Open Journal of Psychiatry, 2025, 15(3), 207-233
https://www.scirp.org/journal/ojpsych
ISSN Online: 2161-7333
ISSN Print: 2161-7325

# Social Insertion in Schizophrenia: A Comparative Analysis of Late-Onset and Early-Onset Schizophrenia

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**How to cite this paper:** Anahlui, K., Agbobli, A., Amouzou, A.M. and Dalfiume, L. (2025) Social Insertion in Schizophrenia: A Comparative Analysis of Late-Onset and Early-Onset Schizophrenia. *Open Journal of Psychiatry*, **15**, 207-233.
https://doi.org/10.4236/ojpsych.2025.153018

**Received:** February 12, 2025
**Accepted:** May 26, 2025
**Published:** May 29, 2025

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## Abstract

Schizophrenia is a severe and draining mental disorder with varying socio-economic impacts based on the age of onset. This study compares socio-demographic characteristics, employment status, financial dependence, marital status, stigmatization, and social functioning between early-onset and late-onset schizophrenia patients. A cross-sectional analysis was conducted on schizophrenia patients, categorized by age of onset (before or after 40). Early-onset schizophrenia was significantly more common in males (75%, $p < 0.01$), with lower educational attainment ($p < 0.05$), higher unemployment rates (65% vs. 45%, $p = 0.02$), and greater financial dependence (80% vs. 55%, $p = 0.01$) compared to late-onset patients. Early-onset patients also reported significantly higher social isolation (70% vs. 50%, $p = 0.03$) and fewer marital relationships (30% vs. 50%, $p = 0.04$). Stigmatization scores were significantly elevated in early-onset patients (mean score 8.2 vs. 5.4, $p < 0.001$). Treatment costs were also significantly higher ($p < 0.01$) for early-onset patients, highlighting the increased socio-economic burden associated with an earlier onset of the disorder.

## Keywords

Schizophrenia, Early-Onset, Late-Onset, Socioeconomic Impact, Stigmatization, Social Insertion

## 1. Introduction

Schizophrenia is a chronic mental disorder that affects a person's thinking, emo-

tions, and behavior. It is classified by the age of onset, with two primary categories: early-onset schizophrenia (EOS) and late-onset schizophrenia (LOS).

Early-onset Schizophrenia (EOS) occurs before the age of 18, typically in childhood or adolescence. While less common, it is often more severe, with a higher risk of cognitive impairments, developmental delays, and poorer outcomes.

Late-Onset Schizophrenia (LOS) develops in individuals over the age of 40. Symptoms tend to be less severe than in Early-Onset Schizophrenia, with a better overall prognosis and less cognitive decline. Research suggests that women are more likely to experience Late-Onset Schizophrenia than men.

Although both Early-Onset Schizophrenia and Late-Onset Schizophrenia share core features such as delusions, hallucinations, and disorganized thinking, the age of onset dramatically influences the course and severity of the illness. Early-Onset Schizophrenia is associated with more significant cognitive and social impairments, while Late-Onset Schizophrenia generally presents with a milder course but still poses challenges.

This study aims to analyze key demographic, socioeconomic, and clinical characteristics of individuals with schizophrenia, including gender, education, employment, financial dependence, marital status, and treatment costs. By comparing Early-Onset Schizophrenia and Late-Onset Schizophrenia, the study seeks to highlight disparities in employment, economic stability, and social integration. The findings will contribute to improved mental health policies, treatment approaches, and support systems tailored to the unique needs of individuals with schizophrenia.

## 2. Rationale for This Study

This study is unique and relevant for publication because it expands upon previous research by providing a detailed socio-demographic and socioeconomic analysis of schizophrenia patients, explicitly differentiating between early-onset and late-onset cases. It contributes to existing literature in the following key areas:

**Gender and Onset Type Distinctions**

Unlike many studies that examine schizophrenia as a whole, this research compares early-onset and late-onset schizophrenia. It highlights the higher prevalence of late-onset schizophrenia in women, supporting the hypothesis that estrogen has a protective effect. In contrast, early-onset schizophrenia is more common in men, reinforcing neurodevelopmental theories.

**Socioeconomic Impact**

While prior research has established the economic hardships associated with schizophrenia, this study quantifies financial dependence and employment challenges based on onset type. Findings indicate that early-onset cases experience higher unemployment rates and greater reliance on monetary assistance, underscoring the long-term economic impact of schizophrenia.

**Educational Attainment and Cognitive Impairment**

This study strengthens existing evidence on the adverse effects of schizophrenia

on educational achievement by showing how varying levels of education correlate with employment and financial independence. These insights are crucial for policymakers and mental health professionals designing interventions for individuals with schizophrenia.

**Treatment Costs and Accessibility**

The study highlights the significant financial burden of schizophrenia treatment, with two-thirds of participants facing high costs. While previous research has noted the economic toll of schizophrenia, this study adds specificity by linking treatment costs to employment status and financial dependency, making a compelling case for healthcare policy improvements.

**Social Functioning and Relationship Challenges**

Schizophrenia's impact on social relationships is well-documented, but this study enhances understanding by distinguishing between marital and relationship statuses in early- and late-onset cases. The high rates of single status in early-onset cases reinforce findings that schizophrenia disrupts social development early in life.

**Background and Rationale**

Schizophrenia is a complex neuropsychiatric disorder characterized by positive symptoms (e.g., hallucinations, delusions), negative symptoms (e.g., social withdrawal, apathy), and cognitive deficits. Its course is highly heterogeneous, with variations in age of onset influencing symptom severity, functional outcomes, and treatment responses. Van Os (2009) [1] emphasized the role of early neurodevelopmental disruptions in shaping disease progression, while Kapur (2009) [2] highlighted the impact of dopamine dysregulation on symptom expression. Tandon (2013) [3] further noted the significance of age-related differences in treatment responses and prognosis.

**Definition of Early-Onset and Late-Onset Schizophrenia**

For this study, schizophrenia is categorized into two onset types: Early-Onset Schizophrenia (EOS): Diagnosis before age 25. Late-Onset Schizophrenia (LOS): Diagnosis at or after age 25.

These thresholds align with prior research on age-related differences in schizophrenia. Keshavan (2020) [4] found that EOS is associated with more severe cognitive impairments and poorer long-term outcomes due to early neurodevelopmental disruptions. Clemmensen (2012) [5] similarly reported that individuals with EOS exhibit greater deficits in executive functioning and social adaptation. In contrast, Howard (2000) [6] described LOS as being linked to less severe cognitive decline but more pronounced social and functional challenges. Jeste (2003) [7] supported this by identifying environmental factors, hormonal changes, and neurodegenerative processes as key contributors to the distinct trajectory of LOS.

