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Medicine

Comprehensive Analysis of Prescription Opioid Addiction: A Study at Ibn Sina Hospital Center (2010-2023)

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Abstract	Original Research Article

Objective: This study aims to comprehensively describe and analyze the characteristics of patients suffering from prescription opioid use disorders at Ibn Sina Hospital Center in Rabat between 2010 and 2023. The study focuses on identifying demographic patterns, psychiatric and organic comorbidities, economic status, and treatment modalities to provide insights for better clinical and socio-professional rehabilitation strategies. ***Methods***: A retrospective descriptive and analytical study was conducted, involving 40 patients diagnosed with prescription opioid use disorders. Data were collected from medical records and standardized questionnaires. Descriptive statistical methods were used to summarize the data, while analytical techniques, including statistical tests, were employed to identify significant associations between variables. ***Results***: The study found a significant increase in opioid use disorder cases over the years, with a notable rise in 2022 and 2023. The majority of patients were aged between 20 and 49 years, with an equal distribution between males and females. High prevalence rates of psychiatric comorbidities, such as depression (25%) and anxiety (20%), were observed. Additionally, a significant portion of patients (45%) were unemployed. Methadone treatment was the most common therapeutic approach (62.5%), followed by classical withdrawal methods (25%) and psychotherapy (12.5%). ***Conclusion:*** The findings underscore the critical need for integrated care models that address both mental health and addiction, alongside socio-economic support. The high rates of psychiatric comorbidities and unemployment among patients highlight the importance of comprehensive treatment programs that include psychological care and vocational training. Future research should focus on personalized and holistic approaches to improve the management and rehabilitation of individuals with opioid use disorders.
Keywords: Demographic patterns, opioid, psychiatric comorbidities, depression.

INTRODUCTION

Opioid analgesic addiction is a major public health issue. Due to their potent analgesic effects, these substances are widely prescribed, but their addictive potential can lead to severe use disorders. This study aims to describe and analyze the characteristics of patients suffering from prescription opioid use disorders followed at Ibn Sina Hospital Center in Rabat between 2010 and 2023, as well as the modalities of their care.

METHODOLOGY

Type of Study: Retrospective descriptive and analytical study.

Study Population: 40 patients followed for prescription opioid use disorders at Ibn Sina Hospital Center in Rabat from 2010 to 2023.

Inclusion Criteria: Patients with a diagnosis of prescription opioid use disorder.

Data Collection Tools: Medical records, standardized questionnaires.

Analysis Methods: Descriptive statistical analysis (means, percentages) and analytical (statistical tests to identify significant associations).

RESULTS

Total Number of Cases

Year	Number of Cases	Percentage (%)
2010	1	2.5
2011	0	0
2012	0	0
2013	0	0
2014	1	2.5
2015	2	5
2016	2	5
2017	1	2.5
2018	5	12.5
2019	1	2.5
2020	4	10
2021	7	17.5
2022	6	15
2023	10	25
Total	40	100

Age Distribution

Age (years)	Number of Cases	Percentage (%)
<18	0	0
18-19	2	5
20-29	12	30
30-39	10	25
40-49	11	27.5
50-59	2	5
60-69	3	7.5
Total	40	100

Sex Distribution

Sex	Number of Cases	Percentage (%)
Male	20	50
Female	20	50
Total	40	100

Psychiatric and Organic Comorbidities

Type of Comorbidity	Number of Cases	Percentage (%)
Anxiety	8	20
Depression	10	25
Bipolar Disorder	4	10
Schizophrenia	2	5
Diabetes	3	7.5
Hypertension	5	12.5
Epilepsy	2	5
Asthma	2	5
Others	4	10
Total	40	100

Economic Status

Economic Status	Number of Cases	Percentage (%)
Unemployed	18	45
Full-time Employment	10	25
Part-time Employment	5	12.5
Retired	4	10
Student	3	7.5
Total	40	100

Treatment/Care

Type of Treatment	Number of Cases	Percentage (%)
Methadone	25	62.5
Classical Withdrawal	10	25
Psychotherapy	5	12.5
Total	40	100

Analytical Study

The descriptive analysis of opioid analgesic addiction cases followed at Ibn Sina Hospital Center in Rabat from 2010 to 2023 revealed several key trends.

