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Prevalence and Characteristics of Mood Disorders in Primary Care: A Cross-Sectional Study Conducted in Oujda (Morocco)

S.Hajji[1]*, F. Alaoui Alami[2], F. El Ghazouani[3]

[1]Department of Psychiatry, Mohammed VI University Hospital, Oujda, Morocco
[2]Faculty of Medicine and Pharmacy, Mohammed VI University Hospital, Oujda, Morocco
[3]Professor of Higher Education, Maternal and Child Health and Mental Health Research Laboratory, Faculty of Medicine and Pharmacy, Mohammed First University, Oujda

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***Corresponding author:** S. Hajji
Department of Psychiatry, Mohammed VI University Hospital, Oujda, Morocco

Abstract **Original Research Article**

Introduction: Mood disorders, particularly depression and bipolar disorder, represent a major global health burden. In primary care, their detection remains insufficient, despite their high prevalence and impact on disability. In Morocco, few studies have assessed their prevalence in primary health settings. ***Objective*:** To estimate the prevalence of depression and bipolar disorder in primary health care services in the city of Oujda and to identify the associated sociodemographic and clinical factors. ***Methods:*** A cross-sectional descriptive and analytical study was conducted between July and November 2023 across 11 primary health centers in Oujda. Three hundred adult patients were included. The Mini International Neuropsychiatric Interview (MINI) was used to assess depressive disorders and suicidal risk, and the Mood Disorder Questionnaire (MDQ) to screen for bipolar disorder. Data were analyzed using SPSS 21.0, with a significance threshold set at 5%. ***Results:*** The prevalence of major depressive episode was 23.7%, dysthymia 4%, suicidal risk 11.3%, and bipolar disorder 1%. Major depressive episode was significantly associated with urban origin, diabetes, thyroid disorders, anxiety disorders, corticosteroid use, and a personal or family history of suicide attempts. Dysthymia was associated with diabetes, while bipolar disorder was linked to alcohol and cannabis consumption. ***Conclusion:*** This study highlights a high prevalence of mood disorders in primary care settings, emphasizing the need for systematic screening, targeted training of general practitioners, and improved integration of mental health services within primary health care.

Keywords: Depression, Bipolar disorder, Primary care, Prevalence, Suicidal risk, Mental health, Oujda, Morocco.

INTRODUCTION

Mental disorders rank among the leading causes of disability worldwide. According to the *Global Burden of Disease* study, they account for nearly 7.4% of disability-adjusted life years (DALYs) and 22.9% of years lived with disability (YLDs) [1]. Depression is the second leading cause of disability, while bipolar disorder ranks sixth [2]. The World Health Organization (WHO) predicts that depressive disorder will become the first cause of disability worldwide by 2030 [3].

In 2019, approximately 279.6 million people worldwide suffered from a depressive disorder, making it the most common psychiatric condition. In Morocco, the national study by Kadri *et al.*, (2005) estimated a prevalence of 26.5% for depression and 3.2% for bipolar disorder in the general population [4].

Both disorders share several features: a tendency toward recurrence and chronicity, frequent organic and psychiatric comorbidities, cognitive impairment, major social impact, and an increased risk of suicide.

In primary health care, the general practitioner (GP) plays a crucial role in detecting and managing these disorders. Patients tend to consult their family doctor rather than a psychiatrist mainly due to trust, fear of stigma, and difficulty accessing specialists [5,6]. However, psychiatric disorders remain largely underdiagnosed in this context, with 30–70% of cases going unnoticed [7].

Another challenge lies in differentiating unipolar depression from bipolar disorder. Indeed, 20–30% of patients diagnosed with depression in primary care actually have an unrecognized bipolar disorder

[8,9]. This diagnostic confusion leads to significant therapeutic consequences, particularly inappropriate antidepressant use without mood stabilizers. Moreover, the lack of mental health training among general practitioners, the absence of standardized screening tools, limited coordination with psychiatrists, and the prevalence of somatic complaints all contribute to diagnostic delays [10].

In this context, promoting an integrated mental health policy within primary care is essential. A better understanding of the prevalence and associated factors of mood disorders in this setting is a key step in guiding prevention, screening, and management strategies.