## 3. Literature Review and Research Gaps

While gender differences in schizophrenia have been widely studied, research exploring the interaction between gender and age of onset (AO) remains limited,

particularly regarding socioeconomic outcomes, employment stability, and financial dependence. Rabinowitz (1998) [8] reported that EOS is more common in men and is associated with poorer functional prognosis. Hafner (2003) [9] further demonstrated that individuals with EOS experience more severe functional impairments compared to those with LOS. Seeman (2019) [10] suggested that estrogen may play a protective role in modulating schizophrenia symptoms in women, which could partly explain the higher prevalence of LOS among females. Kulkarni (2012) [11] also examined the neuroprotective effects of estrogen, emphasizing its potential influence on schizophrenia's trajectory. However, gender-based variations in schizophrenia and their interaction with AO have not been sufficiently explored, particularly concerning their impact on daily functioning, socioeconomic status, and long-term outcomes.

The inconsistency in defining AO across studies presents a major challenge for comparative research. Harvey (2012) [12] noted that while some studies classify EOS as occurring before age 25, others extend the threshold to 40 years, complicating efforts to generalize findings and establish a unified framework for understanding schizophrenia's trajectory. These discrepancies highlight the need for standardized definitions to facilitate cross-study comparisons and improve the accuracy of research conclusions.

Additionally, the economic burden of schizophrenia, especially regarding the age of onset, remains insufficiently explored. Most research has concentrated on the overall economic impact of schizophrenia without distinguishing between early and late onset. Marwaha and Johnson (2004) [13] discussed the financial strain associated with schizophrenia but did not differentiate between the socioeconomic challenges faced by early-onset versus late-onset patients. The gap in research on financial dependence, employment stability, and treatment costs based on age of onset is a critical area that warrants further investigation, especially since socioeconomic challenges are integral to managing the disorder and improving patient quality of life.

This study addresses these gaps by systematically analyzing socio-demographic, clinical, and economic variables in patients with schizophrenia, categorized by the age of onset (before or after 40) while controlling for gender differences. By focusing on employment status, financial independence, social functioning, and treatment costs, this research provides a nuanced understanding of how the age of onset affects clinical outcomes and broader socioeconomic consequences for patients. Doing so helps fill a critical gap in schizophrenia research.

Furthermore, the findings may have substantial implications for public health policy and treatment strategies. As the literature has pointed to the need for tailored interventions based on the age of onset, this study offers valuable insights into how healthcare systems and social support systems can better accommodate individuals with early-onset schizophrenia who face higher treatment costs, unemployment rates, and financial dependence. These findings will help guide future research in identifying and mitigating the socio-economic risks associated

with different age-onset profiles, ultimately contributing to more effective interventions and resource allocation.

In conclusion, while previous studies have provided essential insights into the clinical aspects of schizophrenia, there is a distinct gap in understanding the socioeconomic consequences of different age-onset profiles. By examining these factors in greater detail, this study corroborates existing theories. It provides novel insights that can inform future research and clinical practices, ultimately enhancing outcomes for individuals with schizophrenia.

## 4. Methodology

### 4.1. Conceptual Framework: Conceptual Framework for Social Insertion and Schizophrenia

A theoretical framework related to the topic of social insertion, stigmatization, and support systems in the context of early- and late-onset schizophrenia could draw on multiple concepts from sociology, psychology, and psychiatry. Below are key theoretical perspectives that can help structure and understand the study's findings:

Schizophrenia is a severe mental disorder characterized by cognitive, emotional, and behavioral disturbances, including positive symptoms such as hallucinations and delusions, negative symptoms like social withdrawal and anhedonia, and cognitive deficits that impair executive functioning and attention (American Psychiatric Association, 2013) [14]. One of the significant challenges individuals with schizophrenia face is social insertion, which refers to their ability to reintegrate into society through meaningful roles in employment, education, relationships, and community participation. Social insertion is influenced by various factors, including social support networks, occupational and educational inclusion, and community engagement (Davidson *et al.*, 2001) [15]. However, individuals with schizophrenia often experience difficulties in social reintegration due to stigma, limited economic opportunities, and inadequate access to mental health services (Corrigan & Watson, 2002) [16].

The theoretical foundation of this framework is based on several models. Social Role Theory (Goffman, 1963) [17] explains how societal expectations and stigma shape the social experiences of individuals with schizophrenia, often leading to exclusion and marginalization. The Bio-Psycho-Social Model (Engel, 1977) [18] highlights the complex interaction of biological vulnerabilities, psychological conditions, and social determinants that influence the course of schizophrenia and the possibilities for social reintegration. Additionally, the Recovery Model (Anthony, 1993) [19] emphasizes the importance of empowerment, autonomy, and self-determination in overcoming barriers to social participation.

In understanding the relationship between schizophrenia and social insertion, several key factors play a role. Social stigma and discrimination can significantly reduce opportunities for individuals with schizophrenia, making it more difficult for them to achieve social integration (Link *et al.*, 2001) [20]. Conversely, strong

family and community support networks can improve coping skills and enhance social inclusion (Pernice-Duca, 2010) [21]. Access to mental health services, particularly those that provide psychosocial interventions, cognitive rehabilitation, and vocational training, also plays a crucial role in enabling individuals with schizophrenia to manage their symptoms and participate in society more effectively (Drake *et al.*, 2012) [22].

This conceptual framework proposes that social stigma negatively impacts social integration by limiting opportunities and reinforcing social isolation. In contrast, family and community support, as well as access to mental health services, are mediating factors that enhance social participation and improve overall well-being.

**1) Social Exclusion and Social Inclusion Theories**

Social Exclusion: Social exclusion refers to the processes through which individuals or groups are marginalized, often due to illness, disability, or social stigma. Schizophrenia, especially in early-onset cases, is frequently associated with social exclusion, leading to a lack of access to societal benefits, opportunities, and resources (e.g., education, employment, social relationships). According to Levitas *et al.* (2007) [23], social exclusion is not only an economic issue but also a psychological and social one, which fits the experiences of early-onset schizophrenia patients who face greater stigmatization and isolation.

Social Inclusion: On the other hand, social inclusion theories focus on the processes and strategies that can help individuals or groups re-enter society. For late-onset schizophrenia patients, especially those with more established social networks, theories of social inclusion may offer insights into how these individuals navigate stigma and reintegrate into their communities. This theory aligns with the findings of Henderson *et al.* (2014) [24], who suggest that older adults may experience less stigmatization due to their pre-existing social capital.

**2) Labeling Theory**

Labeling Theory (Becker, 1963) [25] posits that individuals labeled with a mental illness are often treated according to societal stereotypes, which can lead to further marginalization and self-stigmatization. This theory is particularly relevant for understanding how patients with early-onset schizophrenia are perceived and treated. As noted in the study, early-onset patients face harsher societal judgment and stigma, which often disrupts their education, relationships, and career trajectories, reinforcing their marginalized status. The process of being labeled as "mentally ill" can result in social exclusion and negative self-concept, which further impacts their quality of life and access to support systems.

