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Short communication

Long-term benzodiazepine use in primary health care in western region of the Republic of North Macedonia: magnitude, determinants, and public health

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Introduction

Benzodiazepines (BZDs) are among the most frequently prescribed psychotropic medications in primary health care (Kurko et al., 2015). Although effective in the management of anxiety disorders, insomnia, seizure disorders, symptomatic treatment, bridging etc. their long-term use is associated with negative health outcomes, such as: tolerance, dependence, cognitive impairment, falls, and clinically significant drug interactions. Despite potential risks associated with long-term use and professional recommendations for short-term treatment, prolonged BZDs use still remains common in routine clinical practice. As acknowledge, risks increase with duration and dose-escalation (Brunton et al., 2018; Barker et al., 2004). The objective of our study was to assess the magnitude of long-term BZDs use in primary health care in the Western Region of the Republic of North Macedonia and to identify demographic and clinical factors associated with long-term use, as well as its potential public health implications.

Methods

An analytical observational cross-sectional study was conducted using real-world prescribing data obtained from six general practitioners working in four primary health care practices in the Western Region of the Republic of North Macedonia. The study included 1,248 ambulatory patients aged 18 years and older with at least one prescribed BZD with available demographic and therapeutic data. Patients with incomplete records or insufficient information regarding treatment duration were excluded. Long-term BZD use was defined as continuous therapy lasting more than 12 weeks. Data collected included age, sex, therapeutic indication, duration of BZD use, previous BZD exposure, and concomitant pharmacotherapy. Polypharmacy was defined as the concurrent use of five or more medications. Patients were categorized according to age groups and duration of therapy. Descriptive statistics were used to characterize the study population, while associations between variables were assessed using Chi-square tests. Multivariable logistic regression analysis was performed to identify independent predictors of long-term BZD use. Results were presented as odds ratios (ORs) with 95% confidence

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intervals (CIs), and statistical significance was set at $p < 0.05$.

Results and discussion

The study population comprised 64.7% females, while 38.4% were aged 65 years or older. Anxiety disorders were the most common indication for BZD treatment (46.5%), followed by insomnia (35.2%) and depression (13.8%). Long-term BZD use was identified in 58.8% of patients, indicating that more than half of BZD users remained on therapy beyond the recommended treatment duration. Polypharmacy was present in 52.1% of patients, suggesting a substantial burden of concomitant medication use among BZD users. Multivariable logistic regression analysis demonstrated that age ≥65 years (OR 2.31; 95% CI 1.78–3.01), female sex (OR 1.67; 95% CI 1.29–2.15), polypharmacy (OR 2.84; 95% CI 2.12–3.80), anxiety disorders (OR 1.95; 95% CI 1.48–2.57), and previous benzodiazepine use (OR 3.76; 95% CI 2.89–4.89) were independent predictors of long-term BDZ use. Previous BZD exposure emerged as the strongest predictor, suggesting a tendency toward therapeutic continuation once treatment has been initiated. Furthermore, the strong association observed with polypharmacy and older age highlights the increased vulnerability of patients with complex pharmacotherapy and age-related clinical risks.

Conclusions

Long-term BZD use is highly prevalent and multifactorially determined in primary health care. Older adults, women, and patients exposed to polypharmacy represent particularly vulnerable groups. These findings highlight the need for evidence-based prescribing practices with focus on BZD best practices in primary care, regular medication review, and deprescribing strategies aimed to optimize BZD use for improving patient safety.

References

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