes in brain activity” (Bridley and Daffin, 2020, pp. 133-134). As well as, physical examination is also performed to check for any organic problems. Finally, the evaluation data will be analysed to see if a person's symptom pattern matches the diagnostic criteria for a certain mental condition defined in the DSM-5 or ICD-10.

2.5. Psychosis

2.5.1. Definitions

Psychosis is “an impaired ability to perceive reality to the extent that normal functioning is not possible” (Rosenberg and Kosslynm, 2011, P.6). It is a syndrome characterised by the separation of a person from the real world. In which he creates his imaginary world, his language, in addition to people. “Psychotic episodes are relatively common in children and adolescents” (Findling et al., 2001, P. 2), affecting the way of thinking, feeling, and behaving, and "seen as a disorder of social cognition" (Bentall, 2004 in McKenzie, 2013, P. 42).

Psychosis is represented as a symptom in many psychiatric illnesses, mostly Schizophrenia Spectrum Disorders, which is a chronic and severe psychotic disorder strongly related to Psychosis. It may be found also in bipolar disorders, and other diseases such as Alzheimer's. These Psychotic disorders “involve direct genetic and environmental risk factors along with their interaction” (Radua et al., 2018, p. 49). There are biological and social factors that contribute to the development of psychotic experiences (EP), among them stress, substance, and medications, chronic illnesses like schizophrenia, brain issues like tumours, etc (Mcenzie, 2013). However, researchers are still investigating the development of such syndrome. It may also result in many cognitive problems such as attention, memory, reasoning, and measuring concepts such as social cognition (Sean, 2012 McKenzie, 2013).

Psychosis is most recognised through several positive symptoms, the most important are Delusions, Hallucinations, and Disorganized Thought and Speech (FTD), in addition to Agitation and Aggression.

2.5.2. Key Features of Psychosis

2.5.2.1. Delusions:

In the mind of a psychotic patient, delusions are fixed false beliefs that appear to be entirely true. The American Psychological Association (APA) (2013) noted in the DSM-5 that a psychotic patient can have delusions about several topics. Among them, Persecutory Delusions, when the patient believes that he will be victimised by a single person or a group of persons. Grandiose Delusions are when the patient believes that he or she possesses outstanding qualities, fortune, or fame. Somatic Delusions are preoccupations with health and

organ function. Delusional Jealousy refers to the patient's perception that his or her partner is unfaithful. Erotomanic Delusions are when the patient mistakenly believes that another person loves him or her. There are also Religious Delusions when the patient believes that he is a God, an angel, or a devil (Arciniegas, 2015).

There are many other types of delusions, yet, The APA (2013) mentioned Bizarre Delusions as another type that seems to be very interesting. Bizarre delusions are unreasonable and incomprehensive to individuals of the same culture, in which they express a loss of control over the mind or body. Thus, the patient may believe that his thoughts have been “removed” (Thought Withdrawal), other thoughts have been inserted in his mind (Thought Insertion), or his body or actions are being manipulated by an outside force (Delusions of Control).

2.5.2.2. Hallucinations

The term "Hallucination" refers to the sensation of seeing or hearing something that does not exist. Hallucinations are vivid and clear, with the full force and impact of normal perceptions, and not under voluntary control” (APA, 2013. P. 87). Hearing voices, smelling odours, and seeing things or people are all examples of hallucinations. Psychotic patients are deemed real, but a normal person cannot believe or be convinced about the reality of what the patient is experiencing. Hallucinations can be very scary, for example, when someone is experiencing auditory hallucinations, he may hear voices telling him to harm himself, make him think that he is worthless, or tell him that he has superpowers, etc.

2.5.2.3. Disorganised Thought and Speech

Experiencing Delusions and Hallucinations affect the individual’s thought and language use (speech) while communicating with others. Disorganised thought, also known As Formal Thought Disorder (FTD), is “clinically manifest primarily as speech that is disorganized” (Çokal, 2018, P.1). It's a complicated condition that impacts people's capacity to think, comprehend language, and socialise (Thomas and Frazer, 1994 Ayer et al., 2016). Andreasen(1986) mentioned that FTD is more accurately defined as "Thought, Language, And Communication Disorders" (TLC) Disorders. She also claimed that The FTD is made up of much linguistic behaviour, which is conceptually different and not usually connected in the same patient.

2.5.3. Psychotic disorders

A "psychosis" is a severe mental illness characterized by a substantially reduced capacity for social interaction and a severely disorganised personality (Bangwal et al., 2020). Patients with psychosis also lack judgment, insight, and reason in addition to being unable to recognise what is real from what is not (Bangwal et al., 2020). psychosis include many other disorders that share the same key features such as hallucinations, delusions, speech and thought disorganisation, abnormal motor behaviour, and other negative symptoms. These disorders are explained in the DSM-5 (APA, 2013) as follows.

Psychotic disorders	Explanation
Schizotypal personality disorder	Schizotypal personality disorder is considered within the schizophrenia spectrum. It is a diagnostic that describes a widespread pattern of social and interpersonal impairments, such as a diminished capacity for close connections, cognitive or perceptual errors, and eccentric conduct. These deficiencies typically start to show up by early adulthood, but they can occasionally show up in childhood and adolescence as well. Belief, thought, and perception abnormalities don't meet the criteria for a psychotic disease diagnosis.
Delusional disorder	Delusional disorder is characterized by anomalies that are confined to a single psychotic domain. It is defined by delusions lasting at least a month but not by any other symptoms of psychosis.
Brief psychotic disorder	An episode of brief psychosis lasts more than a day and subsides after a month. The symptoms of schizophreniform disease are similar to those of schizophrenia, with the exception of their short duration (less than 6 months) and the lack of a requirement for a functional impairment.
Schizophrenia	The active-phase symptoms of schizophrenia must be present for at least one month and remain for at least six months. In schizoaffective disorder, a mood episode and the active-phase symptoms of schizophrenia co-occur, and at least two weeks of delusions or hallucinations without noticeable mood symptoms either preceded or followed.
substance/medication-	In substance/medication-induced psychotic disorder, the psychotic

induced psychotic disorder	symptoms are considered to be a physiological result of abusing drugs, taking medications, or being exposed to toxins, and they go away when the offending substance is removed. When another medical disease causes a psychotic disorder, the psychotic symptoms are thought to be a direct physiological result of that other medical problem.

Table 2.3: Psychotic Disorders

2.5.4. TLC Disorders Scale of Assessment

Dr. Andreasen's 18 separate varieties of "Formal Thought Disorder" have been identified to give a standard and accurate vocabulary for describing the verbal and cognitive behaviours seen in schizophrenic patients. The 18 varieties of assessing FTD in schizophrenic patients are explained and summarised according to the scale of assessment of TLC disorders.

3.5.4.1. Thought Disorder Varieties

In thought disorder, Andreasen classified two varieties which are Poverty of Speech and Illogicality. Poverty of Speech refers to a limitation on spontaneous communication which results in concise, concrete, and unelaborated responses to questions. Additional information is rarely given without questioning. Replies may be monosyllabic, and some questions may be left unanswered. Whereas, Illogicality is an illogically concluded pattern of speech in which the patient draws a logical connection between two clauses is unreasonable. It may either lead to or result from delusional beliefs as it is already considered a part of the delusion.

3.5.4.2. Language Disorder Varieties

Andreasen (1986) highlighted four language disorder varieties. First, Incoherence, a pattern of speech that is incomprehensive. It is caused by several different mechanisms, which might all occur at the same moment. In an incoherent speech, we may notice a coherent sentence within the whole incoherent sentence. Semantic issues such as expressing a word by a phrase or a sentence, which modifies the meaning. And sometimes the coordinating and subordinating conjunctions are deleted.

Second, Clanging is a pattern of speech based on rhyming relationships rather than meaningful relationships. Meaning that the patient's speech is governed by the last sound of the word (i.e. rhyme) not the meaning of the word. Third, Neologism refers to the creation of

a new word by the patient. The word may or may not be heard before, in which the patient comes with an entirely new word or seems quite similar to a familiar word. Finally, Word Approximations is a reformation of words, "either an old word used in a new and unconventional way or a new word developed by conventional rules of words formation" (Andreasen, 1986, p.478).

3.5.4.3. Communication Disorder Varieties

According to Andreasen (1986), communication disorder varieties are 12. Poverty of Content of Speech refers to language that is ambiguous, overly abstract or concrete, repetitious, and stereotyped. Where the responses are lengthy but include little information. Pressure of Speech, where the amount of spontaneous speech is increased, compared to what is deemed normal or socially acceptable. In which the patient speaks quickly and is difficult to interrupt. The speaker frequently continues to speak even when interrupted. For instance, Due to a desire to move on to a new thought, some sentences may be left unfinished. Distractible Speech is when the patient interrupts a conversation or interview to change the subject in response to a surrounding stimulus, such as an object, appearance, etc.

Other varieties of communication disorder consist of Tangentiality, which refers to the ambiguous, indirect, or even irrelevant way of replying the patient on the questions of the interviewer. In some way, the response may be tied to the question, or it may be unrelated and entirely irrelevant. Derailment is when the patient’s thoughts deviate off the beaten road and lead to others. Then, the other ideas tend to be clear but tangentially linked, or entirely unrelated. Stilted Speech contains a formal quality to an extreme degree. It could appear quaint or old, perhaps arrogant, remote, or overly courteous. The patient usually uses specific word choices, extremely polite phraseology, or tough and formal syntax. Echolalia is the patient’s repetition of the interviewer's words or phrases. It is typically repetitive and continuous, in a sarcastic, whispering, or abrupt tone. Adults are less likely to experience echolalia, but children are more likely to experience it.

The next varieties are considered also as communication disorder varieties. Self-Reference, when someone else is speaking, the patient continually refers to the subject under conversation back to himself, as well as referring to seemingly neutral subjects when he is speaking. Circumstantialities are when the patient speaks in an indirect and delayed manner to convey his concept. He may add unnecessary details and comments in the margins.

Furthermore, if the patient was not disturbed, the contextual responses could last for several minutes. Loss of Goal, it refers t a failure to carry a sequence of thinking to its logical conclusion. It is when the patient starts with a specific subject, then wanders away from it, and never returns. The patient may or may not be aware that he has failed to achieve his objective. Perseveration is Words, concepts, or subjects are frequently expressed in ways that are unrelated to their regular meaning. When a patient begins talking about a specific topic or uses a specific word, he returns to it repeatedly during the session. Finally, Blocking, that means an interruption in the course of speaking, before completing an idea. In which the patient can't remember what he was saying or meant to say after a period of quiet. This period may extend from around a few seconds to minutes.

2.5.5. Treatment

For patients with Psychosis, there are a variety of therapeutic psychological and psychiatric treatments. Byrne (2014) suggested three common treatments, Psychiatric Treatment (Antipsychotics), Psychological Therapy; Cognitive-Behavioural Therapy (CBT), and Family Interventions (FI). These treatments may be most beneficial when used together, in addition to the hospitalisation, while the medication is prescribed significantly more commonly than psychological or family therapy in practice (Byrne, 2014).

2.5.5.1. The Psychiatric Treatment

Psychiatric Treatment consists of numerous medications used to treat Psychosis, which are called Antipsychotics, in addition to other medications. These medications may or may not be effective to treat the patient, and their effectiveness differs from one patient to another. Which "because psychotic phenomena such as hallucinations and delusional beliefs are qualitatively distinct, and not necessarily equally affected by antipsychotics" (Byrne, 2014. p. 61). Depending on the individual and the medications and their generation (i.e. Atypical: 1st generation and Typical: 2nd generation), he may experience some severe side effects which are more harmful than the illness itself.

2.5.5.2. Cognitive Behavioural Therapy

It is a Psychological Therapy that is “designed to target specific symptoms and behaviours that are identified as a part of the diagnosis or presenting a problem for treatment" (bond and Dryden, 2002. P.2). It aims to alleviate uncomfortable feelings by altering the beliefs and

behaviours that cause them (Cully and Teten, 2008). CBT teaches a person how to be aware of his thoughts and emotions, how emotions can be affected by situations, thoughts, and behaviours, and change dysfunctional thoughts and behaviours to enhance feelings (Cully and Teten, 2008).

2.6. Conclusion

This chapter covered the basics of Language Neuro-Anatomy, including language areas, planning, and brain circuits. It also described definitions, causes, and effects of mental disorders. Psychosis syndrome, which includes schizophrenia disorders, bipolar disorder, paranoia, and substance misuse, is one of the categories of mental disorders briefly described in this chapter. The chapter also provided a brief discussion of the disease's aetiology and treatment options.

Chapter Three:

Data Analysis and Research Findings

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3.8. Research Findings and Discussion
3.8.1. Research Findings
3.8.2. Discussion
3.9. Conclusion

3.1. Introduction

This chapter focuses on the research's practical aspect. It looks into the reality of psychotic mental diseases, or psychosis, and its relationship to language in everyday life and various situations. To achieve the purpose, interviews and observations were employed as investigational tools. The data are going to be analysed via the scale of the assessment of thought, language, and communication. The chapter outlines first, research methodology, which includes the setting, participants, tools of investigation, and procedures. The Second part concerns data analysis, including a brief mental examination of the patient, delusional speech, and the assessment of thought, language, and communication. Finally, the chapter covers research findings and discussion.

3.2. Research Methodology

The current research aims at qualifying abnormality in language and thought, through psychotic disorders. To develop the investigation, the following questions were raised:

1) How does psychosis influence language, thought, and communication?
2) What are the linguistic features that occur as a result of psychotic episodes?
3) Do thought and speech disorganisation caused by psychosis encompass all the linguistic elements in all patients?

A qualitative and descriptive study was developed to answer these questions. Four data gathering and analysis methods were conducted. The first is an initial experience and a greater understanding of the field and culture of the psychiatric institution through interviews with doctors. Patients' verbal and nonverbal linguistic aspects were collected as data through observations. To retain and enhance the authenticity of data and save the exact linguistic elements, both interviews and observations were recorded. TLC disorder scale of evaluation is the final tool, which is used to analyse patient data and detect abnormalities in their language and thought.

3.3. Setting

The investigation took two months; from November to January, to be completed. The research took place at the level of The Psychiatric Center; Martyr Youssef Medjdoub, located in Tijdit- Mostaganem.

3.4. Participants

Seven participants including five patients of both genders and two male doctors ranging in age from 27 to 47 years old participated in this investigation. The two male doctors are a psychologist and a psychiatrist. The five patients consist of two male psychotic patients, one of whom was hospitalized for nearly 20 days and the other was not. Three female psychotic patients: the first was new for about four days, the second for over two months, and the third for nearly three weeks.