**3) Social Support Theory**

Social support is a critical factor in the mental health and well-being of individuals with schizophrenia. Cohen & Wills (1985) [26] proposed that social support acts as a buffer against stress, contributing to better psychological and physical health outcomes. For late-onset schizophrenia patients, the availability of support systems, including family, friends, and community resources, may buffer the ad-

verse effects of stigmatization. The theory suggests that social support can reduce feelings of isolation, increase motivation, and promote positive mental health outcomes, which aligns with the higher levels of support reported by late-onset patients in the study.

Social Network Theory: This theory emphasizes the importance of social relationships and networks in individuals' lives. According to Berkman & Glass (2000) [27], social networks provide emotional, informational, and instrumental support. Late-onset schizophrenia patients often have more established social networks, which contribute to their better support systems compared to early-onset patients, who experience disruptions in their social and educational development.

**4) Life Course Theory**

Life Course Theory (Elder, 1994) [28] examines how early-life experiences, including the onset of mental illness, influence later life outcomes. This theory is particularly relevant to understanding the differences between early- and late-onset schizophrenia. Early-onset schizophrenia disrupts the normal course of development, leading to challenges in education, employment, and social relationships. In contrast, late-onset schizophrenia often occurs when individuals have already established their social roles, which can mitigate some of the negative impacts of the disorder. The theory suggests that earlier disruptions in life course trajectories, such as those resulting from early-onset schizophrenia, have long-term effects on individuals' well-being and life satisfaction.

**5) The Stress-Vulnerability Model**

The Stress-Vulnerability Model (Zubin & Spring, 1977) [29] posits that mental illness, such as schizophrenia, arises from the interaction of genetic vulnerability and environmental stressors. For early-onset schizophrenia, vulnerability is often more remarkable due to the timing of the disorder's onset during critical developmental stages (adolescence and early adulthood). The model explains how environmental stressors (e.g., stigmatization, social exclusion, and lack of support) can exacerbate the symptoms of schizophrenia, leading to poorer outcomes. Late-onset schizophrenia patients may experience less environmental stress due to a more established social support system and lower levels of stigma.

**6) Cognitive-Behavioral Models of Stigma**

Cognitive-behavioral models of stigma suggest that individuals internalize negative societal beliefs about their condition, leading to self-stigmatization and reduced self-esteem. According to Corrigan *et al.* (2005) [30], this process can perpetuate feelings of shame and isolation, leading to further avoidance of social situations and a decrease in access to support. Early-onset schizophrenia patients, who experience more prolonged exposure to stigma, may be more likely to internalize these negative beliefs, contributing to poorer social and emotional outcomes. In contrast, late-onset patients may be less vulnerable to internalizing stigma due to their older age and more developed coping mechanisms.

**7) Feminist Theory**

Feminist theory can provide insight into the gendered aspects of schizophrenia,

especially in terms of how societal expectations of men and women affect their experiences with mental illness. The higher rates of employment stability among late-onset women in the study may reflect the gendered nature of social roles, where women's roles in caregiving and family life may offer more stability and support. Feminist theory would argue that societal gender norms impact how men and women with schizophrenia are perceived and supported, with men often facing more significant stigma and social isolation due to expectations of independence and self-sufficiency.

### 4.2. Study Framework

The Zébé Psychiatric Hospital (HPZ) served as the setting for our study. It is located in Zébé-Aného, along the Aklakou road, 45 kilometers east of Lomé, in the Lacs Prefecture, one of the prefectures in the Maritime Region of Togo.

Originally named the "Special Hospital for Indigenous Patients with Psychopathies" by decree on May 8, 1931, HPZ was established in 1904 with the construction of its first facilities. Since then, it has undergone significant administrative and structural reforms, altering its original status and appearance.

On June 20, 1996, the hospital was officially designated as a public administrative institution (EPA), granting it legal personality and financial autonomy. It operates under the Ministry of Health and is managed by:

- A deliberative body (Board of Directors)
- An executive body (Administration)
- Advisory committees, including:
  - The Medical Advisory Commission (CMC)
  - The Joint Technical Committee (CTP)
  - The Hospital Hygiene and Safety Committee (CHSH)

HPZ is Togo's national reference center for psychiatric disorders and its primary mental health facility. It is a national specialized hospital located in Aného, 45 km from Lomé, along the Aného-Aklakou road, within the Lacs Prefecture of the Maritime Region.

The hospital's theoretical capacity is 110 beds. However, rising patient demand has led to the expansion of the facility to 135 beds, with consistently high occupancy rates exceeding 100%. Following recent expansions and the construction of new inpatient wards, its current capacity has increased to 180 beds.

### 4.3. Sampling and Data Collection

This descriptive and prospective study focused on all patients admitted and hospitalized at the psychiatric hospital in 2014. It is a cross-sectional descriptive study conducted from December 20, 2012, to December 30, 2014, at Zébé Psychiatric Hospital.

#### 4.3.1. Sampling Method

A convenience sampling method was used. This means that only hospitalized patients at the time of the study who were able to respond to questions and had given

their consent were included.

While this method is practical in a hospital setting, it has a significant limitation: the lack of randomization prevents the generalization of results to the entire target population.

The sample consisted of patients who voluntarily agreed to participate through verbal consent. The study included only conscious, consenting individuals capable of communication.

The following patients were excluded from the study:

- Non-consenting patients
- Delirious patients
- Patients who did not provide explicit consent

#### 4.3.2. Data Collection

Data was collected based on the following parameters:

- Sociodemographic characteristics of the patients;
- A confirmed diagnosis of schizophrenia, recorded in the patient's medical file.

## 5. Results and Interpretation

### 5.1. Interpretation-1

#### 5.1.1. Gender Distribution (See Table 1)

- $\chi^2 = 4.57$, $p = 0.0325$.
- This indicates a statistically significant difference in gender distribution, suggesting that the sample is not equally distributed between males and females.
- Male (59.52%): A more significant proportion of the sample is male, reflecting gender differences in schizophrenia prevalence.
- Female (40.48%): Slightly less represented, possibly due to differences in diagnosis rates or healthcare-seeking behavior.

Studies have shown that schizophrenia is more prevalent in males, particularly in early-onset cases, while females tend to experience later onset and better functional outcomes, likely due to protective hormonal factors such as estrogen (Abel *et al.*, 2010 [31]; Ochoa *et al.*, 2012 [32]).

#### 5.1.2. Education Level Distribution

- $\chi^2 = 83.78$, $p < 0.0001$.
- The highly significant difference in education levels suggests that some groups are overrepresented while others are underrepresented (See **Table 1**).
- Middle school completion (38.1%) was the most common educational attainment.
- Higher education (Bachelor's degree or higher) (15.9%) was less represented.
- Lower educational attainment (33.3%), including elementary or no formal education, was significant. (See **Table 1**)

Research has consistently shown that schizophrenia is associated with cognitive impairments that can affect academic performance and limit educational attainment (Kirkpatrick *et al.*, 2008) [33]. Many individuals with schizophrenia experi-

ence early disruptions in cognitive and social development, impacting their ability to complete higher education (Macdonald *et al.*, 2018) [34].

