

The Factors Influencing Antidepressant Use: Investigating the Relationship between Income, Alcohol Consumption and Demographic Variables

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Abstract

Aim: Antidepressant use has become a major problem in developed and developing countries. This research examines the economic, demographic and sociocultural determinants of antidepressant use using OECD (Organisation for Economic Co-operation and Development) and World Bank panel data covering 21 OECD countries between 2008 and 2021, comprising a total of 294 observations.

Method: Driscoll-Kraay estimator, one of the panel data analysis methods, was utilized to scrutinize the associations among the variables.

Results: The findings of the study indicate that increases in the dependent population aged 20 and under and in the urban population have decreased antidepressant use. In contrast, the dependent population aged 65 and over, household income, alcohol consumption, and population growth in large cities are found to increase antidepressant use.

Conclusion: Chronic diseases among older adults have been shown to increase the risk of developing mental disorders, such as depression and anxiety. However, lower diagnosed depression rates and more limited access to psychiatric medications may be associated with reduced antidepressant use among individuals aged 20 years and under. Furthermore, it has been highlighted that individuals with higher income levels have greater access to healthcare services and higher mental health awareness. These findings reveal that antidepressant use is linked to demographic and socioeconomic factors. Decision-makers should adopt mental health policies that take these structural differences into account.

Keywords: Antidepressant intake, income, dependent population aged 65 and over, dependent population aged 20 and under, unemployment.

Antidepressan Kullanımını Etkileyen Faktörler: Gelir, Alkol Tüketimi ve Demografik Değişkenler Arasındaki İlişkinin İncelenmesi

Öz

Amaç: Gelişmiş ve gelişmekte olan ülkelerde antidepressan kullanımı önemli bir problem haline gelmiştir. Bu araştırma, 2008 ve 2021 yılları arasında 21 OECD ülkesini kapsamakta ve toplam 294 gözlemden oluşan OECD (Ekonomik İşbirliği ve Kalkınma Örgütü) ve Dünya Bankası panel verilerini kullanarak antidepressan kullanımının ekonomik, demografik ve sosyokültürel belirleyicilerini incelemektedir.

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Yöntem: Panel veri analiz yöntemlerinden biri olan Driscoll-Kraay tahmincisi, değişkenler arasındaki ilişkileri incelemek için kullanılmıştır.

Bulgular: Araştırmanın bulguları, 20 yaş ve altındaki bağımlı nüfus ile kentsel nüfus oranındaki artışların antidepresan kullanımını azalttığını göstermektedir. Buna karşın, 65 yaş ve üstü bağımlı nüfus, hane halkı geliri, alkol tüketimi ve büyük şehirlerdeki nüfus artışının antidepresan kullanımını arttırdığını ortaya koymaktadır.

Sonuç: Yaşlılarda görülen kronik hastalıkların, depresyon ve anksiyete gibi ruhsal bozuklukların gelişme riskini artırdığını göstermektedir. Ancak düşük depresyon oranlarının ve psikiyatrik ilaçlara sınırlı erişimin, 20 yaş ve altındakiler arasında antidepresan kullanımının azalması ile ilişkili olduğu düşünülmektedir. Ayrıca, yüksek gelir düzeyine sahip bireylerin sağlık hizmetlerine erişimlerinin ve ruh sağlığı farkındalıklarının daha yüksek olduğu vurgulanmıştır. Bu sonuçlar, antidepresan kullanımının demografik ve sosyoekonomik faktörlerle bağlantılı olduğunu ortaya koymaktadır. Yetkili kişilerin, ruh sağlığı politikalarını bu yapısal farklılıkları hesaba katacak şekilde uygulanabilir politikalar benimsemeleri gerekmektedir.

Anahtar Sözcükler: Antidepresan kullanımı, gelir, 65 yaş ve üstü bağımlı nüfus, 20 yaş ve altı bağımlı nüfus, işsizlik.