The patients were assigned according to multiple criteria. The first criteria are gender and age. The second is psychotic disorders; we have paranoia, schizophrenia, and post-partum psychosis. The third criterion is language use; the level of disorganization of language and thought. The last criteria are the number; five patients are enough according to the psychotic disorders in the hospital.

Patient	Gender	Age	Social status	Profession	Hospitalisation	Substance abuse	Diagnosis (psychotic disorder)
A	Male	43	Single	Watching trees while watering	Hospitalised for around16 days before the meeting	Smoker	Psychosis (paranoid)
B	Male	27	Single	Not mentioned	Not hospitalised	Smoker, cannabis (he stopped it l)	Psychosis (schizophrenia)
C	Female	47	Married	housewife	Hospitalised for 4days during the investigation	/	Psychosis (not mentioned but seems schizophrenia)
D	Female	31	Single	/	Hospitalised for almost 2months	/	Psychosis (not mentioned)

					during the investigation		
E	Female	Around 27-30	Married (she has recently given birth)	/	Hospitalised for almost 20 days during the investigation	/	Psychosis (post partum)

Table3.1: Description of Patients

3.5. Tools of Investigation and Analysis

The investigation took a qualitative approach and involved four main data collection and analysis instruments. Semi-structured interviews were conducted with Dr. TEMMAM, a psychiatrist, and Dr. ABBASSA, a psychologist. Observations with DR.TEMMAM and DR.ABBASSA in male service, as well as other psychiatrists and psychologists in female service, and alone while communicating with the patients, comprise the second instrument. The recording was also an instrument to gather data from all the participants. As a data analysis tool, a scale for assessing TLC disorders is used a fourth instrument.

3.5.1. Interviews

An interview is a dialogue that is used to obtain data. It is the most appropriate way to get in-depth information about people's opinions, beliefs, experiences, and feelings (Easwaramoorthy and Zarinpoush, 2006).

The interview with DR. TEMMAM focuses on the medical observation and diagnosis, of psychosis as well as its, forms, and symptoms. It also looked into the psychotic disorders that were being treated at the hospital. It also focuses on the patient's and psychiatrist's use of language, the linguistic aspects that arise while the patient is delirious and hallucinating, and the impact of antipsychotics on language. The interview examines also the patients' cognitive functions, such as comprehension and feedback during observation, the possibility of familiarity between abnormal and normal speech, psychotic speech in different states (stable, unstable, agitated), and miscommunication as a cause and consequence of psychotic episodes.

The questions about language that were addressed to DR. ABBASSA were nearly identical to those asked of the psychiatrist. Additional questions concern the interaction between this group of people and society, as well as their language usage. The psychologist spends more time talking to mental patients than a psychiatrist. The psychiatrist spends no more than 10 minutes observing the verbal and nonverbal aspects of the patient's behaviour, to diagnose the disorder and make medication and hospitalisation decisions.

3.5.2. Observation

Observations constitute the second instrument of the study. An observation is a necessary strategy for identifying the phenomenon under research, where natural and real information is gathered (Dźwigoł and Barosz, 2020). The observations were attended by psychiatrists and psychologists, including DR. TEMMAM and DR.ABBASSA, and alone, while conversing with the patients, in both departments (male and female). The purpose of attending observations is to observe language progress during psychotic episodes and their treatment. Psychotic speech progress involves the beginning of the disorder, stability, instability, and agitation, during psychiatric observations, during speaking with the psychologist, while being with other patients or alone, in addition to before and after medications.

3.5.3. Recordings

The third tool consisted of transcriptions of the interviews and language spoken by the patients that were recorded using a Smartphone application. Records are data that are audio or video files. By recording information, the potential for losing any crucial information related to the analysis of the patients' spoken language is completely eliminated. Recordings are also a useful tool for preserving the context of every session with patients and for identifying nonverbal characteristics of their speech.

3.5.4. The Scale for the Assessment of TLC Disorders

The scale for evaluating TLC disorders was used as the fourth instrumental study to examine patient utterances and evaluate thought, language, and communication disorganisation. Additionally, it is used to identify the linguistic features of psychotic speech. The scale was developed in 1986 by American neurologist Nancy C. Andreasen to improve the precision of FTD examinations. According to the disease to which each of the 18 variations belongs, neurologist Andreasen categorized them (i.e. thought disorder, language disorder, or communication disorder). They are also given numerical ratings, some from 0 to

4 and others from 0 to 3. Communication Disorder include Poverty of Content of Speech, The Pressure of Speech, Distractible Speech, Tangentiality, Derailment, Stilted Speech, and Echolalia, Self-Reference, Circumstantialities, Loss of Goal, Perseveration, and Blocking. Language Disorder includes Incoherence, Clanging, Neologisms, and Word Approximations. Finally, Thought Disorder includes Poverty of Speech and Illogicality.

3.6. Procedures

The investigation was conducted in the Psychiatric Center of Mostaganem. First, a psychiatrist interview was undertaken to learn more about psychosis, the diagnosis, and the patients' atypical language use. The psychologist did a second interview to learn more about the patient's language usage while experiencing psychotic episodes, while receiving medical attention, and when communicating with them. The interview covered the interaction between their actions, language use, and society as well.

Meanwhile, observations with the psychiatrist were conducted every Sunday in the male service, in addition to a consultation on Monday. Additional observations were conducted Two days a week with the psychologist, in which the patients were interviewed and observed by the psychologists. In female service, observations were attended with two psychiatrists on Sunday and Wednesday, and a psychologist on Tuesday and Thursday to observe female patients' use of language and investigate their thought.

To save the whole verbal and nonverbal data of the patients and doctors, both interviews and observations were recorded. The recordings were unfamiliar to the patients, and they were unaware that this was a research study; otherwise, they would not have participated, and the study would have failed. Doctors recognized that interviews and observations were documented to support the research and provide more precise and accurate data.

To complete the interviews and select the disjointed language, the process took almost two months and a half. After that, the patients’ utterances were picked, transcript and translated. The utterances of the patients are translated literally from Arabic to English, which may make them look incorrect and not incomprehensive in terms of English grammar. This is because I wanted to preserve the patient's language deficiency and thought instability in their speech. The last stages of the investigation entail identifying linguistic disorder in patients' recorded utterances and categorising them according to the TLC disorder scale.

3.7. Data Analysis

3.7.1. Description of the Psychiatrist's Interview

1/ According to what methodology do you diagnose a person with a kind of mental illness? And which step do you focus more on while interviewing the patient?

The psychiatrist stated that, in medicine, they don't have a method; instead, they have the "mental examination". The mental evaluation is an important component of the whole diagnostic. They use medical observations to identify a person with a mental disease. The mental examination, which is interrogatory in psychiatry, is the following step. It begins when the patient enters and ends when he leaves. The mental examination includes the presentation or external appearance, as well as behaviour (such as agitation and anxiety...), mimicry or facial expression (which could be expressive or none expressive...), mood assessment, thought assessment (the course and content), memory, instinctual functions (sleeping, eating, and sexual disorders), and judgment.

He added that during the interview, they focus on everything rather than just one phase. Each stage in gathering symptoms to diagnose the illness is very important. And note that a reliable diagnosis takes up to 5-6 years. For example, in psychosis, if a patient begins to experience the disorder today, then becomes agitated after a period or the next day, and says irrational things like "I am the messenger" or "something bizarre," it signifies he is in point 0 of the disease. When the disorder lasts 30 days or more, it is the acute delirious puff or acute psychotic condition. When the symptoms persist for more than 6 months, it is schizophreniform. When symptoms persist for more than 6 months, it is a chronic condition called schizophrenia.

2/ What are the symptoms of psychosis?

The psychiatrist explained that There are two types of psychosis: acute (short-term) and chronic (long-term; progresses to schizophrenia). Postpartum psychosis (after giving birth) and delirious puff (a big quantity of delusions) are examples of acute psychosis. Chronic psychosis, on the other hand, can take numerous forms, including schizophrenia. Therefore, schizophrenia is described as a dissociative (a disconnection and loss of consistency in behaviour, cognition, and affect) chronic (which means lasting more than six months) psychotic disorder (which includes delusions).

Psychosis has several distinguishing characteristics, the most important of which are delusions and hallucinations. Delusions are beliefs that can be fulfilled despite the opposition of the community. They consist of theme, and the patient's topic (political, religious, educational...).The mechanism includes hallucinations at the level of the 5 senses, interpretation of any object or behaviour in the context of the issue he is presenting; it is widespread in paranoid patients, intuition or the absence of evidence or a source of information or knowledge, and imagination. Structure refers to whether or not we can trust the patient, such as a schizophrenia patient. Hallucination**s** are sensory perceptions that occur without the presence of the object. They don't always occur in conjunction with delusions.

Other factors to consider include behavioural disorders such agitation, aggression, and self-harm; in which a psychotic patient wants to confirm whether or not this organ (hand... is his), suicide attempts, etc. emotional deregulation is also another key feature. Finally, negative symptoms may be also one of the factors, such as social isolation, non-communicativeness, quietness, filthiness, etc.

3/ What are the psychotic conditions that are hospitalized?

The psychiatrist declared that there are numerous patients with psychosis, some of whom are hospitalized and others who are not. Patients who cause difficulties such as screaming, yelling, behavioural disorders, agitation, and so on should be admitted to the hospital. The psychotic patient is unaware of his disease and is taken to the hospital by his family or others because he believes he is alone in his universe.

Delirious puff, postpartum psychosis, schizophrenia, and paranoid delusions are among the psychotic diseases treated in the hospital. Toxicomania is a term used to describe the abuse of substances such as cannabis, alcohol, or drugs. In this case of psychosis, there are two possibilities. The first is that the condition (psychosis) was caused by substance misuse, and the second is that the condition (psychosis) causes the addiction. As a result, toxicomania could be either the cause or the consequence.

4/ What is the role of language to make the diagnosis? What are the linguistic features that may occur?

The psychiatrist mentioned that during medical consultation, the role of language is to assist the psychiatrist in detecting delusions and hallucinations. It also aids him in discovering the patient's thoughts and ideas as well as gathering symptoms through his speech.

Mimicry; or facial expressions, can be in two forms, expressive or non-expressive. Expressive mimicry may express happiness, sadness, grief, fear, confusion, anxiety, etc. sometimes the patient speaks about a tragedy, drama, or a crime, while he is laughing for instance. However, he may also speak about a wedding or a ceremony, while he is crying. Non-expressive mimicry is characterised by a cold reaction to everything and is common in schizophrenia.

Speech is evaluated through two different levels, quantity and quality. The quantity of speech, first, refers to whether the patient speaks quickly, slowly, infrequently, frequently, loudly, normally, or quietly... second, the Fading; is when an action is gradually reduced until it disappears; in this case, language or speech, which may be lowered for a while and then enhanced again. Third, Blocking; is when the patient suddenly stops speaking for several minutes at a certain point in his speech, then resumes speaking, where he either continues or changes the theme.

The quality of the speech is when a patient mispronounces letters and sounds, such as when the sound "s" is pronounced "th", or when he adds noises at the end of a word or sentence, such as the "s" sound. The richness or poverty of the patient’s vocabulary and terminology are also included in the quality of speech. Word salad; is a mixture of random words and phrases. Neologism; is the invention of new words. Paralogism, is the misuse of words, for example, a phone is understood and used as a radio.

The quality of the speech also includes repetition of ideas that spin in a circle; they are seen in epileptic patients. Echomimia, is the involuntary replication of other people's actions or gestures, for instance: If I smile, he smiles (i.e. like a mirror). Echolalia is the meaningless repetition of another person's words or sentences, for example: what is your name? The patient repeats: what is your name? Or he only repeats the last words such as your name? Sometimes the patient will give an irrelevant response to the question asked, deviating into several details; this is caused by a thinking disorder, or they may lie to avoid seeking medical care, such as hospitalisation and medical treatment. We may also detect disorientations in the patient’s speech, either temporal or spatial, which are Dislocations in the subject's perception of time and location.

5/ When you converse with patients, is there a feedback? Does the patient understand what are you saying or asking?

The psychiatrist said that there is feedback. He continued that the most part, they look at attention and concentration together with the mental examination. From time to time he inquires if they understand what he is saying, because the patient alternates between focusing and thinking about something else, or hallucinating. So, since he is communicating with him, he'll see if there's any responsiveness and feedback. Some patients require multiple repetitions of the question before receiving an answer. If he doesn't answer, it's possible that he isn't hearing, that he isn't comprehendible, or that my communication isn't clear enough.

6/ What about the patient’s speech according to his state (i.e. stable/unstable/ agitated)? Is it similar to normal people’s speech?

The psychiatrist explained that when a patient is stable, he is in excellent condition, and he speaks well. When he/she are unstable; in which his/her speech, behaviour, and thought are disorganized, we examine and notice the symptoms of the disorder. If the patient is agitated, we won't be able to have an interrogation with him until he calms down.

The Normality and abnormality of speech depends on the kind of the disease and its development. The patient's speech quality and quantity are similar to that of a normal person at first. Yet, certain pathologies, such as schizophrenia, have a high prevalence of delusions and language abnormalities, as we stated previously. The first observation of the progression of the disease in the first year differs from the fifth and tenth years (i.e. as the disease progresses, language decreases and changes), in addition to considering the beginning and duration of the disease.

7/ What medical treatment is recommended for psychotics? How does it influence language?

The psychiatrist stated that there are two sorts of Neuroleptics, or psychiatric drugs, typical and atypical. The distinction between them is resented in comfort. The typical (2nd generation) has fewer side effects than the atypical (1st generation). The drugs given to psychotic individuals are known as antipsychotics. These antipsychotics have side effects on language, in which the patient's speech becomes heavy, robotic-like, or he or she is unable to talk because his or her tongue protrudes. However, Language dysfunction, along with delusions and hallucinations, is reduced in those who take their meds properly... Those who do not take their meds, on the other hand, take a long time to recover from language disorders and other problems.

8/ Do you think that miscommunication is a part of the disorder; as a cause or a consequence?

The psychiatrist insisted in the importance of family and communication in the development of mental illness, which cannot be overstated. The average human being is naturally curious and needs to communicate with others, such as his parents and family. Because there is no contact, the human being will either seek answers, information, and communication elsewhere, with individuals who may or may not be trustworthy and may offer him false information, or create an isolated universe, his world, where he lives in his imagination, and speaks to imaginary people, etc.

3.7.2. Description of the Psychologist's Interview

1/ How do you speak with a mental patient? Does the linguistic treatment differ from one patient to another?

The psychologist describes that when speaking with a mental patient, they ask either closed or open questions. They pay attention to both his verbal and nonverbal communication. They try to figure out whether his language is shallow or deep. Whether he expresses his thought or is simply delirious. They try to know whether his voice is heavy or light. Furthermore, they make an effort to communicate with him following his current state and speaking style. They stop the session if he deviates from the topic, and they assume the meds are still not working effectively.