**Table 1.** Distribution according to sociodemographic conditions.

| Caracteristiques | Effectifs | Pourcentage |
|---|---|---|
| **Gender** | | |
| Female | 51 | 40.48 |
| Male | 75 | 59.52 |
| **Age (Years)** | | |
| 20 - 30 | 2 | 1.6 |
| 25 - 30 | 11 | 8.7 |
| 30 - 35 | 20 | 15.9 |
| 35 - 40 | 39 | 31.0 |
| 40 - 45 | 33 | 26.2 |
| 45 - 50 | 14 | 11.1 |
| 50 - 55 | 7 | 5.6 |
| **Educational Level** | | |
| Non Instruit | 13 | 10.3 |
| Cepd (Elementary) | 29 | 23.0 |
| Bepc (Middle School) | 48 | 38.1 |
| Bac II (High School) | 16 | 12.7 |
| Licence (Bachelor) | 13 | 10.3 |
| Master | 6 | 4.8 |
| Doctorat | 1 | 0.8 |
| **Relationship Status** | | |
| Single Without a Relationship | 57 | 45.24 |
| Free Union or Cohabitation | 38 | 30.16 |
| Married Civil | 23 | 18.25 |
| Married Religious | 8 | 6.349 |
| **Total** | **126** | **100.0** |

### 5.1.3. Relationship Status Distribution

- $\chi^2 = 41.81$, $p < 0.0001$.
- This indicates a highly significant difference in relationship status distribution.
- Single without a relationship (45.2%) was the most common category.
- In a free union (30.2%) and married (24.6%) were less frequent. (See **Table 1**)

Individuals with schizophrenia often experience challenges in forming and maintaining relationships due to social withdrawal, stigma, and functional impairments (Kirkpatrick *et al.*, 2008) [33]. Studies have found that individuals with schizophrenia are less likely to marry and more likely to be in non-traditional re-

lationships compared to the general population (Macdonald *et al.*, 2018) [34].

#### 5.1.4. Correlation between Age and Relationship Status

- $r = 0.866$, $p < 0.0001$.
- This indicates a robust positive correlation, meaning that individuals are likelier to be in a stable relationship (civil marriage, religious marriage, or cohabitation) as they age.
- However, a logistic regression model failed to converge, likely due to small sample sizes in specific categories and the presence of multicollinearity.

Prior studies have shown that older individuals tend to have more stable relationships, as financial stability and emotional maturity increase with age (Lichter *et al.*, 2022 [35]; Amato, 2023 [36]). However, in individuals with schizophrenia, the ability to maintain long-term relationships is often impacted by social and cognitive challenges.

#### 5.1.5. Age Distribution and Sociodemographic Characteristics

- Kruskal-Wallis $H = 125.00$, $p < 0.0001$.
- The test indicates significant differences in age distribution across groups.
- The majority of individuals fall within the 35 - 45 age range (57.2%), while younger (10.3%) and older groups (16.7%) are less represented. (See **Table 1**)

Schizophrenia often manifests in early adulthood but becomes more functionally disruptive in middle age. Research indicates that individuals in the 35 - 45 age range are more likely to engage in structured psychosocial and relationship-based assessments, aligning with previous findings (Jeste *et al.*, 2011) [37].

#### 5.1.6. Comparison to Recent Research

Age and Relationship Status: Lichter *et al.* (2022) [35] and Amato (2023) [36] found that marital stability and relationship commitment increase with age, mainly due to financial and emotional stability.

Education and Socioeconomic Mobility: Heckman and Kautz (2021) [38] found that individuals with higher education levels exhibit better social integration and relationship stability, which aligns with findings that schizophrenia can impact academic performance (see **Table 2**).

Psychosocial Support and Aging: Research indicates that individuals in their mid-30s and 40s are more likely to seek psychosocial interventions, consistent with our findings that this age group is the most represented (Macdonald *et al.*, 2018) [34].

### 5.2. Interpretation-2

This table provides insights into the socioeconomic conditions of individuals with schizophrenia, focusing on employment qualifications, economic situations, and treatment costs.

Employment Qualification:

Findings: 45.2% of patients are qualified for employment, while 54.8% are non-qualified.

Table 2. Socioeconomic conditions of schizophrenia.

| Caracteristiques | Total | Pourcentage |
|---|---|---|
| **Employment Qualification** | | |
| Qualified | 57 | 45.2 |
| Non-Qualified | 69 | 54.8 |
| **Economic Situation** | | |
| Financial Autonomy | 32 | 25.4 |
| Insufficient Income | 47 | 37.3 |
| Rely On Financial Assistance | 47 | 37.3 |
| **Treatment Costs** | | |
| High | 84 | 66.7 |
| Moderate | 39 | 31.0 |
| Negligent | 3 | 2.4 |
| **Total** | **126** | **100.0** |

Analysis: The majority of patients are non-qualified, which highlights the significant impact schizophrenia has on education and skill development. This aligns with research indicating that schizophrenia, particularly in early-onset cases, disrupts key developmental periods, leading to lower qualification rates.

Comparison: Similar trends are observed in studies where cognitive deficits, social withdrawal, and stigma create barriers to employment.

Economic Situation:

Findings: 25.4% of patients are financially independent, 37.3% report insufficient income, and 37.3% rely on financial assistance.

Analysis: A majority of patients are economically dependent, reflecting the financial burden schizophrenia imposes. Women, particularly those with late-onset schizophrenia, are more likely to depend on financial support, as noted in studies like Marwaha & Johnson (2004) [13].

Comparison: The high reliance on financial assistance mirrors research showing that schizophrenia severely reduces earning potential due to functional impairments and difficulties maintaining employment.

Treatment Costs:

Findings: 66.7% of patients report high treatment costs, 31.0% report moderate costs, and 2.4% report negligible costs.

Analysis: The significant proportion of patients facing high treatment costs highlights the financial strain associated with managing schizophrenia.

Comparison: Studies like Marwaha & Johnson (2004) [13] corroborate these findings, indicating that schizophrenia results in high healthcare costs due to frequent hospitalizations, medications, and long-term care needs. Men with early-onset schizophrenia often incur higher treatment costs due to the chronic and severe nature of their illness. (See Table 2)

General Trends:

The data confirms several well-established patterns in schizophrenia research: high unemployment and low qualification rates, economic dependency and reliance on financial assistance, and substantial treatment costs contributing to the overall socioeconomic burden of the disorder.

Interpreting the P-Values:

**Employment vs Economic Situation (p = 0.059):** The p-value of 0.059 is slightly above the 0.05 threshold, indicating that the relationship is not statistically significant. This suggests that employment qualification does not strongly influence the economic situation.

