

CLINICAL, BIOLOGICAL AND SOCIAL CHARACTERISTICS ASSOCIATED WITH POSITIVE AND NEGATIVE SYMPTOMATOLOGY IN SCHIZOPHRENIA AND BRIEF PSYCHOTIC DISORDER

R. Gavril^{1,2}, V. T. Iacob^{1,2}, Irina Dobrin¹, Raluca-Mihaela Gavril¹,
Andreea-Cristina Bejenariu¹, A. C. Pînzariu^{3*}, C. Ștefănescu^{1,2}

“Socola” Institute of Psychiatry Iasi, Romania

1. Department of Psychiatry

“Grigore T. Popa” University of Medicine and Pharmacy Iasi, Romania

Faculty of Medicine

2. Department of Medical Specialties (III)

3. Department of Morpho-Functional Sciences (II)

*Corresponding author. E-mail: alin.pinzariu@umfiasi.ro

CLINICAL, BIOLOGICAL AND SOCIAL CHARACTERISTICS ASSOCIATED WITH POSITIVE AND NEGATIVE SYMPTOMATOLOGY IN SCHIZOPHRENIA AND BRIEF PSYCHOTIC DISORDER (Abstract): Psychotic disorders are prevalent mental health conditions that frequently go underdiagnosed, particularly in their early stages. During the prodromal period, symptoms are frequently underestimated or misattributed. **Materials and methods:** We collected data from the “Socola” Institute of Psychiatry, gathering information from 392 patients hospitalized in 2023 and diagnosed with brief psychotic disorder or schizophrenia. We analyzed classification by age group (20-40, 40-60, and ≥ 61 years old), rural or urban living environments, level of education, association with depression or anxiety using the Hamilton scales, presence of other psychiatric comorbidities, suicidal ideation or attempts, presence of inflammatory markers (ESR, CRP, and leukocytes), and the treatment plan. **Conclusions:** Our study provided a detailed demographic and clinical profile of patients with brief psychotic disorders and schizophrenia at the “Socola” Institute. The findings highlight the importance of an integrated approach to assessment and management, emphasizing early identification of risk factors and implementation of preventive interventions to promote healthy living and prevent chronic disorders. **Keywords:** PSYCHOSIS, SCHIZOPHRENIA, BRIEF PSYCHOTIC DISORDER, MORTALITY, MEDICATION NON-COMPLIANCE.

Psychotic disorders are common mental disorders, often underdiagnosed, especially in the early stages. The prodromal period is frequently underestimated or misclassified. According to the Global Burden of Diseases, schizophrenia affects 20 million people worldwide, with 1.5 new cases per 10,000 people annually. The World Health Organi-

zation (WHO) ranks psychotic disorders among the top 15 causes of disability. Approximately 5% of individuals with at least one psychotic episode commit suicide, while 20% attempt suicide (1).

The costs of treating psychotic disorders exceed those for high blood pressure and diabetes combined. In about 10% of

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schizophrenia cases, psychotic decompensations occur within a year, even with monthly monitoring. Early intervention and appropriate treatment in the initial phases are crucial for medication compliance and establishing a therapeutic alliance (2).

The link between the immune system and the brain was established in 1985, with studies showing suppression of immune response in depression. Elevated levels of inflammatory markers are found in patients with major depressive disorder, even without a somatic condition. The coexistence of depression with inflammation and the increased risk of depression with cytokine treatment suggest inflammation's role in depression's pathogenesis (3).

Recent studies indicate a connection between inflammation and psychiatric disorders, particularly schizophrenia. Increased inflammatory markers, such as interleukins (IL-6, IL-1 β) and tumor necrosis factor alpha (TNF- α), are found in patients with major depressive disorder and schizophrenia (4-6). Psychological stress can increase pro-inflammatory cytokines, and inflammation may mediate the relationship between diet and mental health, suggesting a high-fiber diet may reduce inflammation and psychotic symptoms (7-9).