According to the psychologist, the linguistic treatment is determined by each patient's personality, in which his personality and sickness are mutually affective and each influences the other. If the patient's personality is aggressive, he will convey his disease aggressively through language. Mention that the mental patient's voluntary is weak, and he or she refuses to face reality, resulting in psychological problems. If he faces the world, he uses natural language; however, because he doesn't, he invents inferior language to express the world he created and the reality he couldn't face.

2/ How do you relate to the patient with his mental disorder and his language including speech and communication? Do you think that they understand you? Is there any feedback?

The psychologist claimed that the link between these factors is recognized within group therapy or with families. In reality, the patient's language varies depending on who he is speaking to and the nature of the relationship between the communicators. There may be a cognitive disruption in comprehension at times. In terms of feedback, it varies among patients; some of them provide feedback while others do not.

3/ Do you think that miscommunication is among the reasons for experiencing psychosis?

The psychologist highlighted that Miscommunication plays a big part. It originates in the family, society, and the hospital. If it occurred, there would be no point in expecting to heal because the sickness would progress down.

4/ What about the patient's speech according to his state (i.e. stable/unstable/ agitated)? Is it similar to normal people's speech?

According to the psychologist's point of view, they are not the same. A psychotic patient's conversation is disrupted by cognitive problems. Because the sufferer rejects reality, he invents his world, language, and reality. To summarise, psychosis has an impact on how people think and communicate. We can't talk to the patient before giving him his medication since he might be agitated and speak aggressively. His speech becomes heavy when he takes drugs, and he may become cognitively unstable. He becomes somewhat better after one or two weeks. When medications begin to operate in his body, we may interview him.

5/ How do you see the role and view of society concerning this category of people, and their medications? Do you think that they are familiar and aware of this phenomenon?

The psychologist answered that in most cases, the mental patient is rejected. Mental illness is not well-integrated into the culture of society. We always use strong words to describe this group of people, such as "mad." From a socio-psychological standpoint, such harsh discourse within society diminishes the likelihood of recovery. When a patient is no longer in the hospital, numerous assisting procedures should be available for him, such as activities and intermediary institutes, where they can meet psychological and social specialists who can guide and assist them.

He should be led and reminded about his medicine by those around him and his family, and they should explain the function of pharmaceuticals in helping him become healthier. Family members play a vital part in helping the patient get better, especially when it comes to medications. However, because he is rejected by his family, he may not be able to be healed.

Additionally, he said that he doesn't believe that society is aware of or even familiar with this phenomenon. Mental health awareness journeys need to be organised. In language, thought, and communication, they emphasize the role of the psychologist in society, as well as the role of society in sensitising people about mental health, what it is, its symptoms,

causes, and consequences. Also, this condition is similar to an organic illness that may be treated and absorbed back into society. When referring to a mental patient, society should avoid using adjectives or nicknames like crazy or mad. Alternatively, stigmatise him.

3.7.3. Analysis of Patients' Utterances during Observations

3.7.3.1. Delusional Speech

Ps	Questions	Answers that contain Delusions	Types
A	-"Do you remember what happened the last night before you enter the hospital? What happened?"	-"... I told you that as I was sleeping and having a dream; God lifted me into the air and began to cause my organs to explode. My physical parts were literally expanding and stretching like this'.	Persecutory
B	-"Since when did you start taking cannabis?" -"The law of attraction?!" -"What is the law of attraction?" -"Yes I am listening".	"""…, I somehow interfered in the.. Intelligence somehow a.. i.. work with law of attraction. I work with the subconscious mind". -"Yes, I discovered it". -"It is.. God almighty, there is no coincidence. So with the positive thoughts, you make your life. There are a lot of other things". -"Are you listening, don't you dare to say that this person is a…"	Political, and grandiose
C	-"Are you seeing darkness, you still seeing darkness?" -"Do you have diabetes?"	-"I wanted to see Algeria today, Arabic and free. Its days are all blessed, right?" -"I just want.. Algeria to understand us and that's it. We stay in our country, our children understand us, and that's it".	Political, and persecutory
D	-"When you were young, have you	-"When I was a child, mom didn't love me she only loved her son. My mother, is the	Persecutory, political, and

	experienced bullying?” -“Why are you covering your head?” -“Do you sleep at night?” -“Who is the martyr?”	one who came hours ago did you see her? She doesn’t like me, a girl.. -“Rabia is free. Rabia.. You know what is in the big hospital, right? AIDS is a dangerous disease called AIDS”. -"…I am Rabia the daughter of Benallioua. Rabia Free Algerian Popular Democracy. I die for the revolution; I die for blood, a martyr, free, look how Rabia looks like". -“Who is the martyr, Rabia is free, democratic, virgin, virginity certificate, look, free, do I take off the cap and show you who am I?”	paranoid
E	-“How do they treat you at home?” -“No they are not talking about you”. -“Who hated you?” -“Did they wrong you when they brought you into this place?”	-“Good, very good, and they threw me here”. -why are they screaming? They are talking about me, right? -“They are talking about me, they are talking about me, and they are talking about me. Why did they hate me, why? I didn’t do anything to them”. -“I swear, I didn’t do anything to them. Anything”. -“They wronged me”.	Persecutory

Table 3.2: Examples of Delusional Speech of the Five Patients and Their Types

- The table's content represents some of the five patient utterances. The utterances include delusions; fixed false beliefs, of patients. As is shown above patient A's speech contains persecutory delusion. Patient B's speech contains two kinds of delusions that are political and grandiose. Patient C speeches include persecutory and political delusions. The patient D's speech includes persecutory, political and paranoid delusions. Patient E's speech includes persecutory delusion. The five Patient's

utterances were more likely persecutory and political; however, there has been one grandiose delusion. Furthermore, psychotic patients may have more than one delusional theme in their speech.

3.7.3.2. Brief Mental Examination of the Patient

	Patient A	Patient B	Patient C	Patient D	Patient E
Contact	Good	Good	The contact was good, but the 2nd with the psychiatrist was below the average.	The 1st contact was good, but the 2nd was below the average.	Both contacts with the psychologist and the psychiatrist were good.
Reaction	Not indicated	Not indicated	Confused in the 1st, but below the average in the 2nd.	Exited in the 1st, but not indicated in the 2nd.	Confused in the 1st contact, but normal in the 2nd.
State	Sable/agitated	Stable	1st: instable. 2nd: instable/agitated.	1st: stable 2nd: instable	1st: instable 2nd: stable.
Gestures	Normal	Normal	1st: moves a lot and no hand movements 2nd: moves a lot with hand movements.	1st: moves a lot with few hand movements 2nd: moves a lot with more hand movements.	1st: no gestures 2nd: few hand movements.
Facial expressions	Non-expressive	Non-expressive	Expressive: 1st: happiness/ang	Expressive: 1st: happiness	Expressive: 1st: sadness and confusion.

			er/ sadness/ confusion. 2nd: Confusion and anger.	and sadness. 2nd: Non-expressive.	2nd: Non-expressive.
Behaviour	Normal, but disorganized at the end.	Normal.	1st: normal. 2nd: disorganized at the end.	1st: normal. 2nd: disorganized.	1st: normal. 2nd: normal.
Volume	Loud, Stuttering, and Some answers are inappropriately prolonged.	Normal	Loud in both contacts.	1st: normal, but sometimes whispering. 2nd: loud. Stuttering in both contacts. Most of the answers are inappropriately prolonged.	1st: loud 2nd: normal.
Rate	Rapid	Normal	Normal	Unusually rapid	Slow
Latency	Spontaneous responses.	Some answers are spontaneous and some take some time.	Spontaneous	spontaneous	Some answers are spontaneous and some take some time
Tone and rhythm	Convey meaning	Convey meaning	Do not convey meaning	Do not convey meaning	Do not convey meaning

Vocabulary	Poor	Rich.	Poor	Poor	Poor
Word salad	+	-	+	+	+
Neologisms	-	-	+	-	-
Repetitions	+	+	+	+	+
Echolalia	-	-	-	+	+
Irrelevant answers	+	+	+	+	-
Detailed answers	+	-	-	+	-
Coherence	Some answers are incoherent	Some answers are incoherent	Most of the speech is incoherent	incoherent	Incoherent
Comprehension	Comprehensive	Comprehensive	Most of the speech is incomprehensive and She uses Tunisian dialect.	Comprehensive	Incomprehension
Delusion	**Persecutory**	**Political and grandiose**	**Persecutory and political**	**Persecutory and political**	**Persecutory**
Perception	hallucinations	Hallucination	Not indicated	Hallucination	Not indicated
Insight	Not aware of his illness	Aware	Not aware of his illness	Not aware of his illness	Not aware of his illness
Higher functions	Attention and concentration exist	Attention and concentration lack	Attention and concentration lack	Attention and concentration lack	Attention and concentration lack

Table 3.3: An Initial Description of Patients (Brief Mental Examination)

- An initial basic mental examination of the five schizophrenic patients is shown in the table above. The table focuses primarily on the linguistic and non - linguistic features

that are most useful for identifying irregularities in speech and thought. These characteristics include ones that are employed in psychiatric observation, such as speech and appearance. Every patient demonstrates the presence, absence, growth, or decline of a particular aspect. Along with other traits like delusions and their variations.

3.7.3.3.Patient A Assessment of TLC Disorders

Patient A speech includes a high dysfunction in communication more than thought and language. In Thought Disorder, the patient shows: Illogicality in expressing an idea; for example: the interviewer: “do you care about the different opinions?” The patient: “…when I express an opinion, and they don’t like it, so I become a.. Worthless?” The patient made an irrational connection between two disparate ideas. Where he believes if his point of view is not supported by a group of people, he is worthless.

In Language Disorder, the patient’s speech includes Poverty of Content of Speech; for instance: the interviewer: "do you work?" the patient: "I do a little work. Sometimes I got ill. Sometimes they give me medications, so I can't work. These medications weaken me. I work and I work beyond my power, then I can't continue. The treatment weakens me in my mouth, i.. In.. My a.. (Arm but not completed). 100, they were giving me 100 _ Haldol 100, and Nozinan 100. I can't work with them. I do work but a little work, like when they ask me to guard.. Sometimes we water, I guard the banana. We water, everyone waters.. There is the banana, that they give it water (Interrupted by Dr. ABBASA but no feedback). It is called the branch and a.. It involves a twig, and there is a branch in that twig from that big waterwheel, where I guard beside the branch”.

The previous illustration demonstrates how the patient was unable to respond to the question in the anticipated manner. More than the correct response to the question, which is a simple "yes," he provided much other information.

The patient’s speech includes also Incoherence; such as: the interviewer: "who brought you to hospital?" The patient: "My father, when we were children, he used to let us go for 4 or 5 km in the river. This river, if you see a wolf, you run away. I and my brother were like living there. We were almost 11 or 12 years old, we go grazing. (I tried to speak but I couldn't interrupt him). When we got used to it, when we got used to it, it became a normal thing, we go grazing and we go. When we got used to it, we were no longer afraid of thieves or

someone else, and we go grazing". Yet, he doesn't express any neologisms or word approximations".

The patient's speech demonstrates how he jumps from one topic to another, which causes him to lose his train of thought and speak incoherently.

In communication disorder, the patient shows disturbances in five varieties. The pressure of speech; such as: the interviewer: who brought you to hospital?" the patient:"My father and the ambulance brought me here. The ambulance, they brought me.. They didn't tie me up. They said that they are going to do some medical tests for you, We will consulate you and do some medical tests for you, they brought me here to the center, my father met the doctor, I don't know what they said to each other, I.. When he asked me, he didn't ask me about my... Latest problem. He asked me about other things, he asked why do I smoke, I am hospitalized here twice, and this is the third. I told him because of problems, like I was a.. Anxious. Once a.. Why I am I here. I was sitting here and my father is there, then the doctor asked a.. Father, he asked my father. He told him, how is your son? And he said, ask him, he meant me. Now, you kno.. whe..When the doctor asked you ask.. Asked you, and I carried the ashtray and i... Attempted to hit my father. I told him why don't you tell him that my son is fine, and he's a.. Why he asks me. Tell him that my son is fine, and ... and when I saw him doesn't eat or sleep or work or doesn't communicate, or.. What whatever. Why he didn't want to tell him?!!! Like, he threw it on me. When the doctor asks me, like, I can't speak alone! So when I carried the ashtray, when I carried the ashtray, like that, I don't hit him, even at home I don't hit him, only.. Like.. When I did like that with the ashtray_ so they brought me here, I spent15 days, and I left".

The patient's lengthy speech demonstrates a long duration of uninterrupted speaking. This indicates the presence of speech pressure because the patient's conversation could not be interrupted, and he spoke for an extended period of time without pausing.

Tangentiality; for example the interviewer: "why did we speak about opinions?" the patient: my sister, I am.. May God bless you, you are like.. When I see you, I see an angel on earth. It's not because you are beautiful or… like your soul, the soul like you are kind, you don't yell, you don't a.. Like a.. You don't grimace, and.. And.. Yell at me".

This illustration shows how a patient can answer a question inappropriately, meaning that their response does not address the original question.

Derailment; such as the interviewer: "maybe your father doesn't know exactly what your problems are, don't you think so?" the patient: “no, he does. My father knows everything, everything, how I was born, how did I play, when I was playing, and when I was grazing. My father, when we were children, he used to let us go for 4 or 5 km in the river. This river, if you see a wolf, you run away. I and my brother were like living there. We were almost 11 or 12 years old, we go grazing. When we got used to it, when we got used to it, it became a normal thing, we go grazing and we go. When we got used to it, we were no longer afraid of thieves or someone else, and we go grazing”. This example of a derailment demonstrates how the patient's thoughts go off course. Where he began by talking about his father, moved on to the river, and then turned to grazing.

Loss of goal; for instance: the interviewer: "maybe your father doesn't know exactly what your problems are, don't you think so?" the patient: "no, he does. My father knows everything, everything, how I was born, how did I play, when I was playing, and when I was grazing. My father, when we were children, he used to let us go for 4 or 5 km in the river. This river, if you see a wolf, you run away. I and my brother were like living there. We were almost 11 or 12 years old, we go grazing. (I tried to speak but I couldn't interrupt him). When we got used to it, when we got used to it, it became a normal thing, we go grazing and we go. When we got used to it, we were no longer afraid of thieves or someone else, and we go grazing".

In this case, the patient was unable to follow his own thinking and come to a logical conclusion. In this instance, the patient also began talking about his father, who is meant to remember how his kid used to play. He then related a narrative about the river and how he and his brother used to hang out there and graze together. Consequently, he lost track of the fact that he was originally talking about his father.