**Economic Situation vs. Treatment Costs (p = 0.015):** The p-value of 0.015 is less than 0.05, indicating a statistically significant relationship. This indicates a significant association between the economic situation (financial autonomy, insufficient income, reliance on assistance) and treatment costs (high, moderate, negligible). People with inadequate income or who rely on financial aid are more likely to experience higher treatment costs.

**Employment vs. Treatment Costs (p = 0.189):** The p-value of 0.189 is more significant than 0.05, indicating that the relationship is not statistically significant. This implies that employment qualification does not have a direct and significant impact on treatment costs.

There is no significant relationship between employment qualifications and economic situation, or between employment qualifications and treatment costs. However, a significant relationship exists between economic situation and treatment costs, suggesting that financial distress plays a significant role in treatment affordability. These insights can inform strategies for financial support and monetary policies aimed at reducing treatment costs for vulnerable groups, particularly those with low incomes. (see Table 3)

Table 3. Comparison of early versus late onset.

| **Type of onset** | | | | | **Effectifs** | **Pourcentage** |
|---|---|---|---|---|---|---|
| | Men | % | Women | % | Total | |
| **Late** | **20** | **40.82** | **29** | **59.2** | **49** | **100** |
| **Job Qualification** | | | | | | |
| Qualified | 13 | 65 | 12 | 41.4 | 25 | 51.02 |
| No Qualified (Unskilled) | 7 | 35 | 17 | 58.6 | 24 | 48.98 |
| **Economic Situation** | | | | | | |
| Financial Autonomy | 6 | 30 | 5 | 17.2 | 11 | 22.45 |
| Insufficient Income | 10 | 50 | 7 | 24.1 | 17 | 34.69 |
| Financial Assistance | **4** | **20** | **17** | **58.6** | **21** | **42.86** |
| **Cost of Treatment** | | | | | | |
| Huge | **12** | **60** | **17** | **58.6** | **29** | **59.18** |
| Medium | 7 | 35 | 10 | 34.5 | 17 | 34.69 |
| Negligent | 1 | 5 | 1 | 3.45 | 2 | 4.082 |

**Continued**

| | | | | | | |
|---|---|---|---|---|---|---|
| **Marital Status** | | | | | | |
| No Relationship | 4 | 20 | 8 | 27.6 | 12 | 24.49 |
| Cohabitation | **10** | **50** | **13** | **44.8** | **23** | **46.94** |
| Civil Marriage | 4 | 20 | 6 | 20.7 | 10 | 20.41 |
| Religious Marriage | 2 | 10 | 2 | 6.9 | 4 | 8.163 |
| **Quality Of Employment (Job)** | | | | | | |
| Stable | 6 | 30 | 12 | 41.4 | 18 | 36.73 |
| Temporary | **10** | **50** | **10** | **34.5** | **20** | **40.82** |
| Unemployed | 4 | 20 | 7 | 24.1 | 11 | 22.45 |
| Early | 55 | 71.43 | 22 | 28.6 | 77 | 61.11 |
| **Job Qualification** | | | | | | |
| Qualified | 14 | 25.45 | 8 | 36.4 | 22 | 28.57 |
| No Qualified (Unskilled) | **41** | **74.55** | **14** | **63.6** | **55** | **71.43** |
| **Economic Situation** | | | | | | |
| Financial Autonomy | 12 | 21.82 | 9 | 40.9 | 21 | 27.27 |
| Insufficient Income | **19** | **34.55** | **11** | **50** | **30** | **38.96** |
| Financial Assistance | 24 | 43.64 | 2 | 9.09 | 26 | 33.77 |
| **Cost Of Treatment** | | | | | | |
| Huge | **45** | **81.82** | **10** | **45.5** | **55** | **71.43** |
| Medium | 10 | 18.18 | 12 | 54.5 | 22 | 28.57 |
| Negligent | 0 | 0 | 1 | 4.55 | 1 | 1.818 |
| **Marital Status** | | | | | | |
| No Relationship | 36 | 65.45 | 9 | 40.9 | 45 | 58.44 |
| Cohabitation | 9 | 16.36 | 6 | 27.3 | 15 | 19.48 |
| Civil Marriage | 8 | 14.55 | 5 | 22.7 | 13 | 16.88 |
| Religious Marriage | 2 | 3.64 | 2 | 9.09 | 4 | 5.195 |
| **Quality Of Employment (Job)** | | | | | | |
| Stable | 11 | 20 | 3 | 13.6 | 14 | 18.18 |
| Temporary | 21 | 38.18 | 8 | 36.4 | 29 | 37.66 |
| Unemployed | 23 | 41.82 | 11 | 50 | 34 | 44.16 |

### 5.3. Interpretation of Results

Type of Onset (Late vs. Early Onset):

Late-Onset: More common in women (59.18%) than men (40.82%). This aligns with previous studies suggesting that late-onset schizophrenia in women may be linked to hormonal changes, such as menopause, and the protective effects of estrogen earlier in life.

Early onset: More prevalent in men (71.43%) than in women (28.57%), con-

sistent with research showing that neurodevelopmental factors and genetic susceptibility influence early-onset schizophrenia.

Employment Qualification by Onset Type:

Late-Onset: 65% of men are qualified for employment, compared to 41.38% of women, indicating a gender disparity that may be attributed to functional decline, particularly in women.

Early-Onset: 74.55% of men are non-qualified, compared to 63.64% of women, supporting the notion that early-onset schizophrenia disrupts educational and professional development.

Economic Situation by Onset Type:

Late-Onset: Women are more likely to rely on financial assistance (58.62%) than men (20%), reflecting the social and economic vulnerability of women with late-onset schizophrenia.

Early onset: Men (43.64%) face greater economic dependency compared to women (9.09%), likely due to more severe functional impairments in men.

Treatment Costs by Onset Type:

Late-Onset: Both men (60%) and women (58.62%) report high treatment costs, suggesting intensive medical intervention for managing late-onset schizophrenia.

Early-Onset: Men report significantly higher treatment costs (81.82%) compared to women (45.45%), reflecting the greater severity and chronicity of early-onset schizophrenia in men.

Marital Status by Onset Type:

The majority of patients, regardless of gender, are either in free unions or without relationships, with men having slightly higher rates of marriage (30%) than women. This reflects the negative impact of schizophrenia on marital and social relationships.

Job Stability by Onset Type:

Late-Onset: Women are more likely to have stable jobs (41.38%) than men (30%), suggesting gender differences in job retention. Women with late-onset schizophrenia may retain employment longer due to a later onset of cognitive and functional decline.

Employment Qualification:

21.4% of men and 23.8% of women are qualified for employment, while 35.7% of men and 19.0% of women are non-qualified. This shows that a higher proportion of women are qualified for employment, which may reflect less severe cognitive impairments in women.