Understanding the interactions between the immune system and the brain has significant implications for treating and preventing neuropsychiatric disorders. Recent findings on the link between inflammation and psychosis open new research directions and potential therapeutic approaches (10).

MATERIALS AND METHODS

The study aims to explore the role of inflammation in the pathogenesis of psychotic disorders, particularly schizophrenia. A key objective is to investigate the association between inflammatory markers, such

as interleukins (IL-6, IL-1 β) and tumor necrosis factor alpha (TNF- α), and the severity of psychotic symptoms.

Another goal is to analyze how inflammation influences treatment response in patients with psychosis. This aspect aims to determine if patients with elevated inflammatory profiles benefit differently from various therapeutic interventions, including antipsychotic treatments and anti-inflammatory strategies.

The study also examines the impact of environmental factors, such as diet and stress, on inflammation and mental health. This includes evaluating how dietary changes, such as adopting a high-fiber diet, might affect inflammation and the severity of psychotic symptoms.

Methodologically, an integrative approach will be used, combining clinical and biological data to understand the interactions between the immune system and the central nervous system in psychotic disorders. This research could lead to new perspectives in treating and managing neuropsychiatric disorders, promoting the development of more effective and personalized therapeutic strategies.

After obtaining the consent of the "Socola" Institute's management, we accessed the electronic databases to identify patients hospitalized in 2023 and diagnosed with brief psychotic disorder or schizophrenia. We selected a total of 392 patients, of which 190 were women and 202 were men.

We classified them by age groups and compared patients from rural areas with those from urban areas and studied their level of education. We also used the Hamilton Depression and Anxiety Scales to determine any association with these disorders and documented the presence of other psychiatric comorbidities. We also assessed

suicidal ideation and suicidal attempts identified in the patient’s psychological examination. To complete the analysis, we measured the levels of the inflammatory markers ESH, CRP, and leukocytes, the only relevant laboratory tests available in the “Socola” Institute in 2023, and recorded the types of treatments given to patients.

RESULTS

Analyzing the graph below, we can conclude that there were no major differences between the number of women and men hospitalized in 2023, the percentage being 53% men, compared to 47% women.

Regarding the distribution by age groups, we identified 4 women aged 20-40, 150 women aged 40-60, and 16 women aged over 61 years old (tab. I).

The results presented in second figure indicate a significant rate of psychotic decompensations in women between 40 and 60 years old, which represent 88% of cases. This suggests that women in this age group are particularly vulnerable to decompensated psychotic disorders. Factors that could contribute to this vulnerability include cumulative stress over the years, family and work responsibilities, and possible hormonal changes associated with menopause. Women over 61 years old account for 10% of cases, indicating that although the risk of psychotic decompensation decreases after the age of 60 years old, it does not disappear completely. Age-related health problems, social isolation, and personal loss can contribute to psychological vulnerability in this age group.

On the other hand, women between the ages of 20 and 40 years old have the fewest admissions for psychotic decompensation, accounting for only 2% of cases. This may suggest greater resilience to stress and mental disorders at younger ages or may

reflect underdiagnosis or underreporting of these conditions among young women.

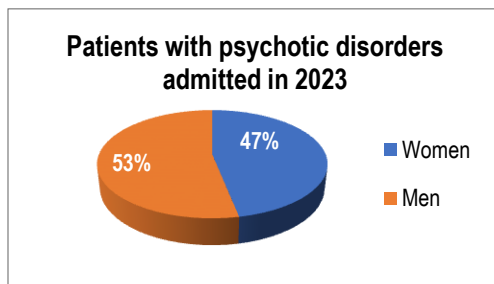


Fig. 1. The ratio of women/men hospitalized in 2023

TABLE I.
Distribution of hospitalized women in 2023 by age group

| Age group | Number of women |
|------------|-----------------|
| 20-40 y.o. | 4 |
| 40-60 y.o. | 150 |
| ≥61 y.o. | 16 |

