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THOUGHT, LANGUAGE, COMMUNICATION DISORDER IN SCHIZOPHRENIA – TYPE, PREVALENCE AND DIFFERENCES BETWEEN ACUTE AND CHRONIC CASES.

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Abstract.

Objective:

The objective of the current investigation is to the types, severity, and prevalence of thought, language, and communication disorders in individuals with schizophrenia, with a particular focus on discerning differences between "acute schizophrenia" and cases of "chronic schizophrenia."

Materials and Methods:

50 patients were considered for the investigation, who were sub-categorized under acute and chronic cases. Tools used to assess different effects of the disorder were - "Positive and negative symptoms of schizophrenia" (PANSS) Scale 4 which is used for measuring symptoms and severity of the disease, "Mini-mental status examination test" (MMSE), "Andreasen scale" for assessment of "thought, language and communication" (TLC) and Socio-demographic data sheet. Statistical tools like chi-square, and standard deviation were also used during the research. Mental assessments were conducted with all the patients involved using different scales mentioned above. Statistical results were calculated for each assessment to conclude.

Result:

This study provides a comprehensive analysis of schizophrenia, revealing significant differences in the type, severity, and prevalence of thought and communication abnormalities in individuals with the disorder. When correlations were studied statistically, unique findings were observed. It is the influence of age and gender on the expression of these abnormalities, illustrating that as age increases, certain symptoms intensify while others diminish. Males and females also display distinct patterns, with males more prone to certain abnormalities and females to others.

Conclusion:

In this research, along with the influence of gender and age on schizophrenia, we concluded a correlation between thought process, linguistic, and communication disorders and socio-demographic factors like age and gender, providing valuable and unique insights into the complexities of schizophrenia.

Recommendation:

Talk therapy methods can help cope and manage the condition of patients.

Keywords: Thoughts, Language, Communication, Schizophrenia, Acute, chronic, Submitted: 2023-09-22, Accepted: 2023-09-26

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1. INTRODUCTION.

Schizophrenia is a profoundly intricate and disabling mental disorder impacting one's thoughts, emotions, perceptions, and behavior. Typically emerging in late adolescence or early adulthood, it presents significant challenges during crucial life stages. Individuals with schizophrenia encounter a spectrum of symptoms, including hallucinations, delusions, disorganized thinking, emotional blunting, and withdrawal from social interactions [1]. This condition affects both the afflicted individual and their loved ones, necessitating long-term treatment and support.

These symptoms of schizophrenia can be divided into positive, negative, and cognitive categories. Positive symptoms include distortions of normal functioning, including hallucinations (false sensory perceptions) and delusions (strong false beliefs that ignore evidence to the contrary) [1, 2]. These symptoms can lead you to notice things that others don't and to believe in loose ideas. Negative symptoms, in contrast, include emotional and social deficits that lead to emotional flatness, social withdrawal, and a reduced ability to experience pleasure. Cognitive symptoms affect thought processes, causing difficulty concentrating, organizing thoughts, and making decisions [1, 2]. Prodromal symptoms often precede acute psychosis, including cognitive dysfunction and negative symptoms [3]. It is not yet known whether schizophrenia represents a single disease or a syndrome, and information is still needed on how we should define subgroups of the disease [4, 5]. Because the disease has affected humans for millennia, clinicians know a considerable amount about clinical features, disease onset, response to interventions, and tissue response characteristics [6, 7].

WHO estimates that roughly 20 million people worldwide contend with this disorder [8]. However, prevalence rates vary by region and gender, with a higher incidence in urban areas and among males. In the United States, approximately 1.5% of the population may experience schizophrenia during their lives [7, 8]. While the precise causes of schizophrenia remain elusive, it is believed to stem from a complex interplay of genetic, environmental, and neurobiological factors. Early diagnosis and access to suitable treatment and support services are crucial for individuals with schizophrenia to manage their condition and enhance their overall quality of life.

