ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/IJISRT24OCT1783

Increased Prevalence of Schizophrenia Disorder, a Case of Rwinkwavu District Hospital, RWANDA

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Abstract:- Schizophrenia is a chronic mental disorder impacting millions globally, with its prevalence influenced by genetic, environmental, socioeconomic, and socio-cultural factors. Approximately 1% of the world population is affected, with higher rates observed in urban areas. This study aims to assess the prevalence of schizophrenia among patients visiting Rwinkwavu District Hospital, with a specific focus on identifying its occurrence within this population. The significance of this study lies in its potential to inform healthcare providers and policymakers on the critical rates of schizophrenia, supporting the development of targeted interventions to mitigate its impact. A descriptive cross-sectional study design with a mixed-methods approach was employed, analyzing patient files, registers, and electronic medical records (EMRs) of 312 patients diagnosed with mental disorders between June 2023 and June 2024. Quantitative data were analyzed using SPSS version 27 with descriptive and inferential statistics, while qualitative data were gathered through key informant interviews and focus groups. Findings reveal a schizophrenia prevalence of 34% within the study area, predominantly affecting adults aged 18-40. The study underscores the need for enhanced community mental health empowerment programs to address schizophrenia, which constitutes 34% of mental health disorders treated in Kayonza District, as observed in Rwinkwavu District Hospital.

Keywords:- *Schizophrenia Disorder, Prevalence, Psychosis, Bipolar Disorder, Epilepsy*.

I. INTRODUCTION

Schizophrenia is a chronic mental disorder affecting millions of individuals worldwide, with prevalence rates that vary significantly across regions. The disorder's occurrence is influenced by a range of factors, including genetic predisposition, environmental stressors, and socioeconomic conditions. Globally, schizophrenia affects approximately 1% of the population, though rates tend to be higher in urban areas where social challenges and stressors are more pronounced (Moreno-Küstner et al., 2022). In Africa, regional variations in schizophrenia prevalence are notable, often influenced by genetic diversity, healthcare accessibility, and socio-cultural factors. For instance, recent studies have found a prevalence of 1.7% in Ethiopia and 0.8% in Nigeria (Bekele et al., 2022; Adamu et al., 2023). In East Africa, the rates also vary widely; research from Kenya indicates a prevalence of 1.9% in urban areas, compared to 0.6% in rural areas, underscoring the impact of urbanization and associated stressors (Mwangi et al., 2022). Similarly, a prevalence rate of 1.3% was observed in Uganda, where challenges in diagnosis and treatment are compounded by limited healthcare resources (Kigozi et al., 2023). These disparities highlight the pressing need for improved mental health infrastructure and access to care across diverse regions to better address the burden of schizophrenia. This study offers crucial insights into the prevalence of mental disorders in Rwanda by conducting a cross-sectional analysis of data collected over a one-year period. While schizophrenia is the primary focus, it is situated within a broader context of mental disorders that impact emotion, cognition, and behavior. Mental disorders encompass a range of conditions, including anxiety disorders such as panic disorder and generalized anxiety disorder, mood disorders like bipolar disorder and major depressive disorder (AMA, 2022), and personality disorders, which affect self-perception and interpersonal functioning—examples being narcissistic personality disorder and borderline personality disorder. Psychotic disorders, including schizophrenia, are characterized by distorted perceptions and thought processes. Additionally, eating disorders, such as anorexia nervosa and bulimia nervosa, lead to severe disruptions in eating patterns and body image (American Psychiatric Association, 2022).

II. LITERATURE REVIEW

A. Multipath Model of Schizophrenia Disorder

The Multipath Model of Schizophrenia posits that a combination of biological, psychological, and environmental factors contributes to the development of the disorder. This model considers environmental stressors, such as early trauma or substance abuse, along with neurodevelopmental issues and genetic predisposition (Mittal & Walker, 2023). It emphasizes the complex interactions among these factors, suggesting that schizophrenia's onset cannot be attributed to a single cause. Instead, the progression and severity of symptoms are shaped

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/IJISRT24OCT1783

by the interplay between environmental stressors, life events, and structural and functional vulnerabilities within the brain. This model provides insight into the disorder's multifaceted etiology, guiding the development of comprehensive treatment strategies that address the diverse pathways contributing to schizophrenia's manifestation.