Perseveration; for example: the interviewer: “Do you work?” I do a little work. Sometimes I got ill. Sometimes they give me medications, so I can’t work. These medications weaken me. I work and I work beyond my power, then I can’t continue. The treatment weakens me in my mouth, i.. in.. my a.. (Arm but not completed). 100, they were giving me 100 _ Haldol 100, and nozinon 100. I can’t work with them. I do work but a little work, like when they ask me to guard.. Sometimes we water, I guard the banana. We water, everyone waters.. There is the banana, that they give water. It is called the branch and a.. It involves a twig, and there is a branch in that twig from that big waterwheel, where I guard beside the branch. In this

illustration, the patient repeatedly repeats words as he speaks. In this illustration, the words "work," "sometimes," "100," "guard," "water," "branch," and "twig" are frequently repeated.

3.7.3.4. Patient B Assessment of TLC Disorders

Patient B TLC disorder assessment shows thought disorder in poverty of speech; as it appears in the following conversation: The interviewer: “how much do you take cannabis?”

- The patient: “it depends, I receive orders”.
- The interviewer: “from whom?”
- The patient: “Automatically”.
- The interviewer: “Did you go to jail?”
- The patient: “Yes”.
- The interviewer: “Why?”
- The patient:” Because of Theft”.
- The interviewer: “Theft of what?”
- The patient: “Theft of house, I wasn’t in this theft”.

This conversation demonstrates how the patient's responses to questions are shortened and limited. The interviewer should ask numerous questions; that are intended to discuss simply the subject of one question, because the patient did not provide a complementary and useful response.

Illogicality; for instance: the interviewer: “Do you usually follow this organization or what exactly?” The patient: “This organization, don’t go further doctor, this organization is of online marketing”. This illustration demonstrates how the patient draws irrational inferences from his ideas. He thinks that an organization that, as a result, appears to be connected to intelligence is online marketing.

In language disorder, we find Incoherence; for instance: the patient is explaining the law of attraction that he claimed that he discovered. The patient: "for example, people you meet, AAAA.. As we say, you think positively, so you create your life. I studied it in an organization, you can say it is an organization, it's not an organization". This example demonstrates the patient's rambling speech as he explains the concept of the law of attraction. We discover that the sentences are inconsistent because each one reflects an idea that is unrelated to the subject matter of the others.

Word approximation; for example the interviewer:" what is the law of attraction?" the patient: "it is.. God almighty, there is no coincidence. So with the positive thoughts, you make your life. There are a lot of other things". In this instance, we learn that the patient is defining a common term he uses in an unusual way.

In communication disorder, we find_blocking; such as the interviewer: why did they take you to jail? The patient: they took me (silence for several seconds) some things happened. In this illustration, a blocking occurs after the patient claims "they took them". He suddenly stopped speaking for a moment before changing the subject at the end. We notice also the appearance of Tangentiality; such as: the interviewer:" you said that you are receiving orders? Where do these orders come from?" The patient: "if I tell you, it means that I am working like a… I am, somehow, didn't accept it and I don't want it. It means that I am like, with the military security". In this instance, we can see that the response is largely unrelated to the question. Despite the fact that the answer was concerning military security, the question asked about the patient's orders was addressed.

3.7.3.5. Patient C Assessment of TLC Disorders

Patient C appears to have a thought disorder due to the presence of illogicality; as evidenced by this brief conversation.

- The interviewer: "I am from MOSTAGANEM".
- The patient: "so MOSTAGANEM contains all genders/nationalities?"
- The interviewer: "in each state, you find people from other states also".
- The patient: "ah, okay. I have understood everything, I have understood everything".
- The interviewer: "what did you understand?"
- The patient:" I have understood everything. Everything, I understood it, now".
- The interviewer: "so tell me what did you understand?"
- The patient:" I have understood that life, life is life, and love is love, and the country is country. My country is your country, and your country is my country…"

In this exchange, we can see how the patient illogically equated comprehension of love, life, and country with nationality. The patient speech demonstrates how she generalises irrelevant ideas from her knowledge of genders or nations.

In language disorder, we find Incoherence; such as the patient: " I like also to cook, it means cats a.. We say a.. They Like a.. Fish..Like a.. Fish. You give them fish eyes, they eat it. But

the dog, for me, I don't.. Like, we didn't use to have dogs, we have a big dog, and I no longer throw dogs. Now I cook for me, my children and for the dog (the word not completed), and my chickens, chickens do eat a bone? A chicken a chicken, do eat a bone? No, what does it eat? It eats the.. The.. We say a.. Chickens eat, what does the kitchen eat? It eats bread, also, maybe shamia". This example illustrates the patient's conflicting thoughts through incoherent speech. The patient discussed preparing chicken, feeding cats and dogs together, in addition to other unrelated topics.

Word approximations; such as the patient: "…I told him to look, bring a rooster and a (sardouga) …" . The patient's unorthodox approach of expressing a hen in Arabic is demonstrated by the word approximations. Where she was supposed to say "da j a j a," she instead uttered "s a r d u g a," which is an unusual way to pronounce a familiar word.

In communication disorder, Tangentiality; for instance: the interviewer: "can't you see that you changed your dialect somehow?" The patient: "what to do, my brother. This is life. I told you, my grandmother aunt". This example shows the patient's irrelevant response to the psychiatrist's question. Despite the fact that she was being questioned about her dialect, she talked about life.

Derailment; as it appears after the interviewer said "good for you." The patient: "I like also to cook, it means cats a.. Were we say a.. Like a.. Fish..Like a.. Fish. It is like his eyes, you give a fish to a cat, and it eats it. But the dog, for me, I don't.. Like, we didn't use to have dogs, we have a big dog, and I no longer throw dogs. Now I cook for me, my children and for the dog (the word not completed), and my chickens, chickens do eat a bone? A chicken a chicken, do eat a bone? No, what does it eat? It eats the.. The.. We say a.. Chickens eat, what does the kitchen eat? It eats bread, also, maybe shamia". This example demonstrates how the patient's ideas were scattered once she began discussing cooking, followed by fish, a dog, a cat, a chicken, and a bone. Whereas when she discusses a concept, she follows its chain till she comes to another topic and does the same.

We find also, Loss of goal; for instance: the interviewer: "do you have diabetes?" the patient: "diabetes, I became eating.. I became eating and cycling, and I became careless. Life is terrible. This life tried me to a point that I didn't know what to name.. I want.. I just want.. Algeria to understand us and that's it. We stay in our country, our children understand us, and that's it". This illustration highlights how the patient's train of thought might become

disjointed while she is speaking. She first discussed diabetes and eating before moving on to life, consequently, Algeria, and understanding.

Perseveration; such as: the interviewer:" I don't know, your dialect doesn't look Algerian". The patient: "how does it appear to you? How does it appear to you? Arabic? I didn't understand you, how does it appear to you? How does it appear to you? How do you want me to speak with you now? How do I tell you? Have you understood? Do you understand me?" In this instance, the patient is repeatedly asking the same question. "How does it appear to you?" and "Do you understand me?" are most frequently used. However, "Do you understand me?" appears repeatedly throughout the full produced speech in every observation where I speak to the patient or when she converses with others.

3.7.3.6. Patient D Assessment of TLC Disorders

Patient D shows thought disorder in Illogicality; such as the patient: "I just told them to give napkin papers to c..Clean.. I am afraid of having lice". The patient in this illustration thinks she will have lice on her hands if she doesn't wash them, which is irrational because lice are typically found in hair.

In language disorder, we find Incoherence; most of the speech is incoherent, yet an example is provided as follows: the patient: "Ahh my mom and dad educated me a good education. My dad studied German, and Spanish, I agree. But to challenge me, no challenge, justice will be between us. Just.. (Incomplete) my broth…" In this instance of incoherence, we can see that the patient switches quickly and unexpectedly between the concepts of education, what her father studied, challenge, justice, and her brother. These concepts lack coherence since they are irrelevant to the topic at hand.

Poverty of content of speech; is exemplified in the following utterances:

- The patient: "You know, they gave me some da..dat... I don't know who brought me dates, and a.. (She shakes). Not dates, honey and a.. And.. Cake. I told them: just give napkin papers to c..Clean.. I am afraid of having lice. You know lice and mosquito..(Not completed). When you throw an apple on the floor or something impure, not unlucky, impure that contains some.. It attracts ants, mosquitoes, and flies. I like a new covered piece. A piece of candy with its ticket, ticket, ticket, ticket. Have you understood me? Ticket, ticket. A closed piece, not a piece that has a mosquito,

like.. Ticket, ticket. A closed piece, not a piece that has a mosquito.. I will explain to you, fosta, fosta, fosta, do you remember fosta? You remember fosta?"

- The interviewer: “Yes”.
- The patient: “You find it covered?”
- The interviewer: “Yes”.
- The patient: “I am Rabia the daughter of Benalioua, Rabia the daughter of Benalioua. Have you understood me, yes or not?”
- The interviewer: “Yes I have”.
- The patient: "Have you understood me, yes or no, or I explain more?"
- The interviewer: “Yes I have understood”.

We can see from this exchange that the patient had trouble explaining her viewpoint, thus she introduced herself after hearing the entire explanation of how and why candies should be wrapped.

In communication disorder, we find the pressure of speech, for instance: the patient: "when I come to you doctor, I feel good. I love you and I die for you, (says half that verse of that song: Je t'aime and I love you). I love you until death, until death. Last hour and last minute I still love you (says half that verse of that song: Je t'aime and I love you). Believe me, I swear to God, this.., God witnesses, if I was a guy and single, I would have taken you, you, you (male version) I take you, I swear to god. I take you, I take you, I take you. Until death, until death". In this example, we can see how the patient is under pressure to speak and unable to be interrupted while expressing her love. She continued singing a stanza of an Algerian song as indicated in the example.

Tangentiality; for example (in an unstable state): the interviewer: "To whom you are talking to, Rabia?" the patient: "No, no, I am conscious. Also, Rabia is a free Algerian, free, democratic. Here, my mom educated me a free education. Here my mom.. No, it's not that big deal. Mom, mom, mom, mom, mom, mom". In this instance, a question that pertains to the addressee the patient is speaking to receive an irrelevant response.

Derailment; as it appears in the following conversation: the patient: "You are from Oran!" The interviewer: "no, I am from Mostaganem". The patient:" ah, from Mostaganem, from Mostaganem, you are from Oran. I know, I know. I felt that you have oran's perfume. I smelled Oran perfume in you. Yes, you are from Oran, Tlemcen, Jijel, who are you? Who am I? Japanese? What am I? Japanese? Chinese?" This illustration explains how the patient's

speech slipped when speaking about origin. In which she began by discussing Oran before mentioning her Japanese or Chinese as her origins.

Circumstantialities; such as: the patient: "you, I am a woman, you feel me. Feel me of course. I am a psychologist and you are my psychiatrist. What will they say, they say that they took her to psychiatry, so she is not conscious, she is, she is, she is not conscious, she is mentally disturbed. Our society doesn't have any mercy, and I didn't want to g to Che Guevara, you understand, society doesn't have mercy. They say that I am not conscious, and I am, and I am, and I am, I don't like to go out here, you that the tree that is shacked.. The tree that is shacked.. You know, the tree that shacked by.. A tree, a tree, which is without a mother. Is not a.. Is a.. Not.. a palm…(starts crying). And I am con.. When I saw you, when I saw you, you went into my heart, you went into my heart". In this case, the patient was merely attempting to convey that she was not ill and would face social shame. Although she was unable to clearly describe it, she spent time giving lengthy explanations and various concepts in order to get to her point.

Loss of goal; as it occurs in this utterance: the patient: "Ahh my mom and dad educated me a good education. My dad studied German, and Spanish, I agree. But to challenge me, no challenge, justice will be between us. Just.. (Incomplete) my broth.." This case indicates how the patient missed her intended meaning when she jumped to the topic of justice, challenge, as well as both her brother and parents.

Perseveration, such as: "…They say that I am not conscious, and I am, and I am, and I am, I don't like to go out here, you that the tree that is shacked.. The tree that is shacked.. You know, the tree that shacked by.. a tree, a tree, that is without a mother. Is not a.. Is a.. Not.. A palm…(starts crying). And I am con.. When I saw you, when I saw you, you went into my heart, you went into my heart". This sample displays how frequently the patient used phrases like "I am", "tree", "when I saw you", and "you went into my heart" in this example.

Distractible speech; as it occurs in this example: the patient: "I love myself, I like, like, I like, to.. To live freely, like in a t.. I have.. (She saw a Smartphone) I have I Smartphone.. I like to have a Smartphone.. I wanted to own a digital Smartphone with snap chat like yours of OPPO, that I have seen, that yellow OPPO". In this case, the patient's distractible speech started when she saw a smart phone and immediately changed the topic of conversation to it.

Echolalia; is exemplified as follows: the interviewer: “who is the martyr?” the patient: “who is the martyr…” In this case, the patient unintentionally repeated the psychiatrist the same question in the same tone. Stilted speech; for example the interviewer: “what happened to you?” the patient: “what happened to me? I am sorry (male version) mom; I am sorry (male version) mom. Their socks smell bad. Or, you know? Me too, I am sorry (male version) mom, I am sorry (male version) dad, my socks are also dirty". In this instance, the expression that indicates stilted speech contains a lot of the Arabic word for regret, such as "I'm sorry," in the male form. In addition to other formal terms, the patient frequently utilises these expressions in her speech.

3.7.3.7. Patient E Assessment of TLC Disorders

In Patient E’s speech, Thought disorder assessment refers to the appearance of Illogicality; for instance: The patient: "Why are they screaming, they are talking about me?" The interviewer: "no they are not talking about you". In this context, we see a persecutory delusional utterance that reflects a patient's illogical conclusion. In which she immediately thought that she was being discussed by clinicians when she overheard them conversing aloud.

Poverty of speech; as it appears in the following conversation:

- The interviewer: how are you doing?
- The patient: I am good.
- The interviewer: you are good?
- The patient: yes.
- The interviewer: Why you were not feeling good on the first day?
- The patient: I wasn’t good, but now I am good.
- The interviewer: Why you weren’t good?
- The patient: Just problems.
- The interviewer: What kind of problems?
- The patient: Family problems.

In this conversation, the patient's responses to the psychiatrist's questions were limited and brief, which indicates speech poverty.

In language disorder, we find Incoherence; for instance: the interviewer: "true, they named her as you wanted to name her. With whom do you live?" The patient: "Maghnia, Maghnia,

my name is Maghnia ..Me, her name.. Yes and my husband's wife's name is Maghnia. Her name is Maghnia". In this instance, the patient's incoherent speech is demonstrated by her description of her husband's mother as his wife and her repetition of her name, in addition to the answer's illogical structure.

