Self-Medication with Antibiotics During COVID-19 Pandemic: Prevalence, and the Knowledge–Practice Paradox Among University Students

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***Abstract*—Background:** Self-medication with antibiotics presents major public health problem, particularly through the emergence of multidrug-resistant microorganisms. The COVID-19 pandemic, with its uncertainty and healthcare limitations, may have intensified this practice.

Aims: This study investigates the prevalence, knowledge, and key determinants of SMA among university students in M'sila Province, Algeria, during the pandemic.

Methods: Descriptive statistics, including frequencies and cross-tabulations of selected variables, were calculated. The Chi-square test was used to assess associations between categorical variables. To identify factors independently associated with SMA, logistic regression analysis was conducted.

Results: A total of 410 non-medical students agreed to participate in the study and respond to the questionnaire. The majority of respondents (78.1%) were female. The prevalence of SMA during the COVID-19 pandemic was 40.5% among university students. Higher rates were observed among biology, single, and graduate students, at 44.4%, 41.2%, and 41.9%, respectively. In case of mild illness, 34.7% of biology respondents were self-medicated with antibiotics compared to higher proportion (42.4%) of non-biology students ($P = 0.048$).

Logistic regression analysis showed that students who supposed to have excellent knowledge of medications were more likely to self-medicate (OR = 6.613; $P < 0.05$). Furthermore, the COVID-19 pandemic context increased the likelihood of SMA by more than threefold (OR = 3.104; $P < 0.001$).

Conclusion: The COVID-19 pandemic has significantly increased SMA among university students, highlighting the urgent need for targeted awareness campaigns and educational interventions to promote rational antibiotic use during health crises.

***Index Terms*—** Self-Medication, Antibiotics, University Student, COVID-19 Pandemic.

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