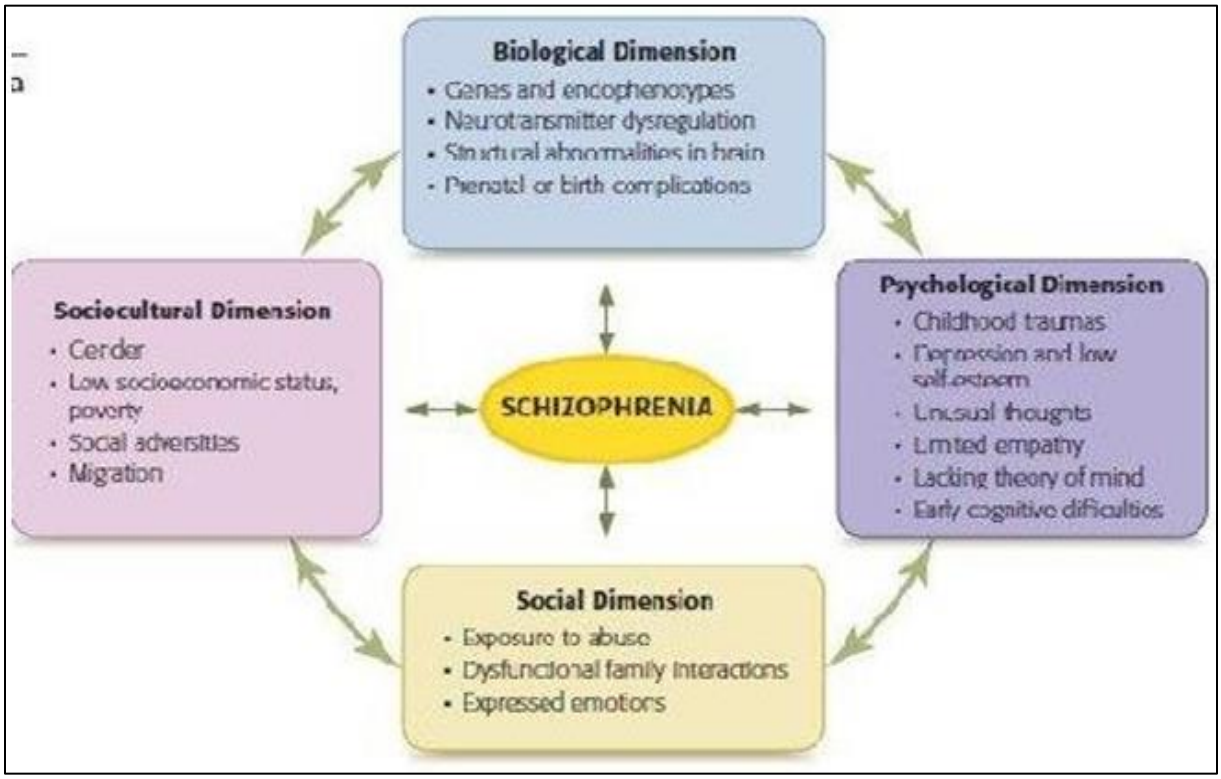

Fig 1. Multipath Model of Schizophrenia, (Mittal & Walker, 2023)

The Multipath Model of Schizophrenia suggests that schizophrenia results from a complex interplay among genetic predispositions, psychological factors, cognitive processes, and social adversities. This model posits that no single factor is solely responsible for causing schizophrenia; rather, it is the culmination of various genetic vulnerabilities interacting with environmental stressors. Genetic factors play a significant role, as individuals with close blood relatives diagnosed with schizophrenia are at a higher risk. Psychological elements, such as deficits in empathy and theory of mind, impact how individuals perceive and interpret social cues, while cognitive impairments—such as memory and attention deficits—can worsen symptoms. Additionally, social adversities, including childhood maltreatment and chronic stress, may trigger or exacerbate symptoms (Cengage Learning, 2016). The Multipath Model underscores the importance of understanding schizophrenia as a multifaceted disorder shaped by biological, psychological, and social influences, which highlights the need for comprehensive treatment approaches that address these multiple dimensions.