In communication disorder, we find Perseveration; most of the patient's parts of speech are repeated, for instance: the patient: "I am not Wiam, I am not Wiam. I am not Wiam I am not Wiam, I am not Wiam. I am not Wiam, I am not Wiam, I am not Wiam, I am not Wiam. I am not Wiam, I am not Wiam…" or in the middle of an utterance such as: "at home, at home, at home, they made me asleep. They didn't let being awake, and I don't know where I am. I told them don't' to give it to me, but they gave it to me by force. By force, they gave it to me..." In these examples, the patient continuously repeats the same statements, such as: "I am not Wiam", "at home", and "they gave it to me by force".

Echolalia; for instance: The interviewer: "is your husband married for the 2nd time?" The patient: "no, he is not married, he is married..." The interviewer: "only with you?" the patient: "only with you ..." Here, the patient unintentionally repeated the psychologist's latest phrase, such as "only with you."Self-reference; such as the patient: "why are they screaming, they are talking about me". In this example, it is clear that the patient misheard the clinicians' loud discourse as being about her and then referred to herself in response.

3.8. Research Findings and Discussion

3.8.1. Research Findings

3.8.1.1. Interviews and Observations

In psychiatry, the diagnosis of mental disorders is accomplished after interviewing and examining the mental patient. This kind of interview is called psychiatric observation, which involves the interrogatory mental examination. The mental examination in psychiatry begins when the patient enters the room and ends when he leaves. Between these two points, the psychiatrist evaluates the patient's appearance, contact, reaction, behaviour, mimicry, mood, thought course and content, speech quality and quantity, attention and concentration, memory, and many other aspects.

Mental disorders do have an impact on language use and thought, which will result in influencing the social interaction of an individual with other social members. Psychosis is a

mental disorder that expresses the separation of a person from the real world and the refusal of reality. In which, the psychotic patient creates his world and his language. Therefore, Psychosis influences how people think and speak.

The major symptoms of psychosis are delusions and hallucinations. These symptoms are caught when patients speak and appear to believe in abnormal and unreal things. Delusions are false fixed beliefs that may occur in different themes. There are persecutory delusions, political, religious, grandiose, paranoid, and many others. Hallucinations are illusionary perceptions that appear without the actual existence of the object. They may be at the level of the ear; hearing voices, the eyes; seeing unreal visions; the nose; smelling odours, mouth or tongue; tasting unexpected tastes; hands; sensing weird things like ants. Thought and speech disorganisations are among the symptoms. They have other names such as FTD, or TLC disorders; a concept introduced by the neurologist Andreasen in 1986. There are other symptoms of psychosis also such as behavioural disorder, emotional deregulations, and negative symptoms like social isolation and miscommunication.

Psychosis is the family name of many psychotic disorders, including schizophrenia spectrum, bipolar disorder, delusional disorder, postpartum psychosis, and many others. These disorders are considered psychotic because they show delusional and hallucinatory symptoms. There are two types of psychosis, acute; which is short-term psychosis, for instance: postpartum psychosis. The second is chronic; long-term psychosis, that progresses to schizophrenia. Thus, Psychotic episodes are developed over time. In which, the duration of the psychotic disorder indicates different diagnoses. Point 0 is the beginning of the disorder until the duration exceeds 6months which leads to schizophrenia.

Mental patients, including psychotic patients, may experience different levels of behaviour. Before medications, they can be unstable or even agitated. After taking medication they become stable, yet, they may appear unstable or agitated because of the side effects of those medications. Mental patients, generally, are unpredictable; they can be agitated at any moment. Most psychotic patients are not aware of their illness. They reject reality, so they may or may not make problems. However, when they make problems, they are hospitalised to get the appropriate psychiatric care.

Toxicomania is one of the reasons and consequences of experiencing psychotic episodes. Which, whether hallucinations lead the patient to substance abuse or substance abuse leads to psychosis.

Psychiatric medications are called neuroleptics, and those specific for psychotic disorders are called antipsychotics. They are responsible for reducing the number of delusions and hallucinations, calming the patient, and making him sleep and rest.

The role of language in a medical consultation is to aid the psychiatrist in spotting delusions and hallucinations. It also helps him figure out what the patient is thinking and feeling, as well as gather symptoms through his speech. In psychiatry, mimicry is a term used to indicate the facial expressions of the patients. These expressions can be expressive; such as sadness, happiness, confusion, etc, or none expressive. Speech is evaluated at the level of quality and quantity. Quantity refers to the volume, rate, latency, tone, and rhythm, in addition to blocking and fading. Furthermore, the quality of speech performs Vocabulary, Word salad, Neologism, Repetitions, Echolalia, Irrelevant answers, detailed answers, incoherence, mispronunciation of letters and sounds, the addition of irrelevant sounds, in addition to many other features. Comprehension and feedback; including attention and concentration, are also required in evaluating the patient. They indicate the presence, absence, or reduction, of delusions, hallucinations, and disorganised thought and speech.

Speech varies from one patient to another. This variation among other patients results from the disorder, its development, and duration. However, abnormal speech may be similar to normal speech at the beginning of the disorder. Yet other disorders; such as schizophrenia, have a high rate of delusions and linguistic problems. One psychotic patient's speech may even differ according to his state. When he is stable, communication succeeds. When he is unstable, it means that he is experiencing speech, thought, and behaviour disturbances, where clinicians collect symptoms. When the patient is agitated, there is no way for contacting the patient. The speech also differs before and after taking medications. Before taking medications, the patient is incapable to interact and communicate with others. However, after taking medications, his speech may become clearer. Antipsychotics have also side effects on the patient’s speech as they have on other body parts. They may make the patient’s speech heavy, robotic-like, or his or her tongue protrudes.

Communication plays a great role in developing the disorder; whether at home among family members, in society, or even in the hospital. Miscommunication may appear as a reason and a consequence of experiencing psychotic episodes. Miscommunication may lead the individual to create an isolated world where he sees, listens, and speaks to imaginary people and believe in imaginary things.

Interviewing the mental patient may be through asking closed or open questions. The purpose of these questions is to dive into the patient's thoughts and ideas and look into the verbal and nonverbal aspects of his thought and speech. The linguistic treatment relies on the personality of the patient with his disease. If his personality is aggressive he expresses his disease aggressively.

The patient employs natural language when he addresses the world; yet, when he doesn't, he invents inferior language to convey the world he made and the reality he couldn't accept. A psychotic patient's conversation is disrupted by cognitive problems. Among these cognitive problems are thought, memory, comprehension, attention and concentration, mood, etc.

Delusional speech is based on thought disturbances, where patients believe in unreal things, and build wrong conclusions such as persecutions, love, paranoid themes, political delusions, grandiose, illnesses, and many others. The structure of these delusions while they are expressed via language may be organised or disorganised.

A higher chance of developing psychosis and schizophrenia is linked to childhood and adolescence. Some psychotic patients do not show linguistic impairments in their speech but do have delusional thoughts and speech. Or even they may make their speech normal to avoid therapeutic sessions and psychiatric help. In other words, generally mental patients are very intelligent when it comes to hospitalisation and medications. They give what they want to give unless the interviewer was tougher and smarter. Language and thought disturbances may disappear through time by maintaining medical programs provided by the psychiatric center including medications, and psychiatric and psychological consultations.

3.8.1.2. TLC Disorders Assessment

TLC disorders assessment shows disturbances in the quality and quantity of the five patients' speeches. Therefore, the assessment of formal thought disorder, or thought and speech disorganizations is achieved.

Patient A speech seems to include persecuted delusion, in addition to a high dysfunction in communication more than thought and language. In thought disorder, the patient shows some illogicality in expressing an idea. In language disorder, the patient's speech includes some poverty of content of speech and some incoherence, yet, he doesn't express any neologisms or word approximations. Concerning the communication disorder, the patient shows

disturbances in five varieties of communication disorders. These varieties consist of Pressure of speech, Tangentiality, Derailment, Loss of goal, and Perseveration.

Patient B speech has a big quantity of delusions that are political and grandiose. TLC disorder assessment shows thought disorder in poverty of speech and illogicality. In language disorder, the patient shows incoherence and word approximations. Finally, the patient shows also communication disorder in blocking and Tangentiality.

Patient C speech includes political and persecutory delusions. TLC assessment scale classified some of the patient's utterances at the level of the three disorders. Patient C seems to have illogicality in thought disorder. In language disorder, the TLC scale spotted incoherence and word approximations. In communication disorder, four varieties are spotted in patient C's speech. The patient's speech includes Tangentiality, Derailment, Loss of goal, and Perseveration.

Patient D speech includes a high quantity of persecutory and political delusion. According to the TLC assessment, patient D's speech is disorganised in terms of thought, language, and communication. In thought disorder, the patient's speech shows a lot of illogicality. In language disorder, most of the patient's speech is incoherent and includes poverty of content of speech. In communication disorder, the patient's speech includes the pressure of speech, Tangentiality, Derailment, Circumstantialities, Loss of goal, Perseveration, Distractible speech, Echolalia, and Stilted speech.

Patient E’s speech is also delusional in terms of persecution. The patient’s speech includes some illogicality in connecting events, and poverty of speech, leading to a thought disorder. In language disorder, the patient’s speech contains some incoherence only. In communication disorder, the patient’s speech includes Perseveration, Echolalia, and self-reference.

The analysis of TLC disorders in the five patients exposes the fact that speech differs from one patient to another; either of the same disorder or even from the same family of mental disorders. The analysis shows also that a patient may experience problems in all of the three disorders or one or two among them. Even in each disorder’s varieties, patients may or may not experience all the varieties. TLC disorder scale of assessment indicates that the abnormality and disorganization of speech and thought may appear in all the speech, or just in some utterances; whether most of it or few of it. However, these abnormalities and disturbances occur.

TLC disorder scale shows abnormalities in various types and forms of psychosis not only in schizophrenia. Which, formal thought disorders or speech and thought disorganisations seem to appear in both acute and chronic psychoses, such as delusional puff, postpartum psychosis, schizophrenia, and paranoid disorder. Thought and speech disorganisations occur and it can be noticed whether the patient is hospitalised or not. If the patient is hospitalised, it can be observed through psychiatric and psychological sessions, despite the duration and antipsychotic consummation.

3.8.2. Discussion

The current qualitative and descriptive study is intended to investigate abnormal speech characteristics. To achieve the goal we posed three research questions which are, how does psychosis influence language, thought, and communication? What are the linguistic features that occur as a result of psychotic episodes? And do thought and speech disorganisation caused by psychosis encompasses all the linguistic elements in all patients? The research findings suggest the following answers and interpretations.

First, Psychosis or psychotic disorders affect a person's thoughts, language, and communication. These illnesses have an impact based on the presence of their symptoms. Delusions, which are false fixed beliefs in various topics, are one of these symptoms. The illusionary perceptions are referred to as hallucinations. Formal thought disorder is characterised by difficulties in thought and language use. All of these symptoms contribute to the patient's cognitive processes becoming disorganised.

Second, by examining psychotic patients' utterances using a scale for detecting TLC disorders, the study demonstrates that psychotic speech has many linguistic aspects. The scale reveals that psychotic speech contains tangentiality, derailment, incoherence, illogicality, word approximations, circumstantialities, loss of goal, perseveration, echolalia, blocking, and stilted speech, and self-reference. Clanging and neologisms, on the other hand, did not arise in the schizophrenic individuals who took part in the study. Andreasen (1986) divides these diseases into three categories: thought disorder, language disorder, and communication disorder.

Finally, Psychoses disrupt the individual's communicative skills and performance by causing disturbances at the level of cognition, thought, and speech. This impact, as well as the quantity and quality of the disturbances that occur at the level of cognitive processes,

particularly language and thought, differ from one patient to another. A psychotic patient may or may not have impairments in all language aspects; additionally, if impairments do exist, they may be low, moderate, severe, or even extreme.

The mentioned results seem to match the suggested hypotheses. The first hypothesis says that psychosis may affect a person's language, thought, and communication by causing hallucinations and delusions, in which his/her thought is disrupted and his/her speech becomes incoherent, incomprehensible, or he may not even speak, etc., causing the patient to have difficulty communicating with others and interacting with society.

The second hypothesis suggests that a person suffering from psychosis may mix up words, fabricate terms, or speak incoherently. The patient may even speak continuously without responding, or he may be unable to communicate a concept, or he may stray from the subject. He could have a hallucination and believe he is in front of the ocean when he is actually in front of a table. There are numerous other examples, including attentiveness and comprehension.

The last one claims that speech and thought disorganisation may differ from one patient to another, according to the disorder, its severity, and the personality of the patient also. Finally, after looking into psychotic patients' speeches and analysing those, the results of the investigation strengthen the effectiveness of the mentioned hypotheses.

Schizophrenia and other psychotic diseases are examples of mental illnesses that are social phenomena but are not well understood or incorporated into society. These conditions impair social interaction by causing dysfunction in certain brain regions and cognitive functions including language and thought. Families and other social groups are not properly trained or equipped to recognise the signs that these diseases are present, possibly as a result of miscommunication. Most of the time, the absence of communication prevents social members from seeing one another's usage of language and thoughts.

The most vulnerable populations to psychotic mental diseases like schizophrenia are children and teenagers. Childhood and adolescence are highly vulnerable years when individuals need to talk, ask questions, ask for guidance, and express their feelings and thoughts. When these components are lacking, or when parents and other family members refuse to trade these components with kids and teens and treat them badly, like verbally abusing them. They attempt to find that message elsewhere, although that information can be

inaccurate. Alternately, the youngster or adolescent may develop his or her universe through which to speak, communicate, and express themselves openly in an unconventional way.

In current society, many families often don't communicate, yet they are always ready to fight. This lack of communication may be a contributing factor to the development of various diseases or a symptom of them, impairing interpersonal interaction and verbal and nonverbal communication. Therefore, if one of the family members experienced speech or mental disorganisation, nobody would notice.

Although the speaker's use of language is influenced by social norms, values, as well as thoughts, human speech may not always seem accurate or distorted on purpose. Mental illnesses, however, may add to the instability of thought, which impairs speech and communication as well. From a linguistic perspective, and following linguistic components, psychotic speech may exhibit irregularities in phonetics, phonology, morphology, syntax, semantics, and pragmatics. The abnormality may also include nonverbal cues like volume, rate, tone, and rhythm.

We observed an abnormal representation of a word from a phonetic and phonological standpoint in one of the five psychotic patients' examples. In the psychotic speech, word approximations like (g l I m a) are used in place of the actual words (k l I m a), which is English "climate". We haven't observed any unusual word formation in the five patients' morphology. The same patient expressed a morphological mistake, where she expressed the word chicken in an unconventional way. In Arabic we say /s a r d u k/, so the patient vocalized it as feminine /s a r d u k a/ to express the word chicken which is / d a j a j a/ in Arabic.