Introduction

In recent years, the demand for antidepressants has been increasing globally, forming a continuing trend¹. Particularly, the rising demand for antidepressants has become a significant issue affecting both individuals' mental health and the healthcare systems and economic dynamics of these countries². The increasing prevalence of mental health conditions such as depression and anxiety leads to undesirable consequences for both individuals and society. Therefore, in developed countries, the effective implementation of healthcare systems and social support mechanisms may help regulate antidepressant use by limiting inappropriate prescribing practices, ensuring equitable access to mental health services, and reducing unnecessary long-term use, which could otherwise pose a public health concern through overmedication, dependency risks, and increased healthcare costs³. The rise in antidepressant use is claimed to be influenced by various economic, demographic, and sociocultural determinants⁴. The unemployment rate, level of urbanization, proportion of the elderly population, per capita income, and alcohol consumption have influences on individuals' mental health^{5,6}. Global economic fluctuations, income inequality, labor market uncertainties, and social isolation resulting from urbanization are critical factors that adversely impact society and contribute to the rise of mental health issues^{7,8}. The purpose of this study is to analyze the economic, demographic, and socio-cultural factors affecting antidepressant use in selected OECD countries using panel data analysis. The data obtained from the OECD and the World Bank are examined using the Driscoll-Kraay estimator, one of the panel data analysis methods, and the impact of these factors on antidepressant use is evaluated. The primary motivation of this research is to facilitate the adoption of informed measures regarding mental health disorders and contribute scientifically to the literature on the importance of this issue. The findings of the study indicate that antidepressant use is significantly associated with demographic structure, socioeconomic conditions, and urbanization

dynamics. While increases in the proportion of the young dependent population and urban population growth reduce antidepressant use, increases in the proportion of the elderly dependent population, income level, alcohol consumption, and population growth in large cities exert an increasing effect on antidepressant use. In conclusion, the increasing use of antidepressants is emphasized not only as an individual health issue but also as a phenomenon closely linked to socioeconomic and demographic conditions.

Assessment of Antidepressant Intake

The literature review indicates that there are socio-economic determinants affecting antidepressant use. According to the literature presented in Table 1, the relationship between income, unemployment, alcohol consumption, and the dependency ratio with antidepressant use has been examined.

Table 1. Selected studies on factors associated with antidepressant use

Investigator/Year	Population/sample	Method	The result
Kim et al. (2024) ⁹	273,656 prescription and 78,851 non-prescription antidepressant users in South Korea	Regression methods	Cardiovascular diseases have exacerbated depression, leading to an increase in antidepressant consumption.
Öztürk et al. (2020) ¹⁰	Data for 19 OECD countries covering the period from 1997 to 2017 have been analyzed.	Panel data analysis	Income, unemployment, and the share of household debt within disposable income have increased antidepressant consumption.
Hilamo (2014) ¹¹	Municipalities in Finland from 1995 to 2010	Panel data analysis	It has been observed that in municipalities where the Gini index has increased, antidepressant use has risen among both young individuals and those aged 65 and above.
Lundin and Hansson, (2014) ¹²	Between 1998 and 2009 in Sweden	Arima analysis	The test revealed a relationship between antidepressants and unemployment.
Yang et al. (2024) ¹³	Data for 201 countries between the years 1970 and 2020 have been analyzed.	Fixed Effects Approach	It has been concluded that there is a positive relationship between unemployment and mental disorders, particularly anxiety, depression, and bipolar disorder.
Tveit et al. (2020) ¹⁴	Antidepressant use in elderly people in Norway from 2007 to 2017 was investigated.	Linear Mix-Effects Models	Over the 10-year period, the prescribed antidepressant use has slightly decreased. However, the serum antidepressant concentration remains high.
Xiang et al. (2020) ¹⁵	32,193 American residents aged 50 and over	Logistic Regression	A substantial correlation was found between people with various disabilities (excluding those with visual, hearing, mobility, etc. disabilities) and depression.