This study was therefore designed to estimate the prevalence of depression and bipolar disorder in primary care in Oujda, and to determine the sociodemographic and clinical characteristics of the affected patients.

MATERIALS AND METHODS

Study Design

This was a cross-sectional descriptive and analytical study conducted in primary health care centers in the city of Oujda. This design allowed for the assessment of the prevalence of mood disorders (depression and bipolar disorder) and the exploration of their sociodemographic and clinical determinants**.**

Study Setting and Period

The survey was carried out in eleven primary health centers across the city of Oujda (Oriental region, Morocco).

Data collection took place over a five-month period, from July to November 2023.

Study Population

The study included 300 adult patients consulting for various medical reasons in general practice.

Inclusion Criteria

- Age ≥ 18 years
- Free and informed consent to participate
- Ability to understand and answer the questionnaire

Exclusion Criteria

- Refusal to participate
- Intellectual disability, dementia, deafness, mutism, or any condition preventing communication
- Severe physical illness making the interview impossible

Sampling Method

A non-probability convenience sampling method was used, successively including all patients meeting the inclusion criteria during the study period.

Data Collection Tools

Data were collected using a standardized data collection form, which included:

- Sociodemographic data (age, sex, marital status, socioeconomic level, geographic origin, educational level)
- Medical and psychiatric history
- Lifestyle habits (tobacco, alcohol, cannabis use)
- Psychiatric clinical data obtained through two validated instruments

1. Mini International Neuropsychiatric Interview (MINI)

The Moroccan Arabic version of the MINI was used to screen for:

- Major Depressive Episode (MDE)
- Dysthymia
- Suicidal risk

This tool is widely validated for diagnosing psychiatric disorders according to DSM-IV and ICD-10 criteria, with sensitivity between 66% and 100% and specificity above 95%.

2. Mood Disorder Questionnaire (MDQ)

The validated Arabic version of the MDQ was used to screen for bipolar disorder. It is a self-administered instrument consisting of 13 items exploring manic and hypomanic symptoms. The presence of at least seven positive responses combined with significant functional impairment indicates a high probability of bipolar disorder.

Study Procedure

Each participant was interviewed individually in a confidential setting by a trained investigator. The average duration of each interview was 20 to 25 minutes. Data were then anonymized and coded before analysis.

Statistical Analysis

Data were entered and analyzed using SPSS version 21.0 (IBM Inc., Chicago, USA).

- Qualitative variables were expressed as frequencies and percentages.
- Quantitative variables were expressed as means ± standard deviation (SD).

Associations between qualitative variables were assessed using the Chi-square test (χ^2) or Fisher's exact test, depending on sample size. The significance threshold was set at $p < 0.05$.

Ethical Considerations

The study adhered to the ethical principles of the Declaration of Helsinki. Verbal informed consent

was obtained from all participants after a clear explanation of the study objectives. Anonymity and confidentiality of collected data were strictly maintained. No external funding or conflicts of interest were declared.

RESULTS

Sociodemographic Characteristics of the Study Population

The study included 300 patients consulting in primary health care centers in the city of Oujda. The mean age of participants was 49 ± 15 years, ranging from 18 to 82 years. A clear female predominance was observed, representing 85.7% of the sample. The majority of patients were married (64.3%), of urban origin (73.3%), and had a middle socioeconomic status (59.7%). Regarding the educational level, 43.7% had primary education, while 21.3% were illiterate.

Prevalence of Mood Disorders

Among all participants:

- **Major depressive episode (MDE):** 23.7%
- **Dysthymia:** 4%
- **Suicidal risk:** 11.3%
- **Bipolar disorder:** 1%

These findings indicate an overall prevalence of 28.7% for mood disorders in the studied population.

Factors Associated with Major Depressive Episode (MDE)

Bivariate analysis revealed several statistically significant associations:

Associated Factor	p-value
Urban origin	0.008
Diabetes	0.042
Thyroid disorder	0.012
Anxiety disorder	0.001
Corticosteroid use	0.001
Personal history of depression	< 0.001
History of suicide attempt	0.01

Thus, patients with diabetes, endocrine disorders, or psychiatric antecedents were significantly more likely to present a major depressive episode.