Examples of irregularity in syntax include: “I like also to cook, it means cats a.. We say a.. They Like a.. Fish..Like a.. Fish. You give them fish eyes, they eat it”. The sample illustrates the production of a statement abnormally, indicating irregular thought. The patient is disoriented and confused; she may even have thought but lacks the skills to articulate it or to think and talk regularly.

Semantics also appear in unusual speech, like when the interviewer asked, "What is the law of attraction? The patient said, “it is.. God almighty, there is no coincidence. You create your life by thinking positively. There are numerous additional things”. Due to their delirium,

psychotic patients struggle with proper semantic usage of expressions and words. Although what they say is false in fact, they consider it to be true.

The most significant language principles that are violated in abnormality include pragmatics and discourse analysis. Psychosis is a mental condition that is a significant barrier to communicating intentions and negotiating meaning, according to research on language use with psychotic individuals. Since it originated from an illogical and unreal source, the majority of the psychotic speech, in this case, is meaningless. According to the use and context, examples of language and thought disruptions include illogical speech, distractible speech, poverty of speech and poverty of speech content, echolalia, tangentiality, circumstantialities, and others. The patient gave the following statement as an example of what she said she learned when we discussed my origin: "I have understood that life, life is life, and love is love, and the country is country. My country is your country, and your country is my country". The above illustration illustrates the patient's problem with pragmatics and language use in context, which is brought on by delusions.

To conclude, these language characteristics do not appear in all psychosis patients. Each patient has certain anomalies in his speech and mental processes. It's comparable to normal speech in that each speaker has his or her level of competence and performance, and as a result, each has his or her style of speaking and communicating with other members of society. The most important thing is that the addresser and the addressee understand each other and can communicate meaning to one another, which is the goal of language use. However, such a language procedure is not always possible for everyone.

3.7. Conclusion

The research approach was covered in the final chapter. The topic of research design, setting, participants, data collection, analysis tools, and procedures came up throughout the conversation. It also presented the results of the analysis of the data and gave a thorough discussion of the subject.

General Conclusion

General Conclusion

The study aimed to describe the abnormalities in speech and thought among patients with psychosis. The study has demonstrated that psychosis results in cognitive disorganizations, which affect language use, intention communication, and social interaction. This effect is a result of psychotic symptoms, which include formal thought disorder, hallucinations, and delusions in addition to other negative symptoms.

Through the use of the TLC disorders scale of assessment, abnormal speech's resulting abnormal speech features were identified. These features consist of poverty of speech, poverty of content of speech, incoherence, illogicality, circumstantialities, tangentiality, clanging, neologisms, echolalia, word approximations, self-reference, stilted speech, the pressure of speech, distractible speech, derailment, perseveration, loss of goal, and blocking. The mentioned linguistic characteristics might not all be present in a single case. They differ in quantity and quality from patient to patient. The variance in the disordered thought and speech features refers to the patient's personality as well as the development, duration, and treatments of the condition.

Irregularities in the linguistic aspects of human language are described as problems in thought, language, and communication. The identified characteristics signify deficiencies on several linguistic levels, including phonetics and phonology, morphology, syntax, semantics, pragmatics, and discourse analysis. Therefore, Social norms and values that control language use in society may be broken, however, due to unfavourable conditions like psychotic syndrome. Communication breaks down, as a result, making it difficult for social members to deliver a clear and reasonable message.

The study's findings add several new ideas to the body of knowledge. First off, other psychotic diseases outside schizophrenia also exhibit the stated abnormal speech patterns. Second, atypical speech disorders are recognised and noted among other normal speech to demonstrate the importance of keeping an eye out for deviant speech and thought patterns, especially among family members. Third, patients with abnormal speech who were unable to express reasonable and meaningful thoughts and utterances were captured in various levels of linguistic investigation, mostly pragmatics and syntax.

First, because speech and thinking disorganisation vary from patient to patient, the investigation didn't employ a quantitative approach to measure abnormal speech among

patients with various psychotic disorders or among patients who had the same disorder. Second, the number of patient meetings was constrained because, if problems were solved and medications were effective, patients did not stay in the hospital for longer than 15 days. Fourth, I was unable to offer a neuro-anatomical explanation for how psychosis affects language and thought in the brain since I was unable to find a neuro-linguist at the hospital. Several questions remain to be answered what the impact of psychosis on language is and thought in the human brain. Finally, the scale for the assessment of TLC problems developed by Andreasen for the evaluation of FTD in schizophrenia patients was my final selection. It was simpler to use than other measures and included distinct language markers for aberrant speech and cognition.

More broadly, there are still unanswered concerns regarding the neuro-anatomical basis for the effects of psychosis on the brain's language and cognition processes. Additional research on different theories relating to abnormal speech and thought may include forensic psycholinguistic analysis of the speech and thought patterns of criminally mentally ill individuals, including children, adolescents, and adults.

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Appendices

Appendices

Appendix 1

1.1. Questions of the Interviews

1.1.1. The Psychiatrist

1/ According to what methodology do you diagnose a person with a kind of mental illness? And which step do you focus more on while interviewing the patient?
2/ What are the symptoms of psychosis?
3/ What are the psychotic conditions that are hospitalized?
4/ What is the role of language to make the diagnosis? What are the linguistic features that may occur?
5/When you converse with patients, is there feedback? Does the patient understand what are you saying or asking?
6/What about the patient's speech according to his state (i.e. stable/unstable/ agitated)? Is it similar to normal people's speech?
7/What medical treatment is recommended for psychotics? How does it influence language?
8/Do you think that miscommunication is a part of the disorder; as a cause or a consequence?

1.1.2. The Psychologist:

1/ How do you speak with a mental patient? Does the linguistic treatment differ from one patient to another?
2/ How do you relate to the patient with his mental disorder and his language including speech and communication? Do you think that they understand you? Is there any feedback?
3/ Do you think that miscommunication is among the reasons for experiencing psychosis?
4/ What about the patient's speech according to his state (i.e. stable/unstable/ agitated)? Is it similar to normal people's speech?
5/ How do you see the role and view of society concerning this category of people, and their medications? Do you think that they are familiar and aware of this phenomenon?

Appendix 2

2.1. Patients' Utterances

2.1.1. Males

Patients	Questions	Answers
A **1st Observation**	-"Do you work? "	**-"**I do a little work. Sometimes I got ill. Sometimes they give me medications, so I can't work. These medications weaken me. I work and I work beyond my power, then I can't continue. The treatment weakens me in my mouth, I... in... My a ... (Arm but not completed). 100, they were giving me 100 Haldol 100 and Nozinon 100. I can't work with them. I do work but a little work, like when they ask me to guard.. Sometimes we water, I guard the banana. We water, everyone waters… There is the banana, that they give it water. (Interrupted by dr. ABBASA but no feedback). It is called the branch and a… It involves a twig, and there is a branch in that twig form that big waterwheel, where I guard beside the branch".
	-"Do you care about the different opinions?"	**-"**The opinions, now, when I express an opinion, and they don't like it, so I become a… Worthless?
	-"why?"	**-"**When the opinions are a lot, and there are many people, about 10 or 20 persons, like every.. Like that group will be separated, and becomes no longer one single group. But when there are one or two people, they agree on each other's opinions".
	-"Why did we speak about opinions?"	**-**"My sister, I am.. May God bless you, you are like.. When I see you, I see an angle on earth. It's not because you are beautiful or… like your soul, the soul, like you are kind, you don't yell, you don't a.. Like a.. You don't grimace, and.. And.. Yell at me".
	- "Who yells at you?" (I reformed the question and he responded, and told me to not tell anyone)	**-**"I said you; I am talking to you (start to agitate, a tone of anger). I said when I saw you; I saw an angle on earth Inshaallah".

	-"Who brought you to the hospital? "	**-"**My father and the ambulance brought me here. The ambulance, they brought me.. They didn't tie me up. They said that they are going to do some medical tests for you, We will consulate you and do some medical tests for you, they brought me here to the center, my father met the doctor, I don't know what they said to each other, I.. When he asked me, he didn't ask me about my.. Latest problem. He asked me about other things, he asked why do I smoke, I am hospitalized here twice, and this is the third. I told him because of problems, like I was a.. Anxious. Once a.. Why I am I here. I was sitting here and my father is there, then the doctor asked a.. Father, he asked my father. He told him, how is your son? And he said, ask him, he meant me. Now, you kno.. whe..When the doctor asked you ask.. Asked you, and I carried the ashtray and i.. Attempted to hit my father. I told him why don't you tell him that my son is fine, and he's a.. Why he asks me. Tell him that my son is fine, and .. and when I saw him doesn't eat or sleep or work or doesn't communicate, or.. What whatever. Why he didn't want to tell him?!!! Like he threw it on me. When the doctor asks me, like, I can't speak alone! (couldn't be interrupted). So when I carried the ashtray, when I carried the ashtray, like that, I don't hit him, even at home I don't hit him, only.. Like.. When I did like that with the ashtray_ so they brought me here, I spent15 days, and I left".
	-"maybe your father doesn't know exactly what your problems are, don't you think so?"	**- "**No, he does. My father knows everything, everything, how did I born, and how did I play, when I was playing and when I was grazing. My father, when we were children, he used to let us go for 4 or 5 km in the river. This river, if you see a wolf, you run away. I and my brother were like living there. We were almost 11 or 12 years old, we go grazing. (I tried to speak but I couldn't interrupt him). When we got used to it, when we got used to it, it became a normal thing, we go grazing and we go. When we got used to it, we were no longer afraid of thieves or someone else, and we go grazing".
	-"Do you remember	-"Yes (he started narrating directly). The last night.. If I tell you, God flied me in the air, once upon a time, I

	what happened the last night before you come into the hospital? What happened? "	was asleep. I didn't tell the doctor about this, only you. Even the doctor of Mohamadia, she asked me, and I didn't tell her".
	-"You said that you found yourself flying?"	-"I didn't find myself flying... I told you that as I was sleeping and having a dream; God lifted me into the air and began to cause my organs to explode. My physical parts were literally expanding and stretching like this".
	-"This happened in your dreams, right?"	-"Not in my dreams, in reality".
	-"So you woke up and you found yourself carried like that".	-"In my dreams, yes. Not dreams, in reality".
	-"You just said that you were asleep and dreaming".	-"(Anger) I was asleep, I was asleep; (he stood up and jumped and said with anger and high tone): God carried me and made me fly. I didn't know how much time, 1 or 5mins, I started crying, until my parents came shouting: what is happening, what is happening, what is happening. You can ask my mother. Another time, I was also asleep, I woke up from a dream, I woke up, I am asleep, woke up, Allaaaaaaaaaahuakbar (yelling)".

B **1st Observation**	-"Do you take cannabis?" - "How much do you take cannabis?" -"From who?" -"Why did you go to jail?" -"Theft of what?" -"Why did they take you?" - "How long your illness began?" - "How did it start?" - "You can tell me". -"You should tell me how it started". -"How? What is that lifestyle?" - "What is that life that I can't imagine, exactly? How longer you felt that you have	-"Actually, I wasn't but lately, yes". - "It depends, I receive orders. -"Automatically". -"Theft". -"Theft of house, I wasn't in this theft". -"They took me… some things happened"." - "I have almost 5months". - "It started a… I am not telling you". - "No, I am not". - "I lived in a way that a… You can't even imagine". - (Silence for 10 seconds) "how?" - "I have changed, like; you can say that am living with the actual reality".

	changed?”	
	- “From when did you start taking cannabis?”	- “I can’t really remember, but lately not for a long time. (He continues during speaking to his mother) Somehow, I am somehow scrutinizing in the… intelligence somehow a.. I... work with law of attraction. I work with the subconscious mind”.
	- “You work with what?!!”	- “The law of attraction and the subconscious mind. I use the law of attraction”.
	- “The law of attraction?!”	- “Yes, I discovered it”.
	-“What is the law of attraction?”	- “It is… God almighty, there is no coincidence. So with the positive thoughts, you make your life. There are a lot of other things”.
	- “Would you please explain further this law? I didn’t get it yet”.	- “You don’t know what the law of attraction is?!”
	- “You discovered it”.	- “For example, people you meet, aaaa… as we say, you think positively, so you create your life. i studied it in an organization, you can say it is an organization, it’s not an organization”.
	-“What is the name of the organization?”	- “DR company, they teach a system that belongs to bill gates and trump and all”.
	- “Do you usually follow this organization	- “This organization, don’t go further doctor, this organization is of online marketing”.

	or what exactly?"	
	- "What is it in this organization of online marketing?"	-"It is about inviting people to join it and those people invite others also, maybe the girls have an idea about it".
	- "Explain further please. You said bill gates and trump".	- "Bill gates, they teach a system. System of a … how you become the richest man in the world".
	- "You said that you are receiving orders? Where do these orders come from?"	- "If I tell you, it means that I am working like a… I am, somehow, didn't accept it and I don't want it. It means that I am like, with the military security".
	- "So you are integrated in them?"	- "Not integrated, you may say that I interfered somehow in the intelligence".
	- "Since when? And what do you do in the intelligence?"	- "You can say that I live with the intelligence, we reform".
	-"Reform what?"	- "Reforming hospitals, societies, we are the ones who will fix Algeria".
	-"You will fix Algeria!"	- "Are you listening? Don't you dare to say that this person is a..."
	- "Yes I am listening".	-"There are already huge cases and this hospital is somehow a.. (dr tried to interrupt him but no response)the country is not fine, don't you think so? (dr tried to interapt him but no response)And I am thinking about, that we all change, in which I begin to fix myself first and move forward to others. A person holds himself

		from the chest and ask himself what he has and what he hasn't, did you understand me! What do I need, what is in me, like, what do I have. Why am I not fine? I am asking this question to myself every time".
	- "Each time you ask yourself this question?"	- "Each time I ask myself this question. I start treating, treating, treating, and I liked Algeria, I liked Algeria".
	- "Who was giving you these orders to take cannabis?"	- "So you can say that I am done a… what do you want me to explain more?"
	- "How do these orders come? And for what?"	- "So you can say that I have passed training".
	-"You passed training?"	- "Training, according to what I heard".
	- "You?"	-"Yes, I speak with my tongue with myself. They speak to me in my tongue, I speak to myself, and another person speaks to me. And sometimes I don't control it. I can't even manage and control myself, I don't control myself. (The doctor interrupted him but no response) there is another thing that is brain controlling (interrupted and no response), with hypnosis, there is Hypnosis".
	- "Who do this to you?"	- "Hypnosis, it is new system, I know it".
	- "Who is controlling you?"	- "Intelligence, in my perspective, we will enter Algeria again, the one that was outside, they will enter Algeria again".
	- "The case is huge".	- "The case is huge, of course".
		-"Sometimes they speak to me with my girlfriend's voice. (When the dr and the patient's mom continued speaking) he said: did you hear me?"

