

Abstract

The aim of the studies was to assess COVID-19 vaccination uptake and identify factors influencing vaccination decisions in two populations of particular public health importance: Ukrainian refugees residing in Poland and Polish healthcare professionals and medical students.

The first study was conducted among 837 Ukrainian refugees registering their residence in Zielona Góra, Poland. The findings revealed a remarkably low level of COVID-19 vaccination coverage. More than 60% of respondents had not received any dose of a COVID-19 vaccine, while only 18.3% had completed the full vaccination schedule. The most frequently reported motivation for vaccination was the protection of one's own health, followed by the protection of family members. Multivariable logistic regression analysis demonstrated that previous SARS-CoV-2 infection, regular influenza vaccination, residence in a large Ukrainian city, and willingness to travel abroad were significant predictors of COVID-19 vaccine uptake. These findings suggest that prior experiences with infectious diseases and vaccination play a crucial role in shaping attitudes toward COVID-19 immunization.

The second study involved 256 healthcare professionals and medical students from the Lubuskie Province, Poland. In contrast to the refugee population, COVID-19 vaccination coverage in this group was exceptionally high, exceeding 95%. Despite the high vaccination rate, substantial differences in vaccine-related beliefs were identified. Cluster analysis revealed four distinct groups characterized by negative, moderately negative, moderately positive, and strongly positive attitudes toward COVID-19 vaccination. Although more than 65% of participants expressed positive views regarding vaccination, over one-third believed that COVID-19 vaccines had been developed too rapidly. Furthermore, individuals with more favorable vaccine-related beliefs were significantly more likely to receive additional booster doses. Higher socioeconomic status was also associated with more positive attitudes toward vaccination.

Taken together, the findings of both studies indicate that COVID-19 vaccination decisions are strongly influenced by vaccine-related beliefs, previous health experiences, and socioeconomic factors. Among Ukrainian refugees, the primary challenge appears to be low vaccine acceptance and limited trust in immunization

programs. In contrast, among healthcare professionals and medical students, vaccination behavior is largely determined by individual perceptions of vaccine safety, effectiveness, and development processes. The results highlight the importance of targeted educational interventions to improve knowledge of vaccine safety and efficacy and strengthen trust in vaccination programs. Such measures may increase vaccination uptake among vulnerable populations and healthcare professionals, who play a key role in promoting evidence-based health behaviors and influencing public attitudes toward vaccination.