Factors Associated with Dysthymia

Dysthymia was mainly associated with a history of diabetes ($p = 0.021$), confirming the strong comorbidity between chronic medical conditions and persistent mood disorders.

Factors Associated with Suicidal Risk

A suicidal risk was identified in 11.3% of participants.

Significant associated factors included:

- Personal history of suicide attempt ($p < 0.001$)
- Family history of suicide attempt ($p = 0.001$)
- Presence of a concurrent major depressive episode ($p < 0.001$)

These findings highlight a psychopathological continuum between depression and suicidality.

Factors Associated with Bipolar Disorder

Bipolar disorder was detected in 1% of patients.

It was significantly associated with:

- **Alcohol consumption** ($p = 0.04$)
- **Cannabis use** ($p = 0.02$)

No other sociodemographic correlation was found, reflecting the rarity of bipolar disorder in primary care and the need for specific screening tools.

Summary of Findings

The study revealed:

- A high prevalence of depressive disorders in primary care
- An underrepresentation of bipolar disorder, often unrecognized
- Close links between mood disorders, chronic diseases, and addictive behaviors

These results underscore the diagnostic complexity of mood disorders in primary care and the need for adapted screening instruments.

DISCUSSION

This study aimed to estimate the prevalence of depression and bipolar disorder in primary care in Oujda and to identify the associated factors.

The results confirm the high prevalence of mood disorders among patients consulting at the primary care level, aligning with international findings indicating that these conditions represent a major burden on basic health services [1,2].

Prevalence of Depression

The prevalence of major depressive episode (23.7%) observed in our study is consistent with the Moroccan data reported by Kadri *et al.*,(2005), who found a frequency of 26.5% in the general population [4]. Our results also align with other studies conducted in primary care settings : Goldberg and Huxley (1992) reported an average prevalence of 25%, while more

recent studies in North Africa have estimated this rate between 20% and 30% [5,11].

These findings underline the significant representation of depressive disorders in primary care, where the general practitioner often constitutes the first point of contact for patients.

Prevalence of Bipolar Disorder

The prevalence of bipolar disorder (1%) remains low but is consistent with international estimates for the general population (0.6–1.5%) [8,12].

However, several studies indicate that 20–30% of patients initially diagnosed with depression actually suffer from an unrecognized bipolar disorder [9,13].

This diagnostic confusion is often due to a predominantly depressive presentation, lack of recognition of manic or hypomanic episodes, and the absence of systematic screening tools in primary care.

Our findings thus highlight the need to integrate bipolar disorder screening (for example, through the MDQ) into routine general practice.

Factors Associated with Mood Disorders

Our analyses revealed several significant associations. The major depressive episode was linked to endocrine disorders (diabetes, hypothyroidism), anxiety disorders, corticosteroid use, and urban residence.

These results are consistent with the findings of Kessler *et al.*,(2003) and Simon *et al.*,(2009), who demonstrated strong comorbidity between chronic diseases and depressive disorders, reflecting the interdependence of physical and mental health [7,14]. Dysthymia was also correlated with diabetes, reinforcing the notion of increased psychological vulnerability among patients with chronic illnesses.

Regarding bipolar disorder, its association with alcohol and cannabis consumption is well documented. Studies by Regier *et al.*,(1990) and Levin and Hennessy (2004) report that 40–60% of bipolar patients have a co-occurring substance use disorder, which worsens the prognosis and complicates management [15,16]. These observations are consistent with our findings and support the need for integrated management of addictive comorbidities.

Suicidal Risk

The suicidal risk identified in 11.3% of our sample falls within the range reported in the literature (10–15% in primary care) [17].

The strong association between personal or family history of suicide attempts and the presence of a major depressive episode confirms the psychopathological continuum between depression and suicidality, as previously described by Hawton and van Heeringen (2009) [18].

These findings emphasize the strategic role of general practitioners in suicide prevention, particularly in resource-limited settings.

Underdiagnosis and Medical Training

Despite the high frequency of these disorders, 30–70% of cases remain undetected in primary care [7]. This underdiagnosis can be explained by several factors: the lack of psychiatric training, the weight of social stigma, and the somatic presentation of psychiatric complaints [10,19]. More than half of general practitioners consider their level of mental health competence insufficient for early detection [20]. These findings are in line with WHO recommendations, which advocate for the integration of mental health into primary care and the strengthening of practitioners' capacities [6,21].