B. Prevalence of Schizophrenia Disorder in Population Health

Schizophrenia affects approximately 1% of the global population, although prevalence varies by region. In some countries, prevalence rates range from 0.3% to 0.7% of the population, depending on specific risk factors and societal conditions (Moreno-Küstner et al., 2022). For example, the traumatic impact of the 1994 Genocide against the Tutsi in Rwanda may have led to increased mental health disorders, including schizophrenia, due to unresolved emotional issues and post-traumatic stress disorders (PTSD). During commemoration periods, individuals may re-experience traumatic memories, exacerbating mental health challenges in the Rwandan community. The prevalence of schizophrenia and other mental disorders also varies between urban and rural populations, with urban areas often reporting higher rates due to increased living costs, stressors, and social challenges.Research also indicates that schizophrenia prevalence differs based on age, gender, and socioeconomic factors. Studies reveal a higher incidence of schizophrenia among males in late adolescence and early adulthood, while females tend to develop the disorder later, typically in their late twenties. Other prevalent mental health conditions include depression, anxiety, PTSD, and substance use disorders, which

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/IJISRT24OCT1783

require urgent attention from regulatory bodies and national health agencies to ensure adequate treatment and intervention (Moreno-Küstner et al., 2022). Schizophrenia's distribution is influenced by various factors, including age of onset, gender differences, socioeconomic status, urban versus rural residency, family history, and substance abuse.

III. METHODOLOGY

The study investigating schizophrenia prevalence at Rwinkwavu District Hospital employed a descriptive cross-sectional design, aiming to quantify the proportion of patients diagnosed with schizophrenia from June 2023 to June 2024. The target population consisted of all mental health patients visiting the hospital, with data drawn specifically from 312 patients diagnosed with mental disorders during this period. Data collection involved a thorough review of patient files, registers, and electronic medical records (EMRs) to determine the prevalence of schizophrenia within this cohort. Quantitative data analysis was conducted using SPSS version 27, incorporating both descriptive and inferential statistical methods to ensure an accurate representation of schizophrenia prevalence. Additionally, qualitative data were gathered through Key Informant Interviews (KIIs) and Focus Group Discussions (FGDs) to provide context and depth to the findings. The study received approval from the Mount Kenya University School of Postgraduate Studies and was granted a data collection permission certificate by the Rwinkwavu District Hospital Ethical Research Clearance team. All necessary measures to protect participants' informed consent rights and privacy were upheld, ensuring a respectful and ethical research process.

A. Prevalence of Schizophrenia and Demographic Profile of the Respondents

The analyses of gender, age, religious affiliation, employment status, and admission status, providing context to better understand the study population affected with Schizophrenia