Total Number of Cases

The number of cases has significantly increased over the years, with a marked rise in 2022 and 2023, which may indicate better recognition and diagnosis of opioid use disorders or an actual increase in cases.

Age Distribution

Patients aged 20 to 49 represent the majority of cases (82.5%), suggesting that young adults and middle-aged individuals are most affected by prescription opioid addiction.

Sex Distribution

The gender distribution is balanced, with an equal number of men and women affected by this disorder, indicating that opioid addiction impacts both sexes equally.

The most common psychiatric comorbidities are depression (25%) and anxiety (20%). Among organic comorbidities, hypertension (12.5%) and diabetes (7.5%) are the most prevalent. This indicates a high prevalence of mental and physical health issues among patients with opioid addiction.

Economic Status

A significant proportion of patients are unemployed (45%), which can be both a cause and a consequence of addiction. The economic instability of patients highlights the importance of rehabilitation programs that include employment support components.

Treatment/Care

Methadone treatment is the most commonly used (62.5%), followed by classical withdrawal (25%) and psychotherapy (12.5%). This reflects the recognized effectiveness of methadone in managing opioid addiction and the importance of psychotherapy in treating these patients.

Analytical Study

The analytical study of the data provides deeper insights into the relationships between different variables.

Correlations between Variables

Statistical analyses were conducted to explore the relationships between different variables. Here are some key findings:

Age and Type of Comorbidity

A significant correlation was found between the age of patients and the presence of psychiatric comorbidities ($p < 0.05$). Younger patients (<40 years) were more likely to suffer from anxiety and depression disorders.

Sex and Type of Treatment

No significant difference was found between sexes in terms of the type of treatment followed ($p > 0.05$), suggesting an equal distribution of treatments between men and women.

Economic Status and Type of Treatment

A significant correlation was found between the economic status of patients and the type of treatment followed ($p < 0.05$). Unemployed patients were more likely to undergo classical withdrawal, while those with employment were more likely to receive methadone treatment.

DISCUSSION
Key Findings
Summary of Main Results

High Prevalence of Psychiatric Comorbidities: A significant proportion of patients exhibited psychiatric comorbidities, with 25% having depression and 20% having anxiety.

Age and Gender Distribution: The majority of cases were among patients aged 20 to 49 years (82.5%). The gender distribution was equal, with 50% male and 50% female patients.

Economic Status: A notable 45% of the patients were unemployed. Employment status was significantly associated with the type of treatment received.

Types of Treatment/Care: Methadone treatment was the most common (62.5%), followed by classical withdrawal (25%) and psychotherapy (12.5%).

Correlations and Statistical Associations: A significant correlation between age and psychiatric comorbidities was found ($p < 0.05$). No significant difference in treatment types between genders ($p > 0.05$).

Economic status was significantly correlated with the type of treatment (p < 0.05).

Detailed Summary of Main Results
1. High Prevalence of Psychiatric Comorbidities
Our study found that a large proportion of patients with prescription opioid use disorders also suffered from psychiatric conditions. Depression and anxiety were the most common, affecting 25% and 20% of patients, respectively.

2. Age and Gender Distribution
Patients aged 20 to 49 years constituted the majority of cases (82.5%), indicating that this age group is particularly vulnerable to opioid addiction. The gender distribution was balanced, with an equal number of male and female patients, suggesting that opioid addiction affects both genders equally.

3. Economic Status
A significant portion of patients were unemployed (45%). The type of treatment received was influenced by employment status; unemployed patients were more likely to undergo classical withdrawal, while employed patients predominantly received methadone treatment.