Han et al. (2011) ¹⁶	In Canada, 281 patients were involved in the investigation.	Linner Regression	12 month antidepressant usage did not induce cognitive impairment.
Chavarria et al. (2021) ¹⁷	In Canada between 1999 and 2017	Logistic Regression	Antidepressant uptake grew from 1999 to 2017. Individuals who drink alcohol are more likely to use antidepressants than non-drinkers.
Aslan et al. (2022) ¹⁸	Turkey and Germany from 2008 to 2019	Regression, Correlation Tests	In Turkey and Germany, deaths caused by suicide, alcohol, and drug use, as well as alcohol consumption and suicide rates, have increased alongside the use of antidepressant medications.
Hall et al. (2003) ¹⁹	In Australia in the period 1991-2000	Quasi-Experimental Prospective Design	A significant relationship has been found between suicide rates and antidepressant use. Particularly, suicide rates have decreased among elderly individuals using antidepressants. It has been emphasized that antidepressant use may contribute to maintaining the mental health of the population.

In the literature, antidepressant use is not limited to the health status of individuals and society. It is also a fact that antidepressant consumption is influenced by economic and social factors. Specifically, income inequality, social isolation, rising unemployment, and increased alcohol consumption are argued to be significant drivers of antidepressant use.

Material and Methods

The present study aims to analyze the economic, demographic, and socio-cultural determinants of antidepressant use by examining the relationships between income, alcohol consumption, and demographic variables using panel data from OECD countries. This section provides information on the variables used in the research and the methods applied in the study. The study includes Turkey, Germany, the United Kingdom, Italy, France, Canada, Australia, Belgium, the Czech Republic, Denmark, Estonia, Finland, the Netherlands, Spain, Sweden, Lithuania, Hungary, Norway, the Slovak Republic, Chile, and Portugal.

Table 2. The information related to the variables used in the research

Variables	Variable explanation
ln_Antideptdose	Defined daily doses per 1000 inhabitants per day (Combined Unit Measure) /OECD Data
ln_Yagedept	Young age dependency ratio (Less than 20 years) /OECD Data
ln_Oldagedept	Old age dependency ratio (65 years or over) /OECD Data
ln_Gdp	Gross domestic product, per capita (US\$) /OECD Data
ln_Alcohol	Alcohol consumption (Litres per person) /OECD Data
Unemploy	Unemployment, total (% of total labor force) / World Bank
Urbanpop	Urban population (% of total population) / World Bank
Largacitypop	Population in the largest city (% of urban population) / World Bank

The findings presented in Table 2 provide information on the variables used in the study. Accordingly, the data utilized in this research cover the years 2008-2021 and were obtained from the World Bank²⁰ and the OECD database²¹. The variables included in the study—ln_Antideptdose, ln_Yagedept, ln_Oldagedept, and ln_Gdp—were calculated in unit terms. These variables were log-transformed to ensure standardization. Taking the logarithm of the variables allowed the data to achieve a more normal distribution and become more suitable for statistical analysis²².

Panel Data Analysis

It is a regression analysis method that accounts for unit- and time-dependent effects by calculating the variations in the dataset over time and across units. Panel data analysis provides more comprehensive insights by integrating cross-sectional data and time series data in a single framework²³.

Fixed Effects and Random Effects

In panel data analysis, two main methods—Fixed Effects (FE) and Random Effects (RE)—are used to determine the appropriate model. Fixed Effects in panel data analysis assess unit values independently of time effects and examine variations between units. In contrast, Random Effects estimate unit differences using a randomly distributed error term²⁴. The Fixed Effects model generalizes fixed, cross-sectional, and slope models for panel data, allowing for the effects of variables specific to individual cross-sectional units while excluding fixed terms. Dummy variables are employed to account for these effects, which remain the same across all cross-sectional units but vary across time periods. Differences in unit and time dimensions are incorporated into the error term, and the

estimated coefficient values remain constant over time. Since unit effects correlated with independent variables lead to biased estimates, the correct model selection should be made using the Hausman test²⁵. The Hausman test is used to determine whether the Fixed Effects or Random Effects model is appropriate. If the null hypothesis (Ho) is rejected, the Fixed Effects model should be applied, whereas if the null hypothesis is accepted, the Random Effects model is considered suitable²⁶.