Studies earlier have discussed the relationship between language and thought in individuals with schizophrenia [9, 10]. This research begins by examining the idea that language and thought are interconnected, with language influencing thought processes and shaping worldviews, and was supported by various scholars [8, 9]. The findings explore the role of linguistic competence in the development of delusional systems in individuals with schizophrenia [10]. It suggests that those with high linguistic competence may be more prone to paranoid ideation and the formation of delusions, while those with lower linguistic competence may exhibit catatonic features and somatic symptoms [11]. The role of linguistic competency in shaping the presentation and outcomes of schizophrenia within different groups is also discussed. Earlier research has investigated the association between language formation and "formal thought disorders" (FTD) in schizophrenia [10].

Some studies suggest a potential link, while others indicate that this connection may not be universally strong [9, 10]. Specific language abnormalities, such as neologism, word approximation, and incoherence, are noted in impaired language production. It highlights the interdisciplinary nature of research on language abnormalities in schizophrenia, involving fields like neurolinguistics, psycholinguistics, psychiatry, and psychology [10, 11].

The study aims to investigate the types, severity, and prevalence of thought, language, and communication disorders in individuals with schizophrenia, with a particular focus on discerning differences between "acute schizophrenia" and cases of "chronic schizophrenia".

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2. MATERIALS AND METHODS.

2.1. *Sampling:*

In-patients of a tertiary care center were taken for the investigation. Patients with "Acute schizophrenia" and patients with "chronic schizophrenia" were considered. 50 samples with 25 "acute schizophrenia" patients and 25 "chronic schizophrenia" (in-patients > 2yrs duration) patients were selected with Random Sampling.

2.2. *Inclusion and exclusion criteria.*

Patients who fall within the following criteria were considered.

- *Schizophrenia patients as per ICD 10*
- *Range of age - 18 – 60yrs*
- *Both female and male*
- *Type of illness- Acute schizophrenia*
- *Chronic Schizophrenia- patients admitted for* more *than 2 years*

2.3. *Data Collection.*

Tools required for the research are- Sociodemographic data sheet, "Positive and negative symptoms of schizophrenia" (PANSS) Scale 4 which is used for measuring symptoms and severity of the disease, "Mini mental status examination test" (MMSE), "Andreasen scale" for assessment of (TLC).

We acquired informed consent from all participants before proceeding. Subsequently, we collected sociodemographic data encompassing age, gender, educational background, marital status, employment status, and disorder-related information. To analyze this data, we employed statistical analysis software, specifically SPSS 2.

Medical information, such as onset age, type of schizophrenia, type of disease, symptoms, bloodline history, medical history, and progression of disease, was also recorded. Mental status assessment was conducted through structured interviews using the "Positive and negative symptoms of schizophrenia" (PANSS) Scale. Additionally, the "Mini-mental status examination test" MMSE scale was administered to assess functioning. Lastly, all patients underwent a 45-minute standardized interview using the Scale for TLC, developed by Andreassen in 1978 [8, 9].

18 different variables were considered while calculating and assessing the TLC of patients. These 18 variables were – incoherent, word approximation, echolalia, clanging, perseveration, neologism, derailment poverty of speech, illogicality, poverty of content, stilted speech, pressure of speech, tangentiality, loss of goal, distractibility, self-reference and circumstantiality.

2.4. *Statistical Design and Tool.*

Confidence level was fixed at 5% ($\alpha = 0.05$). If the resulting p-Value <0.05 then only it will be statistically significant. Other tools used are the chi-square test, mean, independent t-test, standard deviation, and error mean.

3. RESULTS.

This study included a total of 50 patients. At the initial stage, several 200 patients were examined for eligibility, however, 150 patients were excluded from this study due to not being eligible.

In this study, we categorized the patients into two groups: those with acute schizophrenia, representing 46% of the participants, and those with chronic schizophrenia, making up the remaining 54%. Notably, the chronic schizophrenia group exhibited a higher prevalence of paranoid characteristics.