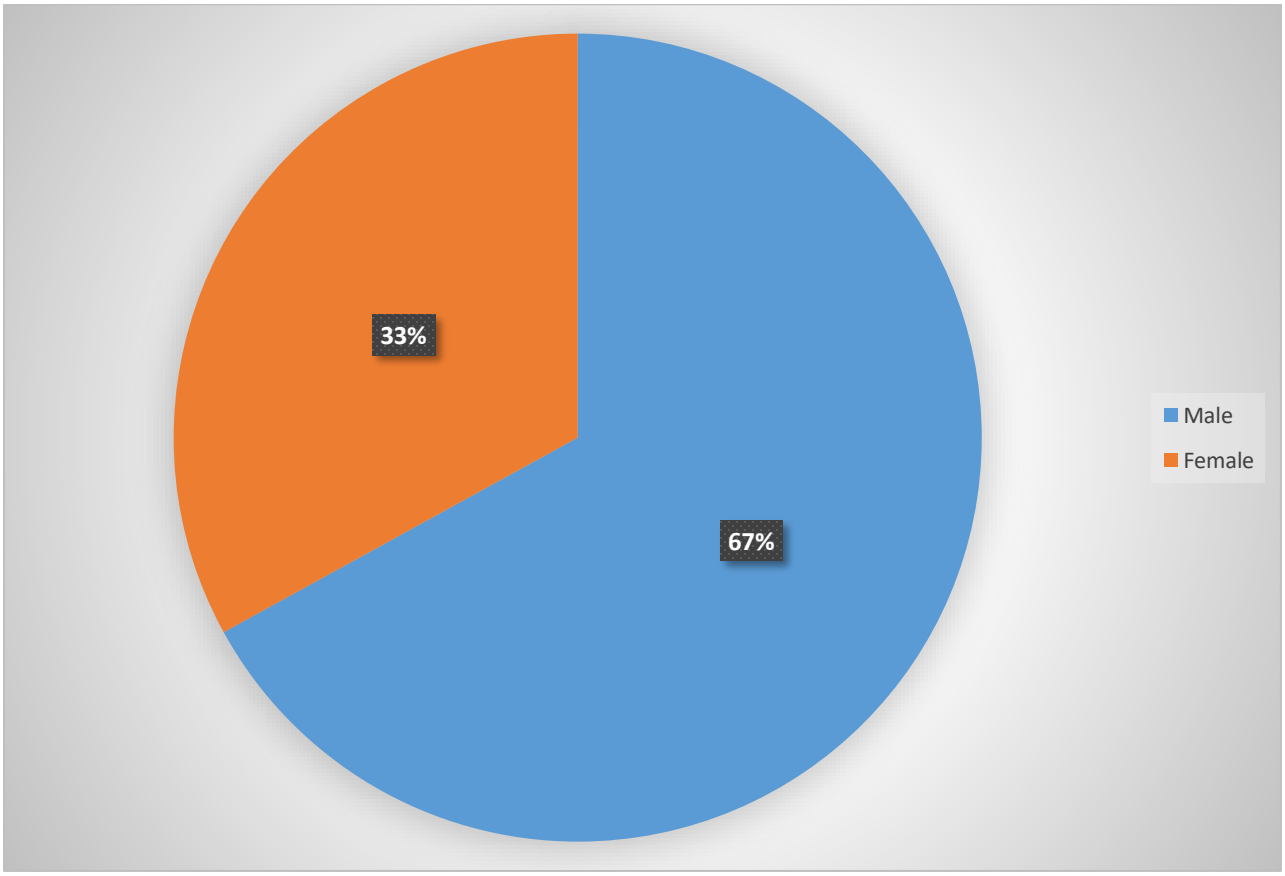

Fig 2 Demonstrates Gender Distribution of Population Health with Schizophrenia Disorder in the Community

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/IJISRT24OCT1783

The study shows that the majority of the patients affected with the disorder were male, accounting for 67% (209), of the sample, while females constituted 33% (103). This gender distribution may indicate that schizophrenia and related disorders might be more prevalent among men or that men are more likely to seek or be referred for treatment. This study's findings shows that men are more attributed to schizophrenia in Rwinkwavu district hospital due to their higher percentage than women.