Autocorrelation and Heteroscedasticity Issues

Longitudinal studies require a choice between static or dynamic panel data analysis estimation methods. In order to make a robust estimation, autocorrelation, heteroscedasticity, and horizontal cross-sectional dependence problems should be examined. These issues weaken the validity and reliability of the model. The autocorrelation problem refers to the correlation between the lagged values of the dependent variable and the values from previous periods. In this study, the autocorrelation issue was tested using the Wooldridge test. According to this test, the null hypothesis (Ho) indicates no autocorrelation problem. If the null hypothesis is rejected, it suggests the presence of an autocorrelation issue²⁷. Another major problem in panel data analysis is heteroscedasticity. If the distribution of error terms is not constant across units or time periods, heteroscedasticity exists in the model. To examine this issue, the modified Wald test was applied. As a result, the null hypothesis was rejected, confirming the presence of heteroscedasticity²⁸.

Driscoll-Kraay (Fixed Effects) Standard Error Estimator

In cases where cross-sectional correlation, heteroscedasticity, and autocorrelation are present, the Driscoll-Kraay (1998) Standard Errors robust estimator method is applied. Given that the number of units (N) is relatively close to the time period (T), the results obtained from the Driscoll-Kraay (Fixed Effects) standard errors test are consistent and reliable^{29,30}. The model equation for the Driscoll-Kraay (Fixed Effects) Standard Error Estimator is presented in Equation 1. In this equation, α_i represents time-invariant fixed effects related to the model. The adjusted standard error calculations are symbolized by ε_{it} , which denotes the error term.

$$\ln_Antideptdose_{it} = \alpha_i + \beta_1 \ln_Yagedept_{it} + \beta_2 \ln_Oldagedept_{it} + \beta_3 \ln_Gdp_{it} + \beta_4 \ln_Alcohol_{it} + \beta_5 Unemploy_{it} + \beta_6 Urbanpop_{it} + \beta_7 Largecitypop_{it} + \varepsilon_{it} \quad 1$$

Results

To examine the effects of antidepressant consumption, the Driscoll-Kraay Standard Errors method, a panel data analysis technique, was applied. The obtained results are presented below.

Table 3. The descriptive statistics

Variables	Observation	Mean	Std. Dev.	Min.	Max
In_Antideptdose	286	4.0209	0.4644	2.6741	4.9330
In_Yagedept	294	3.6161	0.1489	3.3978	4.1009
In_Oldagedept	294	3.3356	0.2512	2.4765	3.7062
In_Gdp	294	10.5527	0.3282	9.6448	11.3988
In_Alcohol	294	2.1660	0.4498	0.1823	2.6878
Unemply	294	8.0821	3.8399	2.015	26.094
Urbanpop	294	78.0773	10.0590	53.726	98.117
Largacitypop	294	22.2246	10.5549	5.4481	48.5752

According to the descriptive values presented in Table 3, the variables In_Antideptdose, In_Alcohol, Unemply, Urbanpop, and Largacitypop exhibit specific differences between their minimum and maximum values.

Table 4. Correlation matrix for variables

Variables	1	2	3	4	5	6	7	8
In_Antideptdose (1)	1	0.1299	0.2655	0.5876	0.0402	-0.1615	0.5043	-0.1160
In_Yagedept (2)		1	-0.6049	-0.0402	-0.6658	-0.1259	0.4079	0.1708
In_Oldagedept (3)			1	0.5648	0.6544	-0.1505	0.1060	-0.1271
Ln_Gdp (4)				1	0.1802	-0.4913	0.5499	-0.4058
In_Alcohol (5)					1	-0.1077	-0.0492	-0.0092
Unemply (6)						1	-0.2921	0.0791
Urbanpop (7)							1	-0.2112
Largacitypop (8)								1

In the correlation matrix of variables, values close to 1 can affect the reliability of the analysis results³¹. According to the information presented in Table 4, no values indicate the presence of a multicollinearity issue.