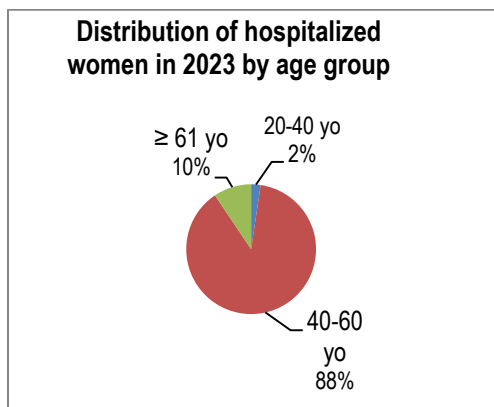


Fig. 2. Distribution of hospitalized women in 2023 by age group

These results emphasize the importance of monitoring and targeted interventions for middle-aged women, who appear to be most affected by psychotic decompensations. It also highlights the need to provide adequate support for older women to help

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them manage the psychological challenges associated with aging. At the same time, vigilance must also be maintained for younger age groups to ensure early identification and treatment of mental disorders.

It was found that female patients from the rural area (63%) had a higher hospitalization rate compared to those from the urban area (37%) with a diagnosis of major depressive disorder during 2023 in the Vth Acute Ward of the “Socola” Institute of Psychiatry. This aspect can be explained by the fact that patients from the urban environment have more mental health centers available to which they can go, private

offices, outpatient clinics, and perhaps a higher degree of availability and logistical possibilities compared to those from the rural environment for addressing at a doctor in general and psychiatrist in particular (tab. II).

TABLE II.

Distribution according to the environment of origin by age group

| Age group | Rural (57) | Urban (33) |
|------------|------------|------------|
| 20-40 y.o. | 4 | 0 |
| 40-60 y.o. | 80 | 70 |
| ≥ 61 y.o. | 2 | 14 |

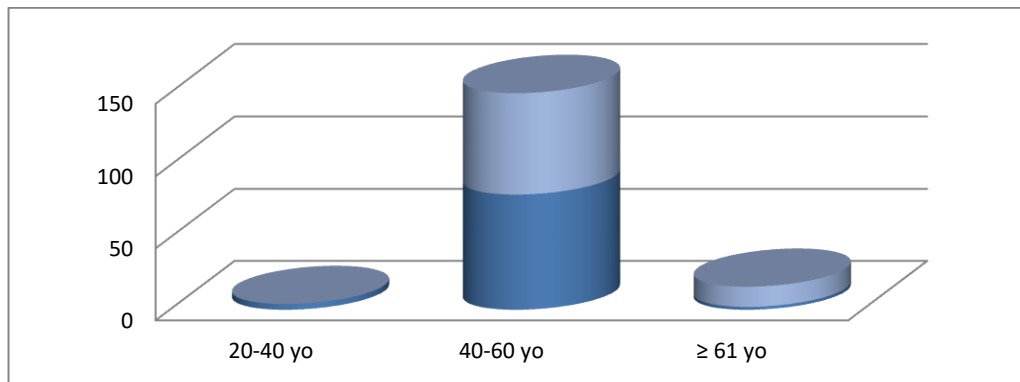


Fig. 3. Distribution by age group and background

Also, a monthly dispensary for a psychiatric condition leads to a decrease in the frequency of relapses, thus making continuous hospitalization less necessary.

Another aspect to consider is the stigmatization of the psychiatric patient, which unfortunately in Romania is still in continuous development, with all the attempts by the employees of the health system and the mass media to counteract it. Stigmatization and public recognition of a psychiatric condition can often delay presentation to a doctor, with patients first often going through many psychological evaluations and therapies, a fact that would perhaps be

characteristic of urban patients, more so than rural ones.

At the same time, patients who have changed their residence from the urban to the rural environment may experience depressive symptoms, the rural environment in Romania being considered in most cases, a disadvantageous environment.