Among the total sample of 50 patients, 27 were male, and 23 were female. Significantly distinct patterns emerged when comparing both gender patients when thought prevalence disorder is considered. Specifically, we observed that certain thought disorder symptoms, such as clanging, circumstantiality, loss of goal, and derailment, were highly prevalent in male patients. In contrast, the symptom of incoherence was found to be more frequent in female patients. These findings underscore the gender-related variations in thought disorder within our patient cohort.

From Table 2, it was found that the patients with Low Literacy (below 8^{th} std) were 60% and the rest 40% were with Higher Literacy.

Table 1: **Sex distribution between acute schizophrenia and chronic schizophrenia.**

Gender	No. Of patients and %	Type of Illness (acute) (non-paranoid)	Type of Illness (chronic) (paranoid)
Male	27 (54%)	13	14
Female	23 (46%)	10	13
Total	50	23 (46%)	27 (54%)

Table 2: **Education of the 50 patients.**

Education	**Frequency**	**Percentage**	**Cumulative Percentage**
Primary	21	42%	42%
Middle	9	18%	60%
High	11	22%	82%
Graduate	9	18%	100%

In our analysis of TLC variable frequencies based on gender revealed noteworthy distinctions. Notably, significant differences were observed between male and female patients regarding thought disorder symptoms. Symptoms like loss of goals, clanging, circumstantiality, and derailment were found to be more prevalent among male patients. In contrast, the symptom of incoherence was notably more frequent in female patients.

Notable disparities were discovered between acute and chronic schizophrenia. Acute cases exhibited higher levels of pressure of speech and clanging, while chronic schizophrenia was characterized by increased poverty of content and incoherence. This discrepancy suggests that individuals with chronic institutionalization may exhibit evasive thought patterns.

Gender differences were evident in both "acute schizophrenia" and "chronic schizophrenia" cases. In "acute schizophrenia", males displayed more clanging, tangentiality, loss of goal, and derailment, whereas females demonstrated a higher prevalence of incoherence and poverty of speech. In chronic schizophrenia, females continued to exhibit greater poverty of speech and incoherence. An analysis of TLC Scores revealed that the disorder of linguistic abilities score was higher in chronic cases.

In summary, this comprehensive study delves into various facets of schizophrenia, offering insights into socio-demographic factors, symptom prevalence, gender distinctions, and variations between paranoid and non-paranoid cases. These findings enhance our comprehension of the intricate nature of schizophrenia and its diverse manifestations. Analysis of the study's demographic correlations with the TLC items **r**evealed several notable findings:

1. Age: With increasing age**,** we observed an increase in conten**t** poverty and derailment. In contrast**,** symptoms such as speech pressure, illogicality, and tangentiality decreased with age.
2. Gender: Gender differences were evident, with male participants having greater impulsivity**,** derailment, loss of purpose, and persistence**.** In contrast, symptoms of inconsistency were more common in female participants.
3. Education: In terms of education, high literacy was associated with a prevalence of speech pressure and circumstances**.** These associations between demographic variables and communication disorders are new findings that add to our understanding of this complex condition. These findings contribute

Table 3: **18 TLC variables frequency in male and female with schizophrenia.**

Variables	Sex **Male**	Sex **Female**	P Value **0.4**
neologism	6	**1**	**0.1**
Word Approximation	3	**0**	**0.05***
Clanging	5	**0**	**0.06***
Poverty of Speech	**10**	7	**0.4**
Poverty of Content	**14**	7	**0.2**
Illogicality	**10**	7	**0.26**
Pressure of Speech	**10**	**3**	**0.4**
Circumstantiality	**12**	**3**	**0.03***
Tangentiality	**9**	**4**	**0.18**
Derailment	**8**	**8**	**0.01***
Incoherent	**10**	**12**	**0.00**
Loss of Control	**14**	**5**	**0.02***
Distractibility	**0**	**0**	**0.03***
Preservation	**3**	**0**	**0.35**
Self-Reference	**1**	**0**	**0.22**
Echolalia	**0**	**0**	**0.15**
Blocking	**0**	**0**	**0.03***
Stilted Speech	**2**	**0**	**0.05***

