

Examining the Use of Sedative Drugs in the U.S. Working Population

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BACKGROUND AND AIM

- Sleep disorders remain a persistent public health challenge. (1) About 30 million individuals experience sleep disorders in the U.S.(2)
- Previous studies have reported the prevalence of sleep disorders in the U.S. working population, with the highest prevalence in age 45-64 years.(3,4)

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METHODS

- The 2017 National Survey on Drug Use and Health was used.
- This data were analyzed using the R Studio 3.6.1 and RStudio Cloud.
- The outcome variable is sedative use within the past 12 months. The treatment variable is employment status, grouped as full-time employed, part-time employed, and unemployed.
- The covariates are age, gender, race, education, marital status, and poverty status.

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RESULT

Multivariate regression of the use of sedatives and employment status

Variables	Treatment coefficient
Employment status	
Part-time	-.0681982
Unemployed	-.0276269
Gender	
Female	-.1553485
Male	Reference
Age	
25-34 Years	-.0426237
35-44 Years	-.1861955
45-54 Years	-.349391
55 and above	-.2559866
Education	
High school diploma/GED	-.133912
Some college credit, but no degree	-.272353
Associate's degree	-.2938887
College graduate or higher	-.2841736
No high school diploma/GED	Reference
Marital status	
Widowed	-.2986473
Separated	-.1488813
Married	-.0841771
Single	Reference

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DISCUSSION

- The sample was composed of 33,520 eligible respondents of between 18-64 years old and a median age of 45 years. Most were employed (full-time 45.31%, part-time 23.37%, and unemployed 31.32%).
- In this multivariate regression, we analyzed the use of sedative in employed participants, with 30,856 (92.05%) and 127 (0.38%) being, respectively less likely to use sedative drugs as compared to full-time employees.

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CONCLUSION

- Findings from this study suggest that U.S. employed workers have higher utilization of sedatives.
- The socioeconomic features of an individual may have a moderating effect on the use of sedatives.
- There is a need for policies and specialized programs to improve sleep, mental health, and productivity of U.S. employees.

References

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BACKGROUND AND AIM

- Sleep disorders remain a persistent public health challenge.[1] About 70 million individuals experience sleep disorders in the U.S.[2]
- Previous studies have reported the prevalence of sleep disorders in the U.S working population, with the highest prevalence in night shift workers.[3,4]
- Sleep disorders have been associated with several chronic ailments such as cardiovascular diseases, depression, obesity, diabetes, and increased risk of mortality.[5]
- The prevalence of sleep disorders and increasing work demands in the U.S. is expected to lead to a continuous increase in sedative drug use in this population.
- However, there is a paucity of studies examining the specific use of sedatives in this population.
- Understanding sedative use in the U.S. working and non-working population will inform interventions and policies aimed at improving employee wellness.

AIM

To examine the use of sedatives among the employed, part-time employed, and full-time employed individuals.

METHODS

- The 2017 National Survey on Drug Use and Health was used.
- The data were analyzed using the Stata 15 from StataCorp
- The outcome variable is sedative use within the past 12months. The treatment variable is employment status, given as full-time employed, part-time employed, and unemployed.
- The covariates are age, gender, race, education, marital status, and poverty status.
- A multivariate regression and propensity score matching was conducted.
- Treatment-effects estimation with propensity score matching was analyzed individually with the outcome variable for unemployed vs. employed, part-time employed vs. full-time employed, and unemployed vs. part-time employed.
- Also, the sociodemographic variables were matched for each analysis.

RESULT

Multivariate regression of the use of sedatives and employment status		
Variables	Treatment coefficient	P-value
Employment status		
Part-time	-.0685592	0.014
Unemployed	-.0278269	0.000
Employed	Reference	***
Gender		
Female	-.1555495	0.000
Male	Reference	***
Age		
26-34 Years	-.0429237	.168
35-49 Years	-.1863955	0.000
50-64 Years	-.349391	0.000
65 and above	-.2555066	0.000
18-25 Years	Reference	***
Education		
High school diploma/GED	-.1333912	.324
Some college credit, but no degree	-.272313	0.045
Associate s degree	-.2938607	0.033
College graduate or higher	-.2841734	0.036
No high school diploma/GED	Reference	***
Marital status		
Widowed	-.2506473	0.011
Separated	-.1488811	0.000
Married	-.0041171	0.884
Single	Reference	***
Poverty		
Income Up to 2X Fed Pov Income	-.0070247	0.849
More Than 2X Fed Pov Thresh	-.0407497	0.230
Living in Poverty	Reference	***
Gender by race		
Female, white, Not Hispanic	-.1642472	0.022
Male, Black, Not Hispanic	.1640454	0.001
Female, Black Not Hispanic	.1589831	0.047
Male, Hispanic	.1375283	0.001
Female, Hispanic	.0831855	0.287
Male, White, Not Hispanic	Reference	***

Treatment-effects estimation with propensity score matching		
Sedative use ATE	Coefficient	P-value
unemployed vs employed full time	-0.3739949	0.000
employed vs employed full time	-0.1023	0.012
unemployed vs employed part time	-0.3118391	0.000

DISCUSSION

- The sample size comprised of 31,526 eligible observations of females(51.96%) and males (48.04%) above 18 years. Most were employed full time(70.91%), part-time(20.97%) and unemployed(8.12%).
- In the multivariate regression, unemployed and part-time employed participants were .069($p=0.014$) and .027 ($p=0.000^*$) times, respectively less likely to use sedative drugs as compared to full-time employees.
- Similarly, the treatment-effects estimation with propensity analysis for sedatives' use found that unemployed participants had 37.4%($p=0.000^*$) less likelihood of using sedatives vs. full-time employed participants.
- Part-time employed participants had a 10.2%($p=0.012$) less likelihood of using sedatives as compared to full-time employed participants. In comparison, unemployed participants had 31.2% ($p=0.000^*$) less likelihood of using sedatives vs. part-time employed. Also, sedative use is found to decrease as income level increases.

CONCLUSION

- Findings from this study suggest that U.S. employed workers have higher utilization of sedatives.
- The sociodemographic features of an individual may have a moderating effect on the use of sedatives.
- There is a need for policies and work-based prevention programs to improve sleep, health status, and productivity of U.S. employees.

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