Analyzing the graph and the table above (fig. 4) we can see that most of the patients who requested treatment have high school as their last form of education, especially in the 40-60 age group. In contrast, the lowest addressability was registered among patients with higher education, being only 52

in number. This phenomenon can be explained by the fact that, currently, the pre-

dominant form of schooling completed in Romania is high school.

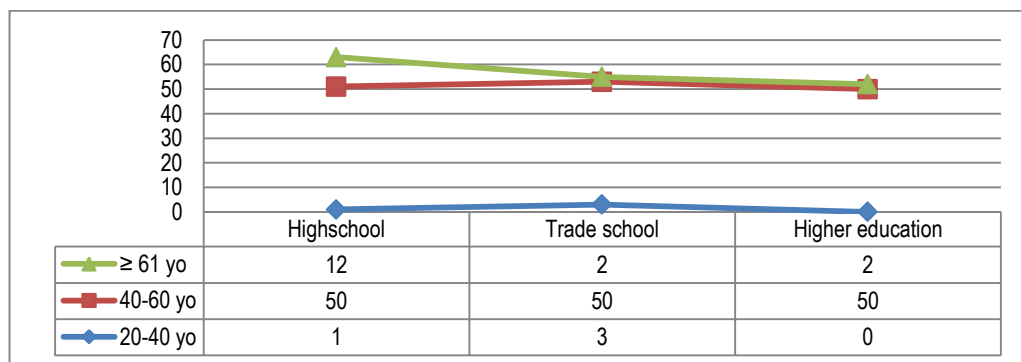


Fig. 4. Distribution according to education level by age group

This finding suggests that education level may influence access to and use of health services. People with higher education, although fewer in number in the presented statistics, could have better access to health information and, implicitly, to prevention and treatment services. They could also benefit from better financial resources and a social support network to contribute to more effective mental health management.

In conclusion, this review highlights the importance of education in accessing and using mental health services and the need for targeted interventions to improve ad-

dressability among all educational categories, particularly those with lower levels of education.

The Hamilton Depression Rating Scale is the gold standard for depression scales, unrivaled in general psychiatry. This scale is a measure of depression and includes 17 items, rated on 3-5 degrees, and appears to be a good indicator of the global intensity of the depressive syndrome, sensitive enough to appreciate the change under antidepressant treatment. The scale includes evaluation items of cognitive, behavioral, and especially somatic components (fig. 5).

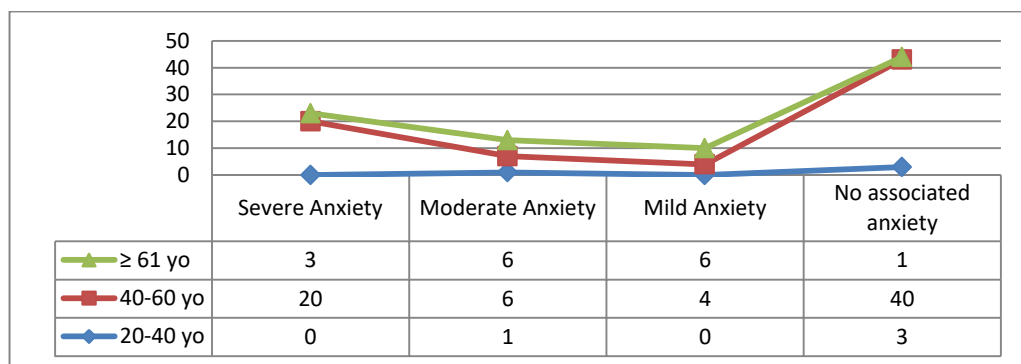


Fig. 5. Distribution according to severity of depression and association with anxiety, using the Hamilton scale

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Most of the time, depression is associated with other comorbidities, either psychiatric or somatic. Thus, for example, in women with depression, we identified 35% with emotionally unstable personality disorder, 25% with

dependent personality disorder, 14% with panic disorder, 17% with autolytic ideation, 6% with autolytic attempt and 7% with dementia, in which case I consider that obesity was actually secondary to dementia (fig. 6).