4. Types of Treatment/Care
Methadone was the primary treatment method used in 62.5% of cases. Other treatment modalities included classical withdrawal (25%) and psychotherapy (12.5%). This highlights the effectiveness of methadone in managing opioid addiction and the importance of addressing psychological issues through psychotherapy.

5. Correlations and Statistical Associations
The study revealed a significant correlation between the age of patients and the presence of psychiatric comorbidities (p < 0.05), with younger patients (<40 years) being more likely to suffer from anxiety and depression. No significant gender differences were observed in the types of treatment (p > 0.05). However, economic status was significantly correlated with the type of treatment (p < 0.05), indicating that socioeconomic factors influence treatment strategies.

Comparison with Existing Literature:
Psychiatric Comorbidities
"Our results show that 25% of patients suffer from depression and 20% from anxiety. These figures are consistent with the study by Farooqui *et al*., (2022) [1], which found similar rates of psychiatric comorbidities among patients with opioid addiction. Furthermore, Levis *et al*., (2021) [2] report that the developmental origins of opioid use disorder are closely linked to psychiatric comorbidities, underscoring the need for integrated treatment approaches that include specialized psychological care. Additionally, Barry *et al.*, (2021) [3] found significant psychiatric comorbidities in patients seeking treatment for chronic pain and opioid use disorder. Van Rijswijk *et al*., (2019) [4] conducted a systematic review that corroborates the high rates of comorbid psychiatric disorders among opioid-dependent patients, highlighting the necessity for comprehensive mental health interventions. Friesen and Kurdyak (2020) [5] found that psychiatric comorbidities complicate the clinical course of opioid addiction, often leading to treatment discontinuation."

Socioeconomic Factors
"Approximately 45% of our patients were unemployed, a finding that aligns with the conclusions of Florence *et al*., (2021) [6] on the economic impact of opioid use disorder. Additionally, Khatri *et al*., (2022) [7] highlight the substantial socioeconomic impact of opioid addiction, noting that unemployment and economic instability are both causes and consequences of substance use disorders. This situation underscores the necessity of rehabilitation programs that include employment support components to improve long-term outcomes."

Treatment Effectiveness
"Methadone was the most commonly used treatment, administered to 62.5% of patients, which is in agreement with the findings of Fareed *et al*., (2020) [8], demonstrating the effectiveness of methadone in treating opioid dependence. Similarly, Lee *et al*., (2017) [9] compared the effectiveness of extended-release naltrexone and buprenorphine-naloxone, finding that both treatments are effective but may be suited to different patient profiles."

Practical Implications
1. Integrated Care for Psychiatric Comorbidities
Findings: Our study revealed a high prevalence of psychiatric comorbidities among patients with opioid use disorders, with significant proportions suffering from depression and anxiety.

Implications:
Need for Integrated Treatment Programs: The high rates of psychiatric comorbidities suggest that treatment programs for opioid use disorder (OUD) should include comprehensive mental health services. Integrated care models that address both substance use and mental health issues concurrently can lead to better outcomes. For instance, combining pharmacological treatments such as methadone or buprenorphine with cognitive-behavioral therapy (CBT) or other evidence-based psychotherapies can improve patient adherence and reduce relapse rates (BioMed Central).

Training for Healthcare Providers: Healthcare providers should be trained to recognize and treat co-occurring mental health conditions in patients with OUD. This includes regular screening for depression, anxiety, and other psychiatric disorders using validated tools like the MINI or SCID (BioMed Central).

2. Addressing Economic Instability

Findings: A notable 45% of the patients in our study were unemployed, highlighting the socio-economic challenges faced by this population.

Implications:

Incorporating Vocational Training and Employment Support: Treatment programs should include components that address the economic needs of patients. Vocational training, job placement services, and educational support can help improve employment outcomes for individuals recovering from opioid addiction. Programs like Supported Employment (SE) have shown success in helping individuals with substance use disorders gain and maintain employment.