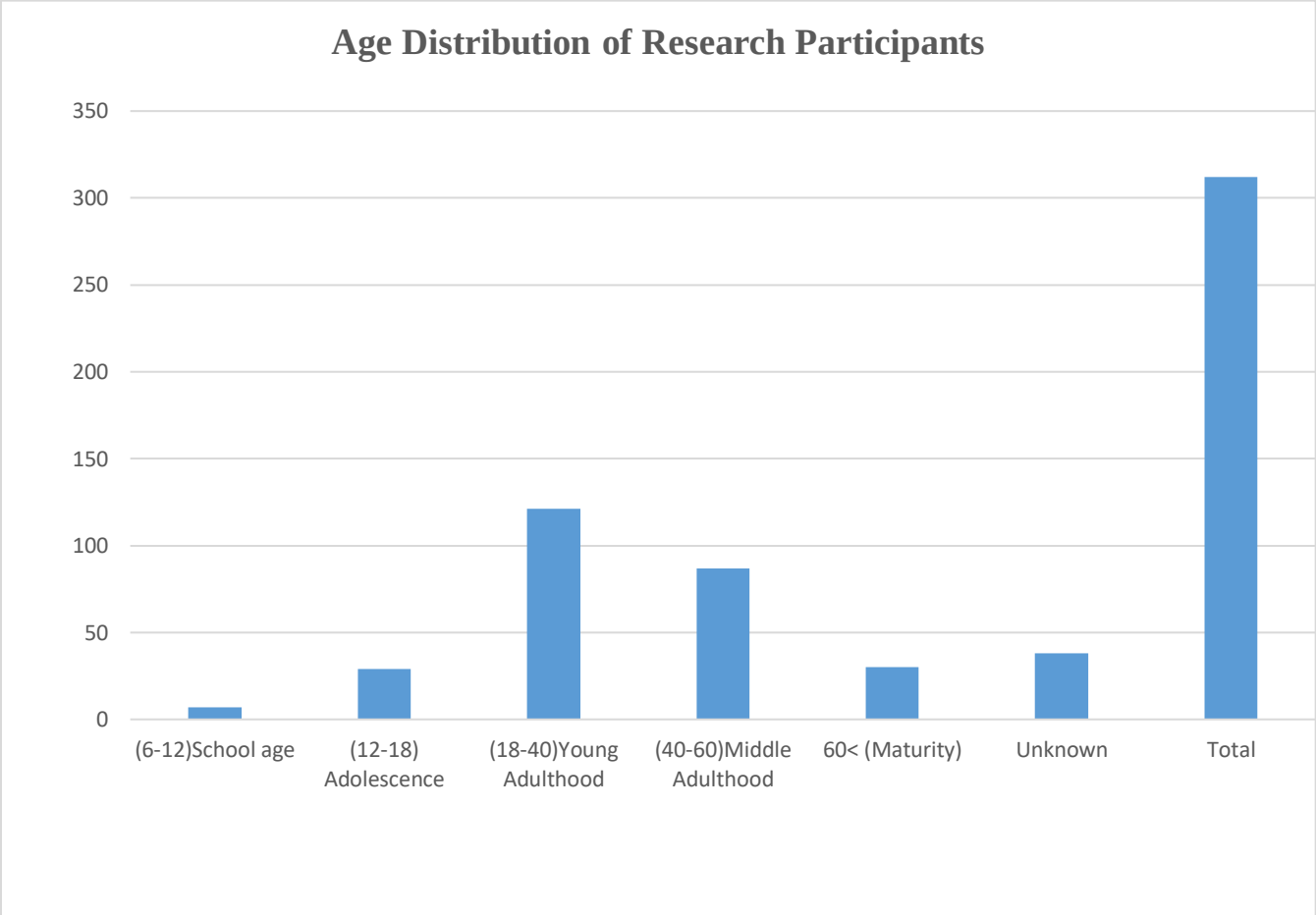

Fig 3 Distribution of Disorder per Specific Cohort in the Population Health

The age distribution data reflects Erik Erikson's stages of psychosocial development, with a predominant number of cases (38.8%) in **young adulthood** (ages 18-40), highlighting challenges related to intimacy versus isolation. **Middle adulthood** (40-60) follows with 27.9%, linked to generativity versus stagnation. **Adolescents** (12-18) constitute 9.3%, emphasizing identity versus role confusion. Infancy and early childhood stages are underrepresented. The 12.2% unknown category suggests gaps in data recording. This distribution indicates that most patients are within Erikson's stages of building relationships and contributing to society. The study opined the most affected cohort by the disorder is the young adulthood (38.8%), while the least affected were elderly population health. These were also discussed during the KII discussion.

("Here in the district hospital, we mostly admit most of them between 25 to 35, and most are men because when they have challenges they rarely share with others to reduce tension in the brain". KII discussion on 26 August 2024).