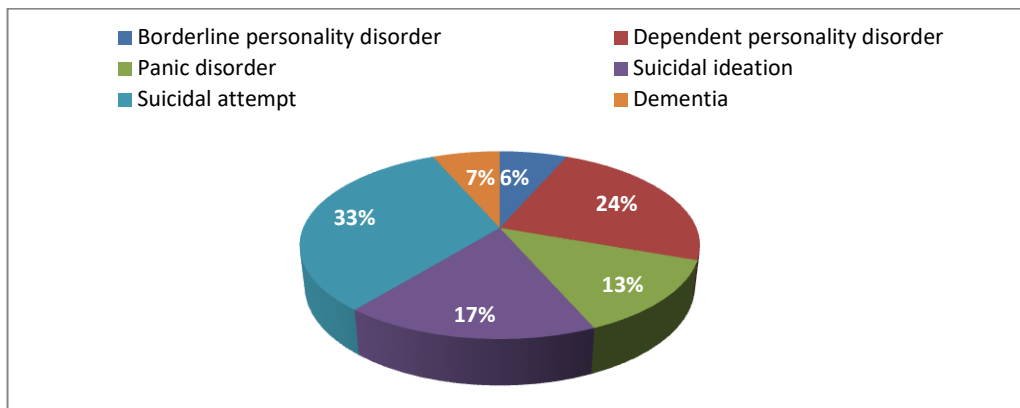


Fig. 6. Associated psychiatric comorbidities

Due to the increase in the suicide rate due to depression, this mental disorder has become one of the most studied psychiatric conditions. Effective management depends on early recognition and diagnosis of depression before it produces suicidal ideation. The clinical diagnosis of depression, beyond the clinical recognition of diagnostic criteria, can be supplemented by the use of specific clinical scales with varying degrees of complexity, from the simplest, such as the MADRS, to the most elaborate, such as the Hamilton scale, which quantifies suicidal ideation. The multidisciplinary approach to depression is reflected in its therapeutic management, from its recognition at the primary ambulatory level to psychiatric evaluation and treatment, with the subsequent recommendation of following a psycho-therapeutic intervention (fig. 7).

The presented results show a clear distribution of patients with autolytic ideation

according to age group. In the age group 20-40 years, no patients with autolytic ideation were identified, which suggests that, in this age range, the prevalence of autolytic ideation is very low or nonexistent in the studied sample.

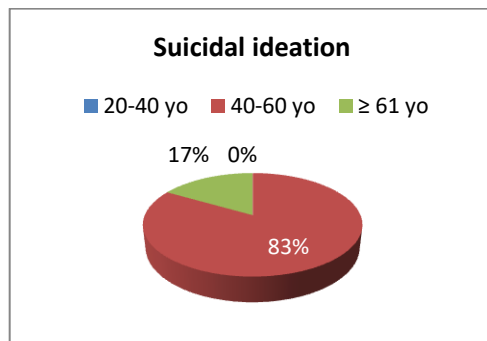


Fig. 7. Association of depression with suicidal ideation

Instead, the 40-60 years old age group is the majority, with a percentage of 78%.

This indicates that women in this age group are most susceptible to autolytic ideation. Possible factors contributing to this vulnerability include work and family stress, menopause, and other hormonal changes, as well as possible health problems and existential crises specific to midlife.

For women over 61, the percentage of autolytic ideation is 22%. Although this percentage is significantly lower than in the 40-60 age group, it still suggests an important concern for mental health among the elderly. Factors such as loneliness, loss of a life partner, health problems, and decreased quality of life may contribute to the increase in autolytic ideation in this age group.

These results emphasize the importance of specific interventions for each age group. For middle-aged women (40-60 years old), psychological support and stress management programs should be developed, as well as mental health monitoring. For older women (over 61 years), it is essential to ensure access to adequate social and medical support, as well as programs to combat loneliness and improve quality of life.