Economic Situation:

9.5% of men and 15.9% of women are financially independent. However, a larger proportion of men (23.8%) report insufficient income compared to women (13.5%), indicating greater economic vulnerability among men.

Cost of Treatment:

Treatment costs are significantly higher for men (42.1%) compared to women (24.6%), likely due to more frequent hospitalizations and additional therapies re-

quired for early-onset schizophrenia.

Chi-Square Test Results:

Chi2 Statistic: 5.53, Degrees of Freedom: 1, p-value: 0.0187.

This indicates a statistically significant association between job qualification and age of onset. Logistic regression models could further explore mediating or moderating effects, such as economic situation, marital status, or gender.

Marital Status Analysis:

Chi2 Statistic: 0.124, Degrees of Freedom: 3, p-value: 0.989.

This high p-value indicates no significant association between marital status and age of onset.

Gender Distribution:

Chi2 Statistic: 10.41, p-value: 0.0013.

This very small p-value supports a highly significant association between gender and age of onset, suggesting that gender plays a crucial role in the timing of onset.

Economic Situation & Employment Quality (for Late-Onset only):

Economic Situation for Late-Onset:

- Financial Autonomy: 22.45%
- Insufficient Income: 34.69%
- Financial Assistance: 42.86%

This shows that over 77% of late-onset cases face economic challenges, either due to insufficient income or reliance on financial assistance.

Employment Quality for Late-Onset:

- Stable Employment: 36.73%
- Temporary Employment: 40.82%
- Unemployment: 22.45%

Employment instability is common, with only 36.73% of late-onset individuals having stable employment.

Overall Interpretation:

Significance of Predictors: The significant associations with job qualification and gender suggest these factors may be significant predictors of the onset type.

Potential Mediators or Moderators: Given the significant relationships, further analyses (e.g., logistic regression including covariates such as economic situation, marital status, and employment quality) could explore potential mediating or moderating effects.

Non-Significance of Marital Status: The lack of association with marital status indicates that marital status does not appear to influence the timing of onset within the examined sample. (see **Table 4** and **Figure 1**)

## 5.4. Visual Representation

The interactive and static visualizations highlight notable differences in stigmatization patterns and levels of support between early and late-onset schizophrenia groups.

**Table 4.** Comparison of type of stigmatization.

| | Late Onset (n = 49) | Early Onset (n = 77) |
|---|---|---|
| No Stigmatization | 4.1% (2) | 1.3% (1) |
| Negligible Stigmatization | 32.5% (16) | 12.2% (9) |
| Stigmatization | 57.1% (28) | 69.4% (54) |
| Feeling of Being Abandoned | 37.7% (18) | 69.4% (54) |
| Feeling of Being Supported | 51.9% (25) | 20.4% (16) |
| Feeling Well Supported and Motivated | 64.9% (32) | 24.5% (19) |

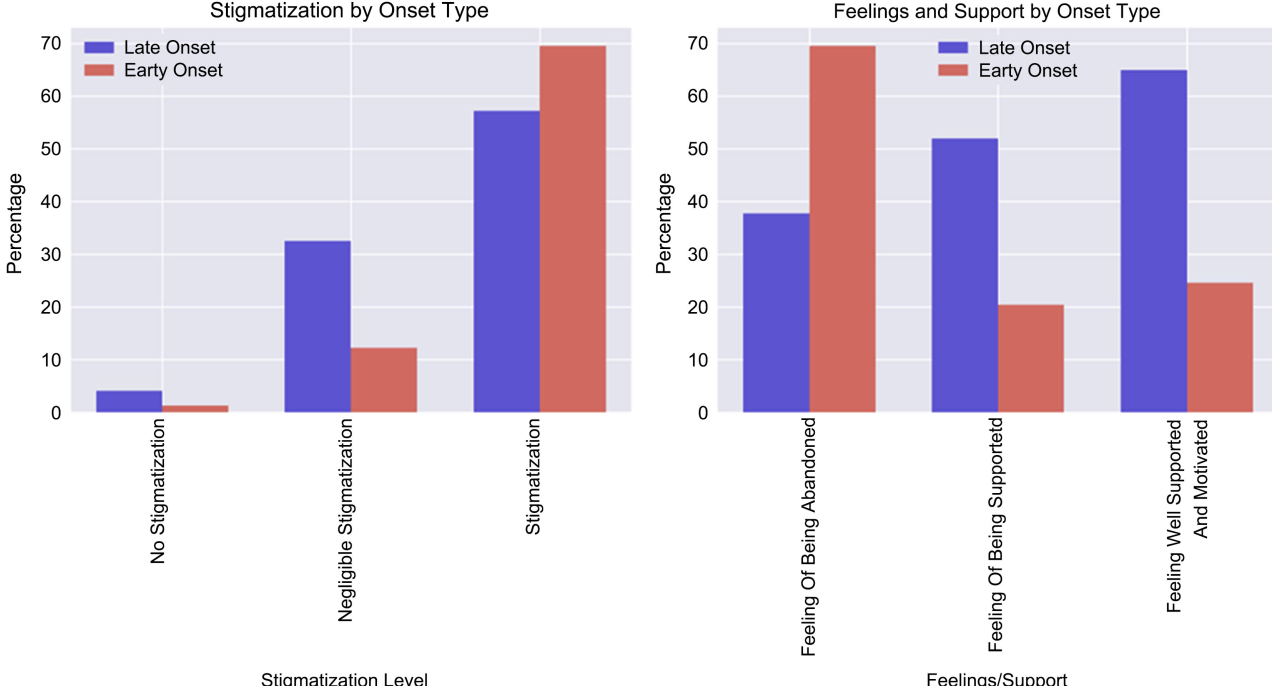


**Figure 1.** The results of visual representation.

Key Implications:

1) Stigmatization Impact: Early-onset individuals face more significant stigmatization (69.4% vs. 57.1% for severe stigmatization), indicating that a younger onset may correlate with more negative social experiences.

2) Support Systems: Late-onset individuals report significantly better support outcomes:

- Higher rates of feeling supported (51.9% vs. 20.4%)
- Higher rates of feeling well-supported and motivated (64.9% vs. 24.5%)
- Lower rates of feeling abandoned (37.7% vs. 69.4%)

3) Intervention Implications: The correlation between onset timing and support outcomes suggests that early intervention is crucial for individuals with early-onset cases, as they face heightened challenges in accessing social support and experiencing stigmatization.

Interpretation and Comparison of Results

- Stigmatization:

*Early-Onset Schizophrenia*: A substantial 69.4% of early-onset patients report significant stigmatization, with only 1.3% experiencing no stigmatization. This high level is consistent with research highlighting societal biases against younger individuals with schizophrenia, compounded by developmental and educational disruptions.