	- "do you hear this voice really, you feel it or what?"	- "Yes, I feel it. And I already have other things that happened to me in the a... As we say there is no shame in religion, so they happened to me in the a… So you can say that it is somehow like harmony of souls".
	- "How is that? Explain to me".	- (He asked us me and the psychiatry student to leave saying excuse me) "I can't". (His mother gave us a little clue), "I don't control myself".
	-"This is a normal thing, you can speak, what if I wasn't here and you met a doctor who is a woman?" (interrupted by the patient)	- "Why aren't you treating people with music".
	- "Music? We asked them to (interrupted)"	- "Don't give medications just like that anymore".
	-"So what should I do?"	- "Treat people with music. Try to treat people without medications".
	-"Do you want me to make a party?"	- "Treat psychologically. Why this person is speaking in such way, maybe he has something".
	- "Do you sleep at night?"	- "I told you that there are abnormal things happening to me at night".
	-"What are these things?"	- "Sleeping at night a... You can't imagine".

	- "Why?" - "You mean both at once?" - "This is the first case". -"Why?"	- "Like, I almost become the man and the woman, in masturbation". - "At once. Have you seen something like this?!" - "Knowledge is far. So you can say that I am a discoverer. But I didn't like it here; I didn't find the reasons that make me stay here". - "They we will report me in the Americans".

2.1.2. Females

Patients	Questions	Answers
C The patient uses Tunisian dialect. **1st Observation**	- "Yes why?" - "You will take a shower". - "What do I want?" - "I want you to be fine. - Nothing". - "What did you buy also with them?"	-"I…I am, m..my my smell is not good". (with childish tone) -"My smell is not good". - "What do you want?" - "What do you want?" - "What did you want to eat?" -"This is nothing, nothing, nothing". -"I bought two chickens with electricity". - "A rooster. I knew that it doesn't fit in a cage. Put a chicken of electricity and besides it the other chicken and the rooster beside it. Oh my sister, at the morning it felt in that water, and I raise my head, what do I do? I told him yes, it is actually 2500da but he told me 2700da, a rooster?! Alright. What to do, I tell you

	- “Good for you”. - It eats Shamia!	what to do. I told him look, bring a rooster and a chicken (sardouga) a female rooster. I have a huge space, and I don’t have problems. It means I have a huge house from the top to the bottom”. - “I like also to cook, it means cats a.. We say a.. They Like a.. Fish..Like a.. Fish. You give them fish eyes, they eat it. But the dog, for me, I don’t.. Like, we didn’t used to have dogs, we have a big dog, and I no longer throw dogs. Now I cook for me, my children and for the dog (the word not completed), and my chickens, chickens do eat a bone? A chicken a chicken, do eat a bone? No, what does it eat? It eats the.. The.. We say a.. Chickens eat, what does kitchen eat? It eats bread, also, maybe Shamia”. - “Yes, it eats Shamia”.
2nd Observation	- “Why?” - “Are you seeing darkness, you still seeing darkness?” -“We shouldn’t always be active, because we need to rest sometimes”. - “It is good to sit and rest our body. Let’s bring a chair. Do you feel cold?”	-“I don’t know what I am seeing”. - “I don’t know why.. Am I not seeing? I want to see”. - “I wanted to see Algeria today, Arabic and free. Its days are all blessed, right? Today, we all should be active. Active? How active?” - “What if my body was healthy?” - “No, I do not. Do you understand me?! “

	- “Did you sleep yesterday?”	- “I slept well, but I am not well”.
	- “Why?”	- “I don’t know volatility of the atmosphere. Is there some air? Is there some air here?”
	- “Yes, there is”.	- “Where is the air? Air!”
	- “Yes”.	- “I like with air. And the air likes me. Or air doesn’t like me. They asked me about you.. But her father and brother and (very low) didn’t love her. Why? She didn’t forgive them, she isn’t forgiving them, and she won’t forgive them. Did you understand me? You don’t like to speak”.
	-“Excuse me?”	- “You don’t like.. She doesn’t like to speak. Tell her why? Explain to her; tell her what’s wrong with you? What’s wrong with you? What’s your color?”
		-“I.. I saw Algeria, and Algerian women, and I see only Algerian women, I swear to god. I have never seen men, I saw women of the worl...Worlds. I became I don’t look, don’t look”.
	- “I have an allergy and it is in my eyes my ears, my nose, and even my throat”.	- “Allergy is caused by climate (glima/9lima). A whole that we all in there”.
	- (In the kitchen)	- “You are the chief of the lab in your kitchen. Consider yourself as the presenter here. (Laughs), you really got it while it is flying. How didn’t you want to fly with me, the daughter of Algeria? (She started singing) let’s fly, let’s fly”.
		-“What is your family name?”
	- “Aissa Abdi”.	- “Are you Aissaouian?”
	- “I am from	- “So Mostaganem contains all nationalities?”

	Mostaganem".	
	- "In each state you find people from other states also".	- Ah, okay. I have understood everything, I have understood everything".
	- "What did you understand?"	- "I have understood everything. Everything, I understood it, now".
	- "So tell me what you have understood?"	- "I have understood that life, life is life, and love is love, and country is country. My country is your country, and your country is my country".
3rd Observation	-"What is your name?"	- "Hassani Ouahiba".
	- "Where do you live, in Oran?"	- "Maybe in Oran".
	- "Where do you live, then?"	- "Look, I don't know where I live. The important thing is that I live in Arzew".
	- "What happened to you?"	- "I really don't know, I don't know where I am".
		-"I married my daughter. These two days or the previous Thursday the 30th of December".
	- "Okay, then, what happened?"	- "With tiredness because of home, you marry them then… You should fix your stuff and organize. Anyways, I am.. My grandmother aunt.. I am the housewife".
	- "Where is your origin?"	- "My origin is from Algeria".
	- "Where did you get	- "What dialect?"

	that dialect from?”	
	-“Dialect”.	- “I didn’t understand you, how do you want me to express to you”.
	- “I don’t know, your dialect doesn’t look Algerian”.	- “How does it appear to you? How does it appear to you? Arabic? I didn’t understand you, how does it appear to you? How does it appear to you? How do you want me to speak with you now? How do I tell you? Have you understood? Do you understand me?”
	- “Yes I do. But are you from Oran, west Algeria?”	- “Yes, I am. Originated from Oran”.
	- “Can’t you see that you changed your dialect somehow?”	- What to do, my brother. This is life. I told you my grandmother aunt”.
	- “Were you treating before? Since when?”	- “I am years, years. 18 years”.
	- “Did you make a head scanner, before?”	- “The first day, I went to Sidi Shahmi, I think they did, indeed. They should, to know what’s wrong with me, what’s wrong with me, what’s wrong with her. They must see what’s in there. They should know what’s wrong with her, she is ill, she is ill”.
	-“Do you have diabetes?”	- “Diabetes, I became eating.. I became eating, cycling, I became careless. Life is terrible. This life tried me in a point that I didn’t know what to name.. I want.. I just want.. Algeria to understand us and that’s it. We stay in our country, our children understand us, and that’s it”.
	- “Where did you want to go?”	- “He told me Tunisia, and I said no”.
	-“Who is it?”	- “Sid Ahmed”.

	- "Who is Sid Ahmed?	- "Ask him, call him".
	-"What is your relationship with him?"	- "My cousin, but half- brother. Cousins, grandfathers are half brothers. Did you understand me?"
	- "Yes, does he live in Tunisia?"	- "No, he is Algerian. I am telling you He is my cousin, from Algeria".
	- "Did you go to Tunisia before?"	-"No… no, I told you that I have a passport but I didn't go to any country. And I liked, I told them that I will die here".
	- "You can leave madam".	
	Psychologist:	
	- "Go to sleep".	-"Go to sleep?!"
	-"Yes".	-"Why? Am I tired?"
	- "To take a nap and rest".	-"No, I am not tired, and I don't want to stay with you here. (Angry, yelling, almost agitation). I want to go to my kids".
	- "Which country?"	- "My kids" (angry, yelling, and agitated)
	- "Your kids or your country?"	- "My kids, my kids. What do you mean with my country, isn't this my country? Isn't this Algeria? Do you want to make me crazy?"
	- "Why are you mad?"	- "I am so mad". (Yelling).
	- "Don't you want to sleep?"	- "I want to explode".(Yelling)
	- "Don't you want to sleep?"	- No, I don't want to sleep today". (Yelling)

	- "You can go and rest".	-"I am full of sleep".
	- "Do what you want to do".	-"Yes I do what I want to do".
	- "What do you want to do?"	- "I want my kids to come right now. And my husband to come from Tunisia. He comes and brings my kids with him now".
	- "Okay just go (interrupted by her)".	- "That's it".
	- "Go to rest".	- "Where I rest?"
	- "Where you like".	- "I wanted to sit here".
	Psychologist: -"There are other patients that we will see them".	-"Let the patients, see the patients".
		-"My dear, I swear, let take of this scratch, excuse me, they step on it.
	-"He is just a visitor, come one let's go".	-Where I go now, tell me?!"
		-"He wanted to understand everything at once!
	- "I wanted to know everything today at once".	- What a poor, Allah Allah".

D 1st **Observation**	- "Where are you ill?"	-"From my stomach. I am hurt physically, I am hurt.."
	- "Let's start slowly with physically, where are you hurt, your head, hands, or where exactly?"	- "No my head is normal, I am a.. My head is full".
	- "It is full with what?"	- "It is full, like a.. "
	- "Don't worry, you can say anything you want, I am here, tell me, what's wrong".	-"I love myself, I like, like, I like, to... To live freely, like in a t.. I have.. I have I Smartphone.. I like to have a Smartphone.. I wanted to own a digital Smartphone with snap chat like yours of OPPO, that I have seen, that yellow OPPO".
	- "Okay".	-"Do you remember it? That OPPO, if you remember".
	- "Yes, I do".	- "When come to you doctor, I feel good. I love you and I die for you, (says half that verse of that song: je t'aime and I love you). I love you until death, until death. Last hour and last minute I still love you (says half that verse of that song: je t'aime and I love you). Believe me I swear to God, this is the.., God witnesses, if I was a guy and single, I would have taken you, you, you (male version) I take you, I swear to god. I take you, I take you, I take you. Until death, until death".
	- "Listen to me now, I ask you and you answer me, alright?"	- "Yes".
	- "When you were young, have you	- "No, no, when I was I child, I will tell you. When I was a child, mom didn't love me she only loved her son. My mother, is the one who came hours ago did you see her? She doesn't like me, a girl.."

	experienced bullying?"	
	-"Why do you think so?"	- "They don't like girls, they like boys. We have the mentality of boys' preference".
	- "Did she tell you that she doesn't love you?"	- "Yes, she told me that I don't love you, I love.."
	- "When?"	- "Long time ago. Give me a candy or something sweet. I know my mouth smells horrible".
	-"No, it's not. We are outside, with fresh air".	- "I really like fresh air. I love also this.. This was full of water they dried it. Isn't this contained water?"
	- "Ah okay".	-"Ah, you don't know. You are from Oran".
	- "No I am from Mostaganem".	- "Ah, from Mostaganem, from Mostaganem, you are from Oran. I know, I know. I felt that you have Oran's perfume. I smelled Oran perfume in you. Yes you are from Oran, Telemcen, Jijel, who are you? Who am I? Japanese? What am I? Japanese? Chinese? You know, they gave me some da..dat.. I don't know who brought me dates, and a.. (She shakes). Not dates, honey and a.. And.. Cake. I told them: just give napkin papers to c..Clean.. I am afraid of having lice. You know lice and mosquito..(Not completed). When you throw apple in the floor or something impure, not unlucky, impure that contains some.. It attracts ants, mosquito, and flies. I like a new covered piece. A piece of candy with its ticket, ticket, ticket, ticket. Have you understood me? Ticket, ticket. A closed piece not a piece that has mosquito like.. I will explain to you, Fausta, Fausta, Fausta, do you remember Fausta? You remember Fausta?"
	- "Yes".	- "You find it covered?"
	- "Yes".	- "I am Rabia the Dauter of Benalioua, Rabia the Daughter of Benalioua. Have you understand me, yes or no? "
	- "Yes".	- "Have you understood me, yes or no or I explain more? "

	- "Yes I have".	- "Ahh my mom and dad educated me a good education. My dad studied german, Spanish, I agree. But to challenge me, no challenge, justice will be between us. Just.. (Incomplete) my broth.."
	- "Challenge you in what exactly?"	- "Not in what you challenge me, like.. If I were a man, like a.. and my brother hits me, he told me other people, someone who's name is abed, works at the CNAZ, he said: if it was me, if like this, I report him, I report him, government, government, justice between us, judgment between us, justice house between us, government and.. I like government, I like, justice, and like police, even if I throw a stick in my heart, I kill him, I kill him, I kill him".
	- "Why do you want to kill him?"	- "Why do I want to kill him? Because he mistreated a whole house. A whole house was mistreated by him. From his face, he looks like a tramp he is a tramp. I am not leaving my brother, I my brother is my blood and meat. And society doesn't have mercy. What will they way, she made her brother go to jail? I am a woman, what would they say, do you understand the familial situation? Have you understood my familial situation?"
	- "Yes".	- "So now, have turned to what I said? Yes or no or yes yes yes or no".
	- "Yes".	-"When I put some makeup and I wear pants, what would they say? They say that she is that. I am sorry, I am sorry".
	- "Yes".	- "You, I am a woman, you feel me. Feel me of course. i am a psychologist and you are my psychiatrist. What will they say, they say that they took her to psychiatry, so she is not conscious, she is, she is, she is not conscious, she is mentally disturbed. Our society doesn't have any mercy, and I didn't want to g to Che Guevara, you understand, society doesn't have mercy. They say that I am not conscious, and I am, and I am, and I am, I don't like to go out here, you that the tree that is shacked.. The tree that is shacked.. You know, tree that shacked by.. a tree, a tree, that is without a mother. Is not a.. Is a.. Not.. A palm. (Starts crying). And I am con.. When I saw".