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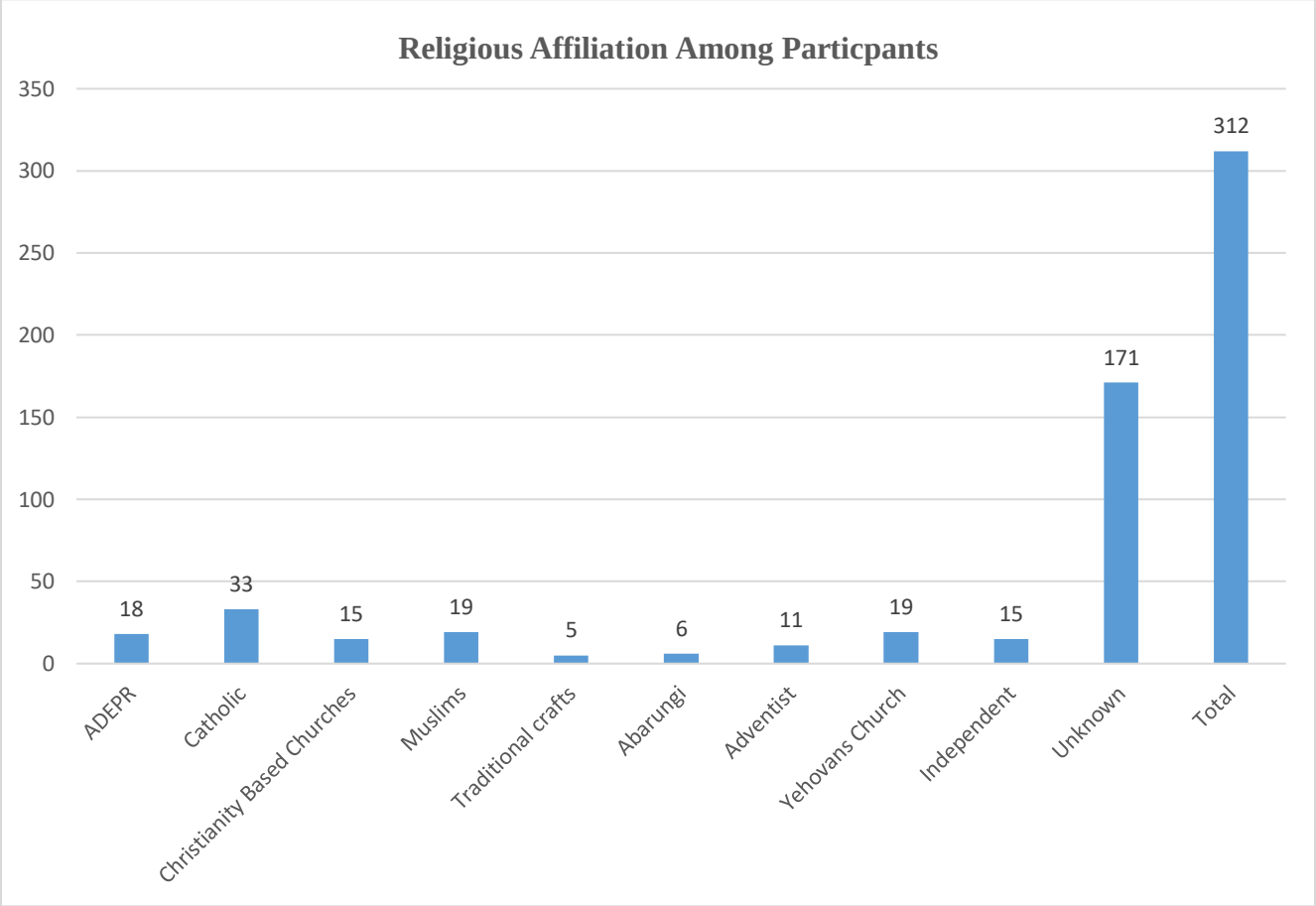

Fig 4 Distribution of Religious Affiliations in the Study Area.