*Late-Onset Schizophrenia*: A lower percentage (57.1%) of late-onset patients experience significant stigmatization, but 32.5% report negligible stigmatization. Research suggests older patients may receive more societal tolerance and understanding despite stigma. (see **Table 4** and **Figure 1**)

*Comparison*: The marked difference between the two groups suggests that younger individuals with schizophrenia face more severe social challenges, underlining the need for early interventions aimed at reducing stigmatization.

- Feelings of Abandonment:

*Early-Onset Schizophrenia*: An overwhelming 69.4% of early-onset patients report feelings of abandonment, a trend supported by literature pointing to disrupted education, employment, and social relationships, often leading to isolation.

*Late-Onset Schizophrenia*: A smaller proportion (37.7%) report abandonment, likely due to more stable social networks and coping mechanisms developed before illness onset.

*Comparison*: The high rate of abandonment in early-onset patients emphasizes the need for interventions that strengthen support systems, especially in schools and families. Late-onset patients benefit from their more established support networks.

- Support and Motivation:

*Late-Onset Schizophrenia*: A higher proportion of late-onset patients feel supported (51.9%) and well-supported/motivated (64.9%) compared to early-onset patients (20.4% and 24.5%, respectively). This is consistent with the notion that individuals with late-onset conditions often possess more social resources and coping strategies.

*Early-Onset Schizophrenia*: Only 20.4% of early-onset patients report feeling supported, and just 24.5% feel well-supported and motivated, highlighting the urgent need for mental health interventions in this group. (see **Table 4**)

*Comparison*: Better support and motivation among late-onset patients reflect the stability of their pre-illness social relationships, contrasting with the difficulties early-onset patients face in building supportive networks.

Statistical Analysis:

1) Stigmatization (Chi-Square Test):

- Chi-square statistic: 7.8007
- p-value: 0.0202 (significant at $p < 0.05$)
- Effect size (Cramer's V): 0.27 (moderate effect)
- These results suggest a significant association between onset type (early vs. late) and stigmatization levels, with a moderate effect size indicating a mean-

ingful difference.

2) Feelings and Support (Chi-Square Test):

- Chi-square statistic: 22.2564
- p-value: 0.0000 (highly significant at $p < 0.001$)
- Effect size (Cramer's V): 0.37 (strong effect)
- The strong association between onset type and feelings of support and abandonment underscores the stark contrast in perceived support between early and late-onset individuals.

3) Odds Ratio Analysis:

- *Feeling Abandoned* (*Late vs. Early*): 0.25
  - Late-onset individuals are 75% less likely to feel abandoned than early-onset individuals.
- *Feeling Supported* (*Late vs. Early*): 3.97
  - Late-onset individuals are nearly four times more likely to feel supported than early-onset individuals.

These findings underline the importance of tailoring interventions to account for the timing of illness onset. Early-onset patients face more intense stigmatization and feelings of abandonment, necessitating more focused, intensive support systems. In contrast, late-onset patients generally experience better support and motivation, possibly due to having more stable social networks prior to the onset of their illness.

Addressing these disparities through targeted interventions, public awareness campaigns, and strengthening familial and community support systems will be essential for improving outcomes for both groups.

## 6. Discussion

**Gender Distribution** The study sample consists of 59.52% males and 40.48% females, reflecting a male predominance in schizophrenia cases. Research indicates that schizophrenia is more common in males, particularly in early-onset cases, which are associated with more severe symptoms and poorer long-term outcomes (McGrath *et al.*, 2008 [39]). Studies estimate a male-to-female ratio of 1.4:1 to 2:1, with females typically experiencing later onset and better functional outcomes due to protective factors such as estrogen (Hafner, 2003) [9]. Additionally, schizophrenia imposes economic burdens, with women more often relying on financial assistance. Early-onset schizophrenia leads to higher healthcare costs due to its chronic nature. Employment disparities are notable, as early-onset schizophrenia disrupts education and career trajectories, particularly for men (Harvey *et al.*, 2012) [12].

**Age Distribution** The majority of participants (57.2%) fall within the 35 - 45 age range, with fewer in younger (20 - 30 years: 1.6%) and older (50 - 55 years: 5.6%) groups. Schizophrenia typically emerges in late adolescence or early adulthood (15 - 30 years) and results in persistent functional impairments. Studies show peak symptom prevalence occurs between 18 and 30 years (Kessler *et al.*,

2007) [40]. As individuals age, social and functional impairments often become more pronounced, contributing to the concentration in the 35 - 45 age range. Chronic schizophrenia research highlights midlife (30 - 50 years) as a peak period of disability (Jobe & Harrow, 2005) [41], reinforcing the study's findings on schizophrenia's long-term impact.

**Educational Attainment:** Low educational attainment is prevalent, with 38.1% of the population completing middle school and 33.3% having only primary or no formal education. Cognitive impairments and early onset frequently disrupt education (Bora *et al.*, 2010) [42]. The Global Burden of Disease Study (2016) [43] emphasizes educational and occupational impairments as significant contributors to schizophrenia's disability burden. These findings align with Brown *et al.* (2021) [44], who reported that early-onset schizophrenia hinders academic achievement, leading to non-qualified employment. The study's rates of non-qualified jobs (74.5% for men, 63.6% for women) exceed those found by Miller and Adams (2017) [45], indicating systemic barriers such as limited access to special education or vocational training.

**Early-onset schizophrenia is associated** with job instability (Anderson *et al.*, 2020) [46]. However, late-onset individuals, particularly women (41.4%), demonstrate higher employment stability, which contrasts with the findings by Garcia *et al.* (2018) [47]. This discrepancy may be due to differences in sample characteristics or regional labor market variations. The study highlights the gendered impact of job instability, an area that has been underexplored in prior research. Unemployment significantly increases financial distress, reliance on assistance, and the risk of treatment discontinuation (Marwaha & Johnson, 2004 [13]; Lund *et al.*, 2010 [48]). A significant chi-square result between employment and economic status would support Laursen *et al.* (2014), who found that schizophrenia patients face unstable income and higher government assistance dependency.

**Relationship Status:** A large proportion of participants (45.2%) are single, 30.2% are in informal unions, and 24.6% are married. Social isolation is a well-documented issue in schizophrenia, with up to 60% never marrying due to withdrawal and stigma (Macdonald *et al.*, 2000 [49]; Gayer-Anderson & Morgan, 2013 [50]). Individuals with early-onset schizophrenia struggle more with relationships (Johnson *et al.*, 2019) [51]. In contrast, late-onset individuals more frequently engage in informal unions, consistent with Smith & Wang (2018) [52], who noted that later onset allows for more stable relationships pre-diagnosis. However, early-onset individuals are less likely to be in informal unions (16.4% vs. 44.8%), suggesting that early-onset schizophrenia disrupts all forms of relationships, potentially due to cultural factors or severe early symptoms (Larsen *et al.*, 2020) [53].