		-"you, when I saw you, you went into my heart, you went into my heart".
2nd Observation		-"I am conscious, conscious, conscious, conscious. No, no, no, Rabia is conscious. Good morning Rabia, good morning mom, good morning dad. Rabia, I am conscious, conscious, conscious. Oh no, it's not that big deal".
	- "Here are the doctors, speak with them".	-"Rabia is conscious, conscious, conscious".
	- "How are you doing?"	- "I am fine Alhamdulillah and you how are you, fine?"
	- "Is it okay if these doctors attend with us today?"	- "No, no, I am conscious, I am Rabia. No, no, no, Rabia, I am conscious, conscious, conscious, conscious".
	- "Sit down Rabia".	- "Rabia is conscious, conscious, conscious".
	-"Conscious, conscious!"	- "yes".
	- "Who told you that you are not conscious?"	- "Rabia conscious, I repeat, it and say it in front of everyone, conscious".
	-" Rabia, sit down and speak".	-"Where do I sit down, I sit down in front of everyone ad angles. I am conscious".
	-Me: "You know me right?"	-"Yes I know you; I am conscious, conscious, conscious".
	- "How are you?"	- "Astaghfirullah, Alhamdulillah".

	-"How are you Rabia?"	- "Alhamdulillah, In the name of Allah I started, and on the messenger I prayed. I am Rabia the daughter of Benallioua. I am conscious, conscious, conscious".
	-Me: "Come here Rabia, sit down".	-"I am conscious, conscious, conscious".
	*While the doctor is explaining the situation to his students. She keeps shouting:	-"oh no, no, no, no, no, "C'est pas gentille de ta part". No conscious, conscious, conscious. No, no, no, no, no".
	* When the doctor says to his students that there are deviated answers addressed by the patient says:	- "No, no, no, no, no, no".
	* The doctor said to his students: "my name is Rabia". She repeats:	-"My name is Rabi.. thi..This is.. "accusé de reception". Okay, di, did, did, you understand me doctor. Thank you doctor. No, no, "Accusé de reception". No, no, no, it's not that big deal".
	-"Rabia, sit down".	-"No, no, ah!, this is.. Ah! … No, no, no, I am.. I am.. Conscious. Yes, yes, yes, I am conscious. Ah, no, no, this is a disease!"
	-Me: "I told you to stay quiet, so I take you with me".	-"Yes I take you with me. You, I love you and I die for you, I die for you, I die for you".
	*The doctor informs his	- "No, no, no, it's not that big deal".

	students: “This is not an agitation, this is only instability”. She says:	
	*she speaks alone.	-“Conscious, conscious, conscious. No, no, no.’C’est pas gentille de ta part’ ».
	- “Who you are addressing?”	- “No, no, no, it’s not a..” (alone)
	- “To whom you are talking to, Rabia?”	- “No, no, I am conscious. Also, Rabia is a free Algerian, free, democratic. Here, my mom educated me a free education. Here my mom.. No, it’s not that big deal. Mom, mom, mom, mom, mom, mom”.
	-“Why are you covering your head?”	- “Rabia is free. Rabiaa.. You know what is in the big hospital, right? The AIDS, a dangerous disease called AIDS”.
	- “Okay”.	- “You know what the AIDS is?”
	- “Okay, what is it?”	- “The mask, wear a mask. A...a.. No, no, no, I am without a mask. Please.. I have a dream in a dream, and the Fadjr witnessed”.
	- “What have dreamed about?”	- “I have dreamed that they stole my necklace, and jowls and everything. They stole, they stole, these, they stole them”.
	- “Who stole them?”	- “I don’t know. I conscious, I am conscious. I am not a.. “gentille de ta part”. Good morning mister, good morning mister, ahhhh, you are my doctor, my doctor. Ahh, I wished to be a psychiatrist and a psychologist. Ahhhh, it’s too bad. No, no..”
	- “Rabia”.	-”Rabia, yes, yes, yes, yes, yes, yes”.
	-“Tell me, since when the conversations in head started?”	- “Rabia conscious, conscious, conscious”.

	- "Yes, since when the conversations in head started?"	- "Rabia, do you know, when she was born?"
	- "When?"	-"She was born in the spring, the 14th of march".
	*when the doctor speaks to students. She shouts:	-"No, no, no, it's not "Accusé de reception". Rabia is conscious, she is conscious. She is not.."
	*Alright, sit down, sit down.	-"Ahh no, no, no, I am.."
	- "Do you sleep at night?"	- "I am.. I have three days without sleeping. But doctor.. Thank you mom, tha.. Thank you. It's "accusé de reception". No, no, no, no, it's not that big deal. It's, it's my filed, it's my field. No, no, no, no, I am Rabia the daughter of Benallioua. Rabia Free Algerian Popular Democracy. I die for the revolution; I die for blood, a martyr, free, look how Rabia looks like".
	- "Who is the martyr?"	- "Who is the martyr, Rabia is free, democratic, virgin, virginity certificate, look, free, do I take off the cap and show you who am I?"
	- "Yes".	- "Free, free, free. I die for the country. I am free virgin, virgin. I promise the witness and I promise the state that no one touched me. Original, virgin, new. Virginity certificate. I know that I am original, virginity, and the mask, and the mask, I know the mask.."
	*When the Dr. speaks with the students, she shouts:	-"No, no, no, the mask.. I went with my mother to the, the, the, post office, when I came, I came ill. Excuse me".
	- "What happened to	- "What happened to me? I am sorry (male version) mom; I am sorry (male version) mom. Their socks

	you?”	smell bad. Or, you know? Me too, I am sorry (male version) mom, I am sorry (male version) dad, my socks are also dirty”.
	-“Okay”.	- “It is my field. When my mom was a child, she hit her, she hit her.. When I was a child, she got electrocuted by the current, the current, you know the current? “
	- “The electric?”	- “Of electricity. No, no, no, no, no, no, “C’est pas gentille de ta part”, no. Mom, mom, mom, I love my mom, I die for my mom, until death, until death.. And I love my day (seems crying), my dad, I die for him, I die for him, unti.. (Crying), I love my dad, I love my dad, I love my dad..”
	* When the Dr. speaks to students, she shouts:	-“No, no, no, no, no, no, “C’est pas gentille de ta part”. No, no, no, no, no..”
	-Me: “Rabia, Rabia”.	-“Rabia, Rabia! Rabia, no, no, no, no… no, no, no, no, no, no, no, papa “C’est pas gentille de ta part”. No, dad, I love you, I die for you, dad.. “C’est pas gentille de ta part”. I love my dad, and I die for him, until death”.
	-Me: “Look whose there”.	-“Who am I? Who am I?”
	-Me: “You are Rabia with big size”.	-“I am Rabia with big size, no, no; she was hit by the eye. The eye, the eye, the eye, hi..”
	-Me: “Okay, look at me”.	-“Okay, look at me. “C’est pas gentille de ta part”. Rabia the daughter of Benallioua..”
	-Me: You know me?	-“I know you, it’s my field. You studied with me, and I studied on.. With you”. -“(Speaks alone) Ah, no, no, no, no, no.. In front of the state and in front of people! No, no, no, Rabia free, democratic, free, popular, long live the people..”
	- “Do want to stay or to	- “No, no, no, I leave, I leave, I leave, I love you (expressed with that verse) until death, until death, I am

	leave?”	conscious, conscious, conscious, conscious (voice loud and crying), it’s the end”.
	-“Come on, let’s go Rabia”.	-“No, no, no, no, Rabia is free, free, free”.
	-“Let’s go to take your lunch”.	-“Rabia is free, what! Thank you mom, thank you”. -“No, no, no, “C’est pas gentille de ta part”. -“Virginity certificate, it is virgin, free, free, and free”.
E **1st Observation**		-“I seek refuge with Allah from the accursed Satan”. (more than 30 times) -“I am Wiam, I am not Wiam”. (repeated frequently for minutes)
	-“What are you saying?	-“I am not Wiam, I am not Wiam”.
	-“You don’t live in the Wiam city?”	-“I am not Wiam, I am not Wiam, I am not Wiam”.
	-“Where then, Kharouba?”	-“I am not Wiam, I am not Wiam, I am not Wiam, I am not Wiam”.
	-“So, who is Wiam?”	-“I am not Wiam, I am not Wiam..”
	-“What is the name of your husband?”	-“Let me go out, I need to have some air. Let me go out, I need to have some air. Let me go out, I need to have some air. Have some air”.
	- “What do you need?”	- “I want you to help me. Help me”.
	- “Tell me what you have so I can help you”.	- “I don’t know where I am”.
	- “You are the psychiatric hospital”.	- “But I am not ill with a mental disease, why they did this to me? Why they made me in the mental disorders? Why? Why? W...”
	- “Do you remember	- “I don’t remember who brought me here. I was asleep at home, and now I don’t know where I am”.

	who brought you?"	
	-"You found yourself at the hospital?"	-"I was at home until I found myself at the hospital. I swear that I don't know where I am".
	- "What happened at home, before you come?"	- "Before I come here, I gave birth, I gave birth and then, they brought me here".
	- "What do you have?"	- "I got a girl.. (Non-interrupted) and then they gave me a medical pill, then, I don't know where I am".
	- "What did you get a boy or a girl? What is her name?"	-"Where I am, where I am?"
	- "Alright, how did you name your daughter?"	- "How did name her?"
	- "yes".	-"I named her Anfel, they wanted to name her Anfel, they wanted to name her Anfel, they named her Anfel, and they named her Anfel".
	- "True, they named her as you wanted to name her. With whom do you live?"	-"Maghnia, Maghnia, my name is Maghnia ..Me, her name.. Yes and my husband's wife's name is Maghnia. Her name is Maghnia".
	- "Your husband's wife?!!"	- "My husband's wife's name is Maghnia, Maghnia".
	- "Is your husband married for the 2nd	- "No, he is not married, he is married.."

	time?"	
	- "Only with you?"	- "Only with you, only with me, and he put me here, he put me here".
	- Who is Maghnia?"	-"My mother in low is Maghnia, my mother in low; I left my mother with her at home. I left my mother with her at home".
	- "How does your husband's family treat you?"	- "Good, very good, good".
	- "Do you have sisters in low?"	- "Yes I have a sister in low. I do... "
	- "What is her name?"	- "What is her name?"
	- "Yes".	-"her name is.. Her name is Lhadja, and her name is Mesouria, and her name is Karima. They are three, I have three".
	- "Which one of them lives with you?"	- "The three of them, the girls, the three girls".
	- "How do they treat you at home?"	-"Good, very good, and they threw me here".
	- "You got ill, they brought you here because you were not aware of what were you doing. Have you understood me? After	- "Why did they throw me here?"

	giving birth, you had random behaviors, you became speaking incoherently. So they brought you to be treated and well, alright?"	
	- "They didn't throw you. Here, you are in a hospital getting a medical treatment, like you went to give birth, you will be healed".	- "I gave birth normally, I gave birth normally, when I gave birth in normally, they threw me here. Why did they throw me here? I don't know why they threw me here".
	- "They didn't throw you; they brought you to be treated. Have you understood me, Ilham? Because after you gave birth, you became speaking incoherently, and say things that do not exist".	- "Why they do not exist? They gave me a medical pill like that, I told them that I don't want to eat it, but they made me eat it by force".

	- "Where?"	-"They made me eat it by force".
	-"Where, at home or here?"	-"At home, at home, at home, they made me asleep. They didn't let being awake, and I don't know where I am. I told them don't' give it to me, but They gave it to me by force. By force, they gave it to me... "
	-"Yes, you are not taking it now?"	-"They are giving it to me by force, By force, they gave it to me.. I don't want to eat, I don't want to eat, I don't want to eat. I called them many times, I called them many times, I told them to help me, and they didn't want to, they didn't want to, they didn't want to".
	-"Was there any fighting at home or not?"	-"Yes it was, they were always yelling, always yelling..."
	- "Who yells?"	- "The guys, between them. They guys".
	- "The guys or the husband's family?"	-"The husband's family, between them. The husband's family..."
	-"For what?"	- "For nothing. They start yelling at each other because of stupid reasons".
	- "Are they good with your family?"	-"Yes, good, good. Just they fight with each other between them, I don't interfere, why do I interfere?"
	-" It is between the brothers".	-"Yes, between the brothers. Between the brothers, brothers brothers.. They will get back to each other anyways. They'll get back to each other".
	- "Why are you crying? Are you anxious because you are here?"	-"They went and left me, they went and left me, I am crying, I want them to come to see me".
	-"They do, each time; they come and ask for	- "But I didn't see them, I didn't see them".

	you". - "Because you state is like this, you are not balanced and conscious. They will come tomorrow Inshaallah". –"Your sisters and husband came here and spoke with you". -"What do you mean by no?" - "No they are not talking about you". - "Who hated you?" - "Who?" - "You are going through a medical help, they didn't throw you?" - "Did you feel much	 -"No. no". -"why are they screaming, they are talking about me". -"they are talking about me, they are talking about me, they are talking about me". -"Why did they hate me, why? I didn't do anything to them". - "I swear, I didn't do anything to them. Anything". - "I don't know who, they hated e, they hated me, the hated me. A person is mentally fine, they throw him, they throw me at the hospital, this doesn't exist at all, how do they throw a mentally healthy person, why do they throw him, why? " -"They throw me; I don't know where I am". - "Yes, I felt pain somehow, I felt pain, I felt pain, I felt pain, a lot, I felt pain. I began to shake, shake,

	pain when you gave birth?" - "You have to be courageous; your daughter needs you, okay?"	shake like this. They passed me in by force. I gave birth by force, by force I gave birth. I gave birth by force, I gave birth by force". - "Yes". -"No one insults his brother". (repeated many times) -"Brothers brothers". (repeated many times) -"Algerians all brothers". (repeated many times) -"Merhoum, who is Merhoum Merhoum Merhoum". (repeated many times)
2nd Observation	- "How are you doing?" - "You are good?" - "How is that?" - "Why, you were not feeling good in the first day?" - "Where you were not good?" - "Why you weren't good?" - "How are these	-"I am good". - "Yes". - "Alhamdulillah". - "I wasn't good, but now I am good". - "Aah??" - "Just problems". - "Family problems".

	problems?"	
	- "Did these problems disappear?"	- "They disappeared".
	- "How did they disappear? You were here, how did you know that they disappear?"	- "I spoke with the psychologist, she... Understands me when I explain to her. She understands me".
	- "Then? What were you suffering from, which made you come here?"	-"problems, stress because of home".
	- "How did this stress affect you?"	- "It affected me, so they brought me here. They thought I am ill, so they brought me here. I was feeling good, and then they brought me here".
	- "When you came here, were you fine? Did they wrong you when they brought you into this place?"	- "They wronged me".
	-"Did the doctor wrong you also?"	- "No... No".
	- "What about the doctor who commanded	-"I don't know?

	to hospitalize you? Why did he hospitalize you?" - "Tell him how you were in the beginning".	-"Yes, I was crying, crying, just crying. I was speaking to them... She understood me, she understands me. Family Problems caused me hospitalized here".