A significant portion of respondents identified their religious affiliation as unknown 54.8 % (171) followed by Catholics 10.6 % (33) and Muslims 6.1%(19)

The study demonstrate that, the disorder is affected by a diverse religious affiliations, with a significant proportion of patients 54.8% (171) having no religious affiliation status. Of those recorded, Catholicism 10.6% (33)and ADEPR 5.8%(18) were notable, suggesting a complex interplay between religion and mental health beliefs. *("Here at Rwinkwavu DH we share the catchment area with Gahini DH but our hospital is more known to receive a lot of mental health patients and most of them show catholic believes and few with chritianility perspectives, because some time we receive other patients send by police picked on roads some of them it is difficult to have their religious affiliation due to their memory deficit issues".* KII discussion on 26 August 2024).

B. Prevalence of Schizophrenia Disorder in the Population Health

The opined that schizophrenia disorder was the lead disorder in the study area with leading cases of 34% (106), respondents

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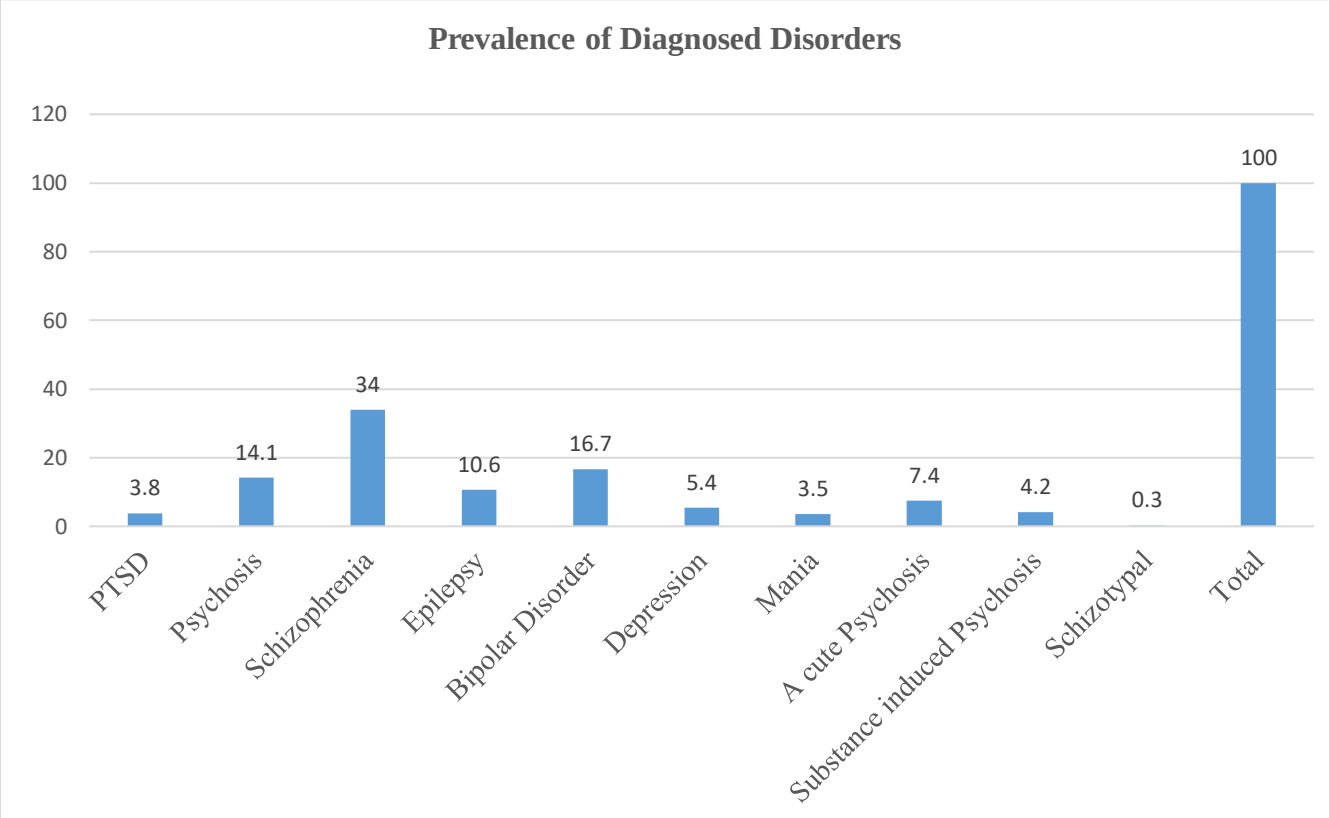