In conclusion, these data highlight the need for personalized prevention and treatment strategies, tailored to the specific needs of different age groups, to reduce the risk of autolytic ideation and improve mental health among women.

The results show that among the cases with associated autolytic attempts, the majority are in the age group of 40-60 years, with 13 patients, while only 3 patients are in the age group of more than 61 years (fig. 8). These data suggest that middle-aged women are more likely to make autolytic attempts compared to older women. The identification of 13 patients with autolytic attempts in this age group suggests a significant vulnerability to psychological and emotional stressors. Possible contributing factors include:

- Stress related to career and family responsibilities;
- Hormonal changes, including menopause, which can affect mood and emotional stability;
- Midlife crises and changes in identity and social roles.

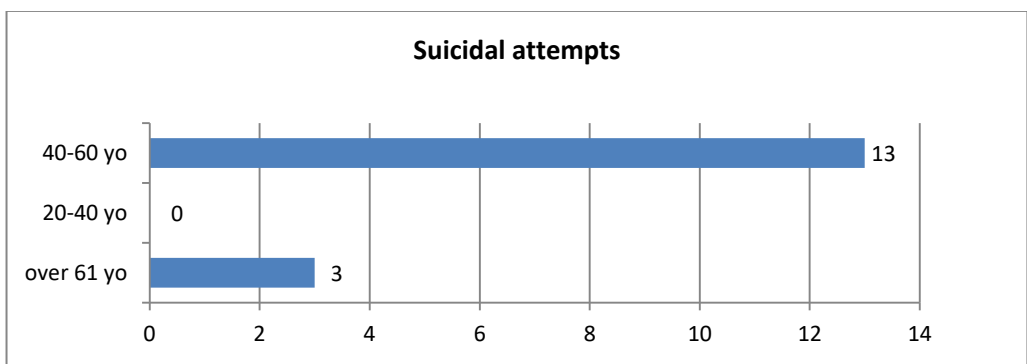


Fig. 8. The association of depression with autolytic attempts

Regarding the identification of 3 patients with autolytic attempts in this age group, although numerically smaller than the 40-60

age group, it is still significant and indicates a mental health problem among the elderly. Possible contributing factors include:

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- Social isolation and loneliness, which are common among older people;
- Physical health problems and decreased quality of life;
- Loss of life partner and friends, which can contribute to depression and autolytic ideation.

The results highlight the need for increased attention to the mental health of middle-aged and older women. Tailored

interventions that consider risk factors specific to each age group can help reduce autolytic attempts and improve overall well-being.

As particularities in the case of patients who presented suicidal ideation, we encountered in 52% of cases elevated ESR, in 16% of cases CRP at the upper limit, 16% with associated duodenal ulcer, 10% with gastro-duodenitis and 6% with GERD (fig. 9).

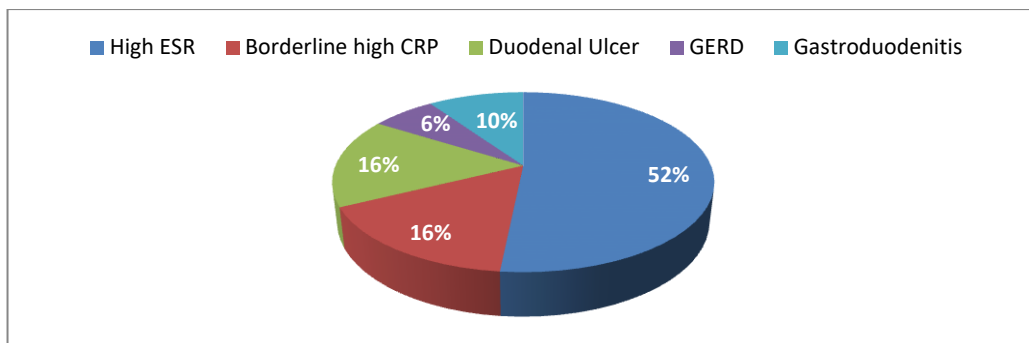


Fig. 9. Peculiarities associated with suicidal ideation

DISCUSSION

Our study identified various inflammatory markers (ESR, CRP, leukocytes) in women with psychotic decompensation hospitalized in 2023. These findings align with recent research on the role of inflammation in psychotic disorders, including schizophrenia. Studies show elevated levels of interleukin-6 (IL-6) and tumor necrosis factor-alpha (TNF- α) in patients with major depressive disorder and schizophrenia (11).