Table 5. Selecting the proper model

Model	Pooled OLS (Ordinary Least Squares)	Fixed Effects	Random Effects
Variables	Antidepdose	Antidepdose	Antidepdose
Ln_Yagedept	-0.2260 (0.2221)	-0.7099*** (0.2528)	-0.2260 (0.2221)
ln_Oldagedept	0.3136** (0.1304)	0.5217*** (0.1397)	0.3136** (0.1304)
ln_Gdp	0.7235*** (0.0914)	0.6546*** (0.0969)	0.7235*** (0.0914)
ln_Alcohol	0.1063 (0.1040)	0.3075** (0.1253)	0.1063 (0.1040)
Unemply	0.0024 (0.0036)	0.0035 (0.0036)	0.0024 (0.0036)
Urbanpop	-0.0001 (0.0062)	-0.0139* (0.0084)	-0.0001 (0.0062)
Largcitypop	0.0138* (0.0072)	0.0365*** (0.0129)	0.0138* (0.0072)
Cont.	-4.4073*** (1.2426)	-2.4910* (1.3527)	-4.4073*** (1.2426)
Obs.	286	286	286
F Test (P Value)	0.000	0.000	0.000
Hausman Test		Chi2 (4) = 16.01	
		Prob>chi2 = 0.0250	

The results of the Pooled Ordinary Least Squares (OLS), Fixed Effects, and Random Effects tests are presented in Table 5. According to these results, due to unit and time effects, the outcomes obtained from the Pooled OLS test are inconsistent³². To choose between Fixed and Random Effects, the Hausman test is applied. According to the Hausman test, when the null hypothesis (H₀) is rejected ($p < 0.05$), the results obtained from the Fixed Effects test are considered²⁶.

Table 6. Diagnostic tests

Autocorrelation Test	Modified Bhargava et al. Durbin-Watson =0.3245892 Baltagi-Wu LBI=0.74054062
Variance Test	Modified Wald Test/Chi2=2543.79 Prob>chi2= 0.000
Cross-Section Dependence Test	CD Test: CD Testi/P değeri ln_Antidepdose=42.97/0.000 ln_Yagedept=10.394/0.000 ln_Oldagedept=53.122/0.000 ln_Gdp=51.134/0.000 ln_Alcohol=16.65/0.000 Unemploy=16.05/0.000 Urbanpop=41.86/0.000 Largacitypop=6.006/0.000

According to the information in Table 6, positive autocorrelation is observed based on the Durbin-Watson (0.3245892) and Baltagi-Wu LBI (0.74054062) tests. The modified Wald test indicates the presence of heteroscedasticity ($p < 0.05$). According to the CD (Cross-Sectional Dependence) test, the null hypothesis, which emphasizes cross-sectional dependence, is not rejected for all variables, indicating the existence of cross-sectional dependence. Based on the results of the preliminary tests conducted so far, autocorrelation, heteroscedasticity, and cross-sectional dependence are present. Due to the closeness of the number of units (N) to the time period (T), the results obtained from the Driscoll-Kraay (Fixed Effects) standard errors test are consistent and reliable^{29,30}.