Fig 5 Distribution of Various Mental Disorder Analyzed in the Study Area

The analysis of 312 patient records shows that schizophrenia was the most prevalent disorder, with 106 cases, followed by 52 cases of bipolar disorder and 44 cases of psychosis. Other frequent diagnoses included epilepsy (33 cases), acute psychosis (23 cases), and PTSD (12 cases). Additionally, 11 cases of mania, 17 cases of depression, 13 cases of substance-induced psychosis, and 1 case of schizotypal disorder were recorded. Medications prescribed included Haldol for 77 cases, carbamazepine for 35 cases, and Risperidone for 11 cases. A significant number of cases (98) lacked clear medication documentation. This highlights the complexity and comorbidity of psychiatric conditions treated.

IV. DISCUSSION

The study found a high prevalence of schizophrenia among young adults, predominantly affecting males, which aligns with recent research showing that schizophrenia often manifests in early adulthood and is more common among men (Charlson et al., 2021). This demographic pattern suggests that genetic and environmental factors may contribute to an earlier onset in males. Schizophrenia accounted for 34% of the psychiatric conditions among the study population, underscoring the significant burden of this disorder within mental health services.

V. SUMMARY OF FINDINGS

The findings indicate that schizophrenia is highly prevalent among the mental health disorders diagnosed in the patient files reviewed, representing 34% of all cases. This prevalence makes it the most frequently diagnosed condition, surpassing other psychiatric disorders such as psychosis (14.1%), bipolar disorder (16.7%), and epilepsy (10.6%). Qualitative data from interviews and focus groups revealed that many patients experienced delays in seeking and receiving a formal diagnosis. These delays were often due to initial misinterpretations of symptoms, such as hallucinations, delusions, and disorganized thinking, which were sometimes attributed to spiritual or behavioral issues. Additionally, participants noted that while schizophrenia is commonly perceived within the community, it is often unrecognized due to stigma and cultural misconceptions, with some attributing symptoms to witchcraft or curses.

VI. LIMITATIONS AND FUTURE RESEARCH

Building on the study's findings, future research should examine the impact of early intervention programs on reducing the onset and severity of schizophrenia. Qualitative insights suggest that delays in diagnosis are common, highlighting the potential benefits of early screening and intervention. Further studies could explore the effectiveness of integrated care models that combine traditional, spiritual, and

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modern treatment approaches, particularly for improving patient outcomes and acceptance of care within the community and family settings. Research should also investigate the long-term outcomes of patients with a familial history of mental disorders to deepen our understanding of genetic and environmental influences on schizophrenia. Additionally, this study was limited in its evaluation of the social-cultural, socio-economic, and biomedical factors associated with pregnancy that may contribute to increased rates of schizophrenia, which presents an opportunity for future researchers to explore.

ACKNOWLEDGEMENTS

The authors extend their appreciation to all mental health patients who participated in this research and shared their experiences.

APPENDIX : INFORMED CONSENT TEMPLATE FORM

Greetings,

I am John Peter Ndikubwimana, a student at Mount Kenya University pursuing a Master's Degree in Counseling Psychology. I am currently conducting research for my thesis titled, "The Prevalence and Factors Attributed to Schizophrenia Disorder in Population Health Visiting Rwinkwavu District Hospital." The Mount Kenya University Ethics Review Committee has granted permission for this research.

As a participant in this study, I kindly request your permission to take part in a Key Informant Interview, which will last approximately thirty (30) minutes. You are encouraged to openly share your opinions, perspectives, and personal experiences during this interview or focus group session.

Please be assured that your responses will remain confidential. Information collected will be used solely for planning improvements in healthcare delivery, and only non-identifiable data will be published. Access to the collected information will be strictly limited to the intended purpose of this research thesis.

Thank you for your voluntary participation.

Participant's Signature: _____

Date: _____

Researcher's Signature: _____

Date: _____

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