Study Limitations

This study presents certain methodological limitations:

- The cross-sectional design does not allow for causal inference between the studied variables.
- The use of self-reported questionnaires exposes the results to potential reporting or social desirability bias.
- The convenience sample, limited to a single city, restricts the generalizability of the findings to the entire Moroccan population.

However, the study's multicenter design, the use of validated screening tools (MINI, MDQ), and a rigorous statistical analysis enhance the reliability and validity of the conclusions drawn.

Strengths and Perspectives

This study represents one of the few recent investigations conducted in primary care settings in Morocco focusing on mood disorders. It highlights the high frequency of depression, the under recognition of bipolar disorder, and the need for an integrated approach combining screening, training, and interdisciplinary coordination.

It also paves the way for longitudinal studies aimed at exploring the course of these disorders and evaluating the impact of mental health training programs for general practitioners on early detection and improved patient management.

CONCLUSION

This study, conducted in primary health care settings in Oujda, highlights a high prevalence of mood disorders, particularly depression, among patients consulting in general medicine. The findings show that nearly one in four patients presents a major depressive episode, while bipolar disorder remains largely

underdiagnosed, despite its expected frequency in the general population.

The identified associated factors such as diabetes, thyroid disorders, anxiety, corticosteroid use, and substance consumption confirm the importance of an integrated approach between mental and physical health. Furthermore, the significant presence of suicidal risk underlines the strategic role of the general practitioner in the prevention and early detection of psychological distress.

Together, these observations point to the urgent need to strengthen psychiatric competencies at the primary care level.

Specific training for general practitioners in the screening of mood disorders, combined with the systematic use of validated tools such as the MINI and MDQ, could significantly improve early diagnosis and patient management.

From a public health perspective, these results call for:

- Better integration of mental health into primary care;
- Stronger collaborative work between psychiatrists and general practitioners;
- Implementation of awareness programs for the population to reduce stigma related to mental illness.

Finally, multicenter longitudinal studies are needed to confirm these findings, explore the evolutionary trajectories of patients, and evaluate the impact of screening and training interventions on the quality of care.

Key Message

Mood disorders are common in primary care, yet remain frequently unrecognized. Strengthening screening, medical training, and the integration of mental health into basic health services represents a public health priority for Morocco.

Recommendations

1. For Medical Practice

- Strengthen continuing education for general practitioners in mental health, particularly in the detection of mood disorders (depression, bipolar disorder, suicidal risk).
- Integrate the systematic use of validated screening tools, such as the MINI and MDQ, into primary care consultations.
- Promote close collaboration between general practitioners, psychiatrists, and psychologists to ensure appropriate referral and management.
- Develop standardized follow-up protocols for patients suffering from chronic depression or bipolar disorder.

2. For the Health System

- Establish mental health as a national public health priority, with a specific focus on prevention and screening in primary care.
- Create integrated mental health units within primary health centers, equipped with trained staff and psychological assessment tools.
- Implement community awareness campaigns to reduce stigma associated with psychiatric disorders.
- Strengthen the referral and counter-referral network between primary care structures and specialized psychiatric services.

3. For Research

- Encourage multicenter and longitudinal studies to better understand the evolution of mood disorders in the Moroccan population.
- Explore cultural and contextual factors influencing the recognition and management of depressive and bipolar symptoms.
- Evaluate the effectiveness of continuing medical education programs and screening initiatives in improving early diagnosis.
- Develop intervention studies focused on suicide prevention in primary care.

4. For Public Health and Society

- Promote national awareness campaigns on depression and bipolar disorder, emphasizing the potential for recovery and the importance of early consultation.
- Integrate mental health education into school curricula and occupational medicine programs to promote early detection of emotional disorders.
- Support patient and family associations, which play a key role in destigmatization and psychosocial support.

SUMMARY

Improving screening, training, and coordination between primary care and psychiatry represents a crucial step toward the better integration of mental health within the Moroccan health care system.

This approach fits within a comprehensive vision of community health, centered on prevention, proximity, and patient dignity.

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