Social Support Services: Providing access to social workers, case managers, and peer support specialists can help patients navigate social services, secure housing, and obtain financial assistance. These support services are crucial for maintaining long-term recovery and preventing relapse.

3. Enhancing Accessibility to Methadone and Psychotherapy

Findings: Methadone was the most commonly used treatment (62.5%), followed by classical withdrawal and psychotherapy.

Implications:

Expanding Access to Methadone Clinics: Given the effectiveness of methadone in treating OUD, there is a need to expand access to methadone maintenance treatment (MMT) clinics, especially in underserved areas. Policies that reduce barriers to accessing methadone, such as flexible dosing schedules and take-home doses, can improve treatment adherence and outcomes.

Incorporating Psychotherapy into Standard Care: The use of psychotherapy, although effective, was relatively low (12.5%). Increasing the availability of psychotherapeutic services within OUD treatment programs can enhance the overall treatment efficacy. Training more clinicians in evidence-based therapies like CBT, motivational interviewing (MI), and contingency management (CM) can help meet this need.

4. Personalized Treatment Plans

Findings: Significant correlations were found between economic status and treatment type, indicating that socio-economic factors influence treatment strategies.

Implications:

Tailored Treatment Approaches: Treatment plans should be personalized to account for the socio-economic background of patients. For instance, individuals from lower socio-economic backgrounds may benefit from additional support services such as housing assistance, food security programs, and transportation subsidies.

Holistic Care Models: Adopting a holistic approach to OUD treatment that includes medical, psychological, and socio-economic components can address the multifaceted needs of patients. Holistic care models have been shown to improve overall treatment outcomes and quality of life for patients with complex needs.

CONCLUSION

This comprehensive analysis of prescription opioid addiction at Ibn Sina Hospital Center from 2010 to 2023 highlights critical aspects of the opioid crisis. The high prevalence of psychiatric comorbidities, significant unemployment rates, and diverse treatment modalities underscore the multifaceted challenges faced by patients. The study emphasizes the necessity of integrated care models that address both mental health and addiction, alongside socio-economic support to enhance treatment outcomes. Future research should focus on personalized and holistic approaches to further improve the management and rehabilitation of individuals with opioid use disorders.

REFERENCES

1 Farooqui, A. M., Arya, A., Singh, A., & Dalal, P. K. (2022). Psychiatric comorbidity, psychosocial problems, and functioning of people who inject opioids: an observational study. Addiction & Health. Link

2 Levis, S. C., Mahler, S. V., & Baram, T. Z. (2021). The developmental origins of opioid use disorder and its comorbidities. Frontiers in Human Neuroscience. Link

3 Barry, D. T., Beitel, M., Cutter, C. J., & Fiellin, D. A. (2021). Psychiatric comorbidity and order of condition onset among patients seeking treatment for chronic pain and opioid use disorder. Drug and Alcohol Dependence. Link

4 Van Rijswijk, S. M., van Beek, M., & Schoof, G. M. (2019). Iatrogenic opioid use disorder, chronic pain and psychiatric comorbidity: A systematic review. General Hospital Psychiatry. Link

5 Friesen, E. L., & Kurdyak, P. (2020). The impact of psychiatric comorbidity on treatment discontinuation among individuals receiving medications for opioid use disorder. Drug and Alcohol Dependence. Link

6 Florence, C., Luo, C., & Rice, K. (2021). Economic impact of opioid use disorder: Costs and social burden. Medical Care. Link

7 Khatri, U. G., & Coustasse, E. V. (2022). Social determinants of health and opioid use disorder: A systematic review. PLOS ONE. Link

8 Fareed, A., Vayalapalli, N., & Casarella, D. (2020). Methadone maintenance treatment and its impact on

the quality of life of opioid-dependent patients. Journal of Substance Abuse Treatment. Link

9 Lee, J. D., Nunes, M., & Novo, P. S. (2017). Comparative effectiveness of extended-release naltrexone versus buprenorphine-naloxone for opioid relapse prevention. Lancet. Link