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859 - WHAT DETERMINANTS INFLUENCE COVID-19 BOOSTER VACCINATION: A MULTILEVEL QUANTITATIVE STUDY

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Resumen

Background/Objectives: Portugal was the only European country with excess mortality by the end of 2025. Respiratory infections were pointed out as a possible cause. In this context, COVID-19 vaccination remains of utmost importance. Adherence to COVID-19 vaccines has been declining, thus understanding which variables influence COVID-19 booster vaccine uptake may inform public health measures. This study aims to assess the effects of sex, age, country of birth, and population density of the parish of residence on COVID-19 booster uptake in fully vaccinated adults.

Methods: This is an observational, retrospective, cohort study. Study participants were individuals aged 18 years or older with a suspected or confirmed COVID-19 episode reported to the Public Health Unit of Alto Minho between January 1 and December 31, 2022. Alto Minho is a region in northern Portugal with 234,215 inhabitants as of 2023. A local approach was used in this study to facilitate access to more detailed and comprehensive data. Sex, age, country of birth, parish of residence, vaccination status, and number of COVID-19 vaccine doses at the time of the reported episode were extracted from the National Epidemiological Surveillance System (SINAVE) on June 9, 2024. The population density of the identified parishes was obtained from the National Institute for Statistics and then categorised as described above. A multiple logistic regression model with a random effect at the parish level was used to estimate the adjusted odds ratio of receiving, at least, 3 doses of the COVID-19 vaccine (versus 2 doses only), as a proxy for booster vaccination.

Results: The sample was composed of 4,402 individuals from 208 parishes. Being female, belonging to the oldest age group, and being Portuguese were factors significantly and positively associated with COVID-19 booster vaccination. The odds of individuals aged 60 years or older were estimated to be approximately 10.95 times higher than those in the youngest age group (18-39 years). The analysis also revealed a statistically significant interaction effect between sex and birth country on the probability of receiving a COVID-19 vaccine boost dose.

Conclusions/Recommendations: These findings highlight the need to identify priority groups for targeted public health interventions, namely younger adults, males, foreign-born individuals, and residents of rural or peripheral parishes. This is an important complement to national campaigns.

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