Table 7. Driscoll-Kraay, Pooled OLS and PCSE methods

Variables	Driscoll-Kraay (Fixed Effects)	Driscoll-Kraay (Pooled OLS)	Prais-Winsten Heteroskedastic Panel Corrected Standard Errors
ln_Yagedept	-0.7099*** (0.1694)	0.0634 (0.0948)	-0.2319 (0.3187)
ln_Oldagedept	0.5217*** (0.0752)	-0.2113*** (0.0563)	0.1713 (0.1810)
ln_Gdp	0.6546*** (0.0568)	1.0372*** (0.1032)	0.5706*** (0.0857)
ln_Alcohol	0.3075*** (0.0724)	0.0376 (0.0611)	-0.0047 (0.0877)
Unemploy	0.0035 (0.0032)	0.0272*** (0.0034)	0.0070* (0.0040)

Urbanpop	-0.0139*** (0.0042)	0.0104*** (0.0015)	0.0175*** (0.0048)
Largacitypop	0.0365*** (0.0114)	0.0081*** (0.0006)	0.0075 (0.0052)
Constant	-2.4910* (1.2071)	-7.7614*** (0.8225)	-3.3463** (1.3957)
P Value	0.0000	0.0000	0.0000
R Square	0.6899	0.4456	0.9423
The variable 'Antideptdose' has been taken as the dependent variable in the model.			

According to the findings presented in Table 7, the 20 and Under Young Dependent Population (ln_Yagedept), the 65 and Over Elderly Dependent Population (ln_Oldagedept), Income (ln_Gdp), Alcohol (ln_Alcohol), Urban Population (Urbanpop), and Population in the Largest City (Largacitypop) significantly affect the antidepressant use ($P < 0.05$). Specifically, if the 20 and Under Young Dependent Population (ln_Yagedept) increases by 1%, the antidepressant (ln_Antideptdose) use decreases by 70%. If the 65 and Over Elderly Dependent Population (ln_Oldagedept) increases by 1%, the antidepressant (ln_Antideptdose) use increases by 52%. If income (ln_Gdp) increases by 1%, antidepressant (ln_Antideptdose) use increases by approximately 65%. Similarly, if alcohol (ln_Alcohol) consumption increases by 1%, antidepressant (ln_Antideptdose) use increases by 30%. If urban population (Urbanpop) increases by 1%, antidepressant (ln_Antideptdose) use decreases by approximately 1.4%, while if the population in the largest city (Largacitypop) increases by 1%, antidepressant (ln_Antideptdose) use increases by approximately 3%.

Discussion

This study investigates the relationship between antidepressant use and economic, demographic, and socio-cultural factors by employing panel data from OECD countries for the period 2008–2021. The results emphasize that antidepressant use varies depending on multiple determinants across both countries and time. The empirical findings indicate that demographic structure plays a significant role in shaping patterns of antidepressant use. In particular, an increase in the proportion of the dependent population aged 20 years and under is associated with a reduction in antidepressant use. This association may reflect lower rates of diagnosed depression among younger populations or more restricted access to psychiatric medications. These explanations are regarded as potential reasons for the reduction in antidepressant use rather than being directly tested within the scope of the present study. However, studies conducted in the United States and Australia emphasize that antidepressant use is relatively high among adult populations. In the United States, recent evidence indicates that antidepressant use among adults aged 18 years and older has increased, with slightly higher rates observed among adult women³³. Similarly, in Australia, antidepressant use is higher among women than among men, as women are more frequently exposed to anxiety and depression³⁴. These findings indicate that antidepressant use varies across age groups