Our results indicate a higher prevalence of psychotic decompensation in women aged 40 to 60 years, supported by studies linking this to hormonal factors, accumulated stress, and family and professional responsibilities (12). In contrast, young women (20–40 years) had fewer admissions, suggesting greater resilience or underreporting of symptoms. Other studies also found an increased risk of severe psy-

chotic symptoms in women aged 40 to 60 years (11, 12).

The majority of hospitalized women were employed or on sick leave, highlighting the role of occupational stress and chronic conditions in psychotic decompensations. Other studies confirm this link, suggesting that psychological support at work can reduce the incidence of these disorders (13). Ehlen *et al.* (2023) emphasized the importance of workplace interventions to reduce stress and improve mental health (14).

Our data show higher addressability among rural women compared to urban women, likely due to reduced access to mental health services and the stigmatization of mental illnesses in rural areas. Studies suggest that telemedicine and public education campaigns can improve access to healthcare in rural areas (15). Mukhamadi-

eva and Shodieva (2021) demonstrated the effectiveness of telemedicine in enhancing access to mental health services in rural areas (16).

Personality disorders and suicidal ideation were frequently identified in patients with depression, consistent with the literature. Studies show that major depression often coexists with other psychiatric disorders, and effective management of these comorbidities and even dietary habits is crucial for suicide prevention (17, 18).

CONCLUSIONS

Analysis of 2023 admissions data for psychotic decompensations showed a slightly higher prevalence in males (53%) compared to females (47%). Among females, women aged 40-60 represented 88% of admissions, indicating increased susceptibility due to factors like work and family stress, menopause, and chronic conditions. In contrast, young women (20-40) had fewer admissions, possibly due to greater resilience or underreporting.

Patients from rural areas had higher admission rates (63%) compared to urban areas (37%) for major depressive disorders. This may be due to limited mental health services and stigma in rural areas. Strategies to improve access, such as telemedicine and public education campaigns, are essential.

Most hospitalized patients had high school education, particularly in the 40-60 age group, while those with higher education were underrepresented. Education level influences access to and utilization of mental health services, with higher education associated with better understanding and resources for managing mental health.

Women aged 40-60 years old were most affected by suicidal ideation (78%), compared to those over 61 (22%). This underscores the need for targeted interventions, including psychological support and moni-

toring. Autolytic attempts were more common in middle-aged women (13 cases), highlighting their vulnerability to stress.

Biological and clinical features in patients with suicidal ideation included elevated inflammatory markers (ESR), upper limit CRP, and gastrointestinal conditions. These comorbidities suggest a complex interaction between mental and somatic conditions, necessitating a multidisciplinary treatment approach.

Recommendations:

1. Tailored Interventions: Develop psychological support and stress management programs for middle-aged women and improve access for older individuals.

2. Improving Access: Expand mental health services in rural areas and reduce stigma.

3. Education and Prevention: Implement public education campaigns on mental health and promote service utilization across all educational levels.

4. Multidisciplinary Approach: Integrate the assessment and treatment of somatic conditions in managing depression and preventing suicide.

These conclusions highlight the importance of a comprehensive approach tailored to different age groups and socioeconomic categories to improve mental health and reduce psychotic decompensation and suicide risk. The study provides new insights into the determinants of psychotic decompensations and clear directions for developing effective intervention and prevention programs. Continued research is crucial to adapt public health policies to the specific needs of affected populations.

CONFLICT OF INTEREST AND FUNDING

The authors declare that there is no conflict of interest and they received no specific funding.

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