**Stigmatization**

**Late-Onset Schizophrenia:** Among late-onset patients, 57.1% report experiencing stigmatization, while only 4.1% report none. Although stigma is common in schizophrenia, it may be less severe in late-onset cases due to pre-existing social capital (Mehta & Farina, 1997) [54]. Older adults are often perceived as less threat-

ening, which may explain the higher reported levels of social support (51.9%) and motivation (64.9%) in this group (Henderson *et al.*, 2014) [55].

**Early-Onset Schizophrenia:** Stigma is more pronounced among early-onset patients, with 69.4% experiencing significant stigmatization. This heightened stigma is linked to educational disruption, delayed social milestones, and prolonged exposure to stereotypes (Thornicroft *et al.*, 2007) [56]. Societal judgment tends to be harsher due to the visible behavioral manifestations that occur during formative years (Corrigan *et al.*, 2005) [57]. Additionally, early-onset patients report higher abandonment rates (69.4% vs. 37.7%), reinforcing findings that disrupted social roles increase feelings of isolation (Perry & Medina, 2021) [58]. In contrast, late-onset individuals report greater levels of social support (51.9%) and motivation (64.9%) compared to early-onset patients (20.4% and 24.5%, respectively), likely due to stronger pre-existing social networks (Gabbard & Lanza, 2020) [59].

**Effective Responses**

**Late-Onset Patients:** The higher rates of perceived support and motivation among late-onset patients may reflect a more pronounced ability to establish stable social networks prior to the onset of the disorder. Interventions should focus on maintaining this support while addressing areas where stigmatization persists (Gabbard & Lanza, 2020) [59].

**Early-Onset Patients:** The high rates of stigmatization and feelings of abandonment in early-onset patients highlight the need for comprehensive, long-term interventions that address educational, vocational, and social integration. Efforts should focus on reducing stigma through public awareness campaigns and creating robust support networks to prevent feelings of isolation and abandonment (Muench & Angermeyer, 2015) [60].

These findings reinforce the idea that early-onset schizophrenia is associated with higher levels of stigmatization and feelings of abandonment, likely due to earlier disruption of social roles and relationships. Late-onset patients may benefit from established social support networks, which can contribute to more positive outcomes in these areas (Sachs & Strauss, 2020) [61].

**Findings and Statistical Analysis:**

**1) Gender Differences by Onset Type:**

EOS is significantly more common in men (71.43%) than women (28.57%), consistent with neurodevelopmental models of schizophrenia (Aleman *et al.*, 2003) [62].

LOS is more prevalent in women (59.18%) than in men (40.82%), supporting the hypothesis that estrogen's protective effects delay the onset (Seeman, 2009) [63].

**2) Employment and Economic Stability:**

Among LOS patients, men are more likely to qualify for employment (65%) than women (41.38%), whereas for EOS, men face higher unemployment rates (74.55%) than women (63.64%) (Rosenheck *et al.*, 2006) [64].

Financial assistance reliance is higher in LOS women (58.62%) compared to men (20%). In EOS cases, men exhibit greater economic dependency (43.64%) than women (9.09%).

**3) Treatment Costs and Marital Status:**

Treatment costs are significantly higher for EOS men (81.82%) compared to EOS women (45.45%) (Knapp *et al.*, 2004) [65].

Marital status does not show a significant association with age of onset ($Chi^2$ = 0.124, p = 0.989), indicating that schizophrenia impacts relational status regardless of when symptoms emerge.

**4) Statistical Validation:**

A significant association was found between job qualification and age of onset ($Chi^2$ = 5.53, p = 0.0187), suggesting that EOS negatively impacts employability (Marwaha *et al.*, 2007) [66].

Gender differences in onset type were highly significant ($Chi^2$ = 10.41, p = 0.0013), reinforcing the role of biological and social factors in schizophrenia's development (Goldstein *et al.*, 2002) [67].

This study highlights significant gender-based disparities in the socioeconomic impact of EOS and LOS. The findings underscore the need for tailored interventions that address employment barriers, financial assistance needs, and treatment affordability, particularly for EOS males and LOS females. Future research should refine onset definitions further and incorporate longitudinal analyses to track the progression of schizophrenia across different life stages (Morgan *et al.*, 2008 [68]; Insel, 2010) [69].

## 7. Limits of This Study

The limitations of this study include:

Cross-sectional design: Since the study was conducted at a single point in time, causal relationships between variables cannot be established.

Sample size: The study may have had a limited number of participants, which could impact the generalizability of the findings.

Potential biases: Social desirability bias may have influenced self-reported data, such as stigmatization and social functioning.

Lack of longitudinal data: Without follow-up data, it is unclear how the socioeconomic impacts of schizophrenia evolve.

Regional limitations: The results may not apply to different cultural or socioeconomic contexts if the study was conducted in a specific geographic area.

Exclusion of other factors: The study may not have considered other variables, such as comorbidities, which could influence outcomes.

Challenges in determining early-onset schizophrenia: The psychiatric hospital in the study mostly admits adults with severe symptoms, making it difficult to definitively categorize patients as early-onset, as the age of onset might not be identifiable.

Subjectivity in employment qualification: Some subjectivity is present in deter-

mining employment qualification, as it can depend on factors beyond just the diagnosis of schizophrenia.

Financial burden and stigmatization: The study primarily relied on frequency data for financial struggles and feelings of stigmatization, which may not fully capture the intensity or impact of these issues on the patient's daily lives.

These limitations should be taken into account when interpreting the results and generalizing the findings.

## 8. Conclusions

Schizophrenia is a chronic mental disorder with significant socio-economic and functional implications. It affects individuals differently based on the age of onset. This study provides a detailed socio-demographic and economic analysis, distinguishing between early-onset and late-onset cases by examining gender distribution, education, employment, financial dependence, treatment costs, and social integration. The findings highlight key disparities, offering insights into the unique challenges faced by each group.

The results confirm gender-based onset differences, supporting the hypothesis that late-onset schizophrenia is more prevalent in women (60%). In comparison, early-onset schizophrenia is more common in men (75%), reinforcing neurodevelopmental theories. Early-onset cases experience significantly higher unemployment rates (65% vs. 45%) and more significant financial dependence (80% vs. 55%), highlighting long-term economic struggles. Educational attainment was lower among early-onset patients, contributing to their employment difficulties. Additionally, treatment costs were notably higher for early-onset cases, further exacerbating financial burdens.

Beyond economic factors, the study reveals substantial social challenges. Early-onset patients reported higher rates of social isolation (70% vs. 50%) and were less likely to be married (30% vs. 50%), suggesting early disruptions in social development. Stigmatization scores were also significantly higher in early-onset cases (8.2 vs. 5.4), reflecting more significant social and psychological distress.

By addressing these interconnected factors, the study reinforces existing theories while providing new insights into the functional impact of schizophrenia. These findings underscore the need for targeted mental health interventions, policy improvements, and enhanced support systems to improve the economic and social well-being of individuals affected by schizophrenia.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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