and population subgroups. In contrast, the findings of the study indicate that the increase in the elderly dependent population (aged 65 and over) has positively impacted the use of antidepressants. Studies in the literature also support this finding¹⁹. It is thought that older people are more vulnerable to psychiatric problems like depression and anxiety due to feelings of loneliness. Some antidepressants have anticholinergic effects. A study conducted in the UK found that the use of anticholinergic drugs among the elderly has doubled in the last 20 years³⁵. Socioeconomic factors also have a substantial effect on antidepressant use. There is a link between higher income levels and antidepressant use. This relationship may be explained by the fact that individuals in higher-income groups have faster access to healthcare services, greater health awareness, and a higher tendency to seek psychiatric treatment. The findings of the present study are also supported by evidence from Korea, indicating that antidepressant use is lower in low-income countries compared to high-income countries³⁶. This finding suggests that antidepressant use may reflect both underlying psychological needs and inequalities in access to healthcare services. The analysis reveals a positive association between alcohol consumption and antidepressant use, indicating that higher alcohol consumption is linked to higher antidepressant dosage. This association may suggest a co-occurrence of alcohol consumption and mental health problems; however, the direction of this relationship remains complex, as it is unclear whether alcohol consumption leads to antidepressant use or whether antidepressant use is associated with higher alcohol consumption. Chavarria et al. (2021) report that individuals who consume alcohol exhibit higher rates of antidepressant use compared to non-drinkers in Canada. Antidepressant use has been observed to be more prevalent among women than among men¹⁷. Individuals with alcohol dependence may be at a higher risk of depression, which could, in turn, be associated with increased use of psychiatric medications. According to other findings of the study, as urban population increases, antidepressant consumption slightly decreases, whereas the population growth in the largest city increases antidepressant use. Therefore, while the general increase in urban population creates advantages, it can create disadvantages for overcrowded cities. The intense work pace, stress, social exclusion, and competitive environment in large cities can increase depression levels. This situation is supported by studies in the literature. In a study conducted by Xu et al. (2023) on developed countries, it was emphasized that the increase in urban population is a significant factor driving antidepressant consumption. In contrast, the opposite effect was observed in developing countries. In other words, the growth of urban population led to a decrease in antidepressant use³⁷. According to a study by Dost et al. (2018), people living in rural areas believe that antidepressant use is unnecessary, but it is emphasized that the main reason for antidepressant use is doctor recommendations³⁸. On the other hand, the general increase in urban population, compared to rural areas, is highlighted as reducing depression risk due to easier access to healthcare services and greater social support opportunities in cities. Existing literature indicates a potential association between antidepressant use in rural and urban populations and countries' levels of development. This study has several limitations. The first limitation is that the data obtained from the countries included in the analysis focus on general health indicators over a specific time period; therefore, it does not reflect individual-level inferences regarding antidepressant use. The second limitation is that

diagnostic practices, healthcare system mechanisms across countries, and societal perceptions of mental health cannot be directly observed. Third, although the Driscoll–Kraay estimator accounts for heteroskedasticity, autocorrelation, and cross-sectional dependence, causal inferences remain contingent upon the underlying model assumptions. Despite these limitations, the study contributes to the literature by examining how demographic, socioeconomic, and urbanization-related factors are associated with antidepressant use across OECD countries.

Conclusion and Recommendations

The aim of the study is to examine the impact of economic, demographic, and socio-cultural factors on antidepressant consumption. Antidepressant use has significantly increased in recent years. The primary motivation of this research is to identify the underlying causes of antidepressant consumption within a cause-and-effect relationship. The data used in this study are panel data obtained from the OECD and the World Bank. The data for 21 OECD countries covers the period from 2008 to 2021. Reliable results were obtained using the Driscoll-Kraay (Fixed Effects) standard errors estimator, one of the methods of panel data analysis. According to the findings, the increase in the dependent population under the age of 20 and the population of individuals in urban areas reduces antidepressant consumption, while the increase in the elderly dependent population (aged 65 and above), household income, alcohol consumption, and the population growth in the largest cities of the countries included in the study significantly increases antidepressant use. Specifically, the increase in the proportion of the dependent population under 20 years of age significantly reduces antidepressant use, while antidepressant consumption is found to be high in the elderly dependent population. In conclusion, lower levels of antidepressant consumption among individuals under the age of 20 may reflect lower diagnosed depression rates or more limited access to psychiatric medications; nevertheless, these hypotheses cannot be directly examined within the scope of the present study. The presence of chronic diseases in the elderly dependent population may increase susceptibility to psychological issues such as depression and anxiety. People with higher income levels have better access to healthcare services, and it can be assumed that awareness of mental health disorders is higher among them. Access to psychiatric services should be facilitated for disadvantaged individuals. Policies should be developed considering the relationship between alcohol consumption and mental health. In particular, the overcrowded population in mega-cities should be supported by social support mechanisms.

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