*p. value <0.05

Table 4: **18 variables frequency in acute and chronic schizophrenia**

Variables	Acute schizophrenia	Chronic schizophrenia	P Value
neologism	3	2	0.66
Word Approximation	2	1	1.00
Clanging	1	0	0.43
Poverty of Speech	8	7	0.92
Poverty of Content	7	17	0.01
Illogicality	6	3	0.60
Pressure of Speech	20	7	0.03
Circumstantiality	4	4	0.90
Tangentiality	7	5	0.30
Derailment	17	16	0.16
Incoherent	7	16	0.03
Loss of Control	9	8	1.00
Distractibility	0	0	–
Preservation	0	2	0.33
Self-Reference	1	1	1.00
Echolalia	0	0	–
Blocking	1	1	1.00
Stilted Speech	0	0	–

to a better understanding of how demographic factors such as age, gender, and education may correlate with impairments in thinking, language, and communication in people with schizophrenia. This nuanced perspective illuminates the multifaceted nature of the disorder.

4. DISCUSSION.

A comparison with the previous study reveals higher occurrences of pressure of speech but lower instances of perseveration, self-reference, and echolalia [8-13]. Compared to Maher's study, similar results are found for the pressure of speech, while stilted speech and self-reference are less frequent [19, 20]. In contrast to Maher's findings, the study suggests that the higher prevalence of poverty of speech isn't solely due to paranoid patients' guarded nature [20].

Further examination reveals significant differences when we compare acute cases with chronic schizophrenia. In acute cases, clanging and pressure of speech are more prominent, while "chronic schizophrenia" exhibits higher instances of poverty of content and incoherence [14, 20]. Additionally, the investigation explores the impact of age and gender on the expression of TLC disorders [16, 17]. As age increases, poverty of content and derailment become more prevalent, whereas speech impairment, tangentiality, and illogicality decrease with age. In terms of gender differences, males tend to exhibit higher rates of perseveration, derailment, loss of goal, and circumstantiality, while females show more incoherence [15-17].

5. CONCLUSION.

In conclusion, this investigation identifies remarkable disparities in the type of schizophrenia, severity, thought prevalence, and communication abnormalities variables in schizophrenia. Moreover, it highlights substantial differences in medical expression between acute disorder and chronic disorder cases. Additionally, a correlation is observed between thought process, linguistic, and communication disorders and socio-demographic factors like age and gender, providing valuable insights into the complexities of schizophrenia.

6. LIMITATIONS.

The limitations of this study should be considered when interpreting the results. First, it's essential to acknowledge that this study is conducted at a single institution, which may limit the generalized characteristics of the findings to other locations or healthcare institutions. Second, the research is carried out in a tertiary care hospital, where a larger proportion of patients with low socio-economic and educational backgrounds are typically admitted. Consequently, caution should be exercised when extending the conclusions to the broader community. Lastly, this study employs a cross-sectional design, which, while providing valuable insights, has inherent limitations in capturing the dynamic nature of the condition. A longitudinal study may offer a more comprehensive understanding of the subject matter over time.

7. RECOMMENDATION.

Talk therapy methods can help cope and manage the condition of patients.

8. ACKNOWLEDGEMENT.

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9. LIST OF ABBREVIATIONS.

PANSS- Positive and negative symptoms of schizophrenia
MMSE- Mini-mental status examination test
TLC- thought, language, and communication
FTD- formal thought disorders
ICD- International Classification of Diseases
SPSS- Statistical Package for Social Sciences

10. SOURCE OF FUNDING.

The study had no funding.

11. CONFLICT OF INTEREST.

The authors report no conflicts of interest in this work.

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