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Understanding the Key Drivers, Barriers and the Role of Different Socioeconomic Conditions When Vaccinating Against Invasive Meningococcal Serogroup B Disease in Europe: A Multi-Country Cross-Sectional Physician Survey

MenB vaccination rates in Europe tend to be influenced by physicians' recommendations, inclusion in NIPs, vaccine reimbursement and socioeconomic factors

Digital poster

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Aim

To investigate the socioeconomic factors, key drivers and barriers influencing meningococcal serogroup B (MenB) vaccination in infants and young children in Austria, Belgium, Greece and Spain, based on the feedback of vaccinating physicians

Methods

- A cross-sectional online questionnaire was conducted in Austria, Belgium, Greece and Spain to capture physicians' practice characteristics and the most common factors influencing MenB vaccination uptake in infants and young children
  - The questionnaire comprised single-choice, multiple-choice and open numeric questions to obtain information on physicians' caseloads, MenB vaccination rates, the most influential factors affecting vaccination rates and equity of vaccination access
- Descriptive statistics and correlation analyses were conducted to identify key barriers and drivers of vaccination, and to assess the impact of socioeconomic factors on MenB vaccination uptake

Results

A total of 410 practicing physicians participated in the study, including 305 paediatricians (Austria: 40; Belgium: 54; Greece: 121; Spain: 90) and 105 general practitioners (Austria: 40; Belgium: 35; Spain: 30)

Key drivers and barriers of MenB vaccination

- Common drivers of MenB vaccination were physicians' recommendations for vaccination (25%–35%) and inclusion in the national immunisation program (NIP; 21%–35%; **Figure 1**)
- Physicians in Austria, Belgium and Greece perceived cost of vaccination as a major barrier to MenB vaccination uptake among individuals who usually pay out of pocket (38%–60%; **Figure 1A–C**). In contrast, physicians from Spain reported concerns on vaccine side effects (24%) and lack of awareness of the health benefits of vaccination (20%) as major barriers (**Figure 1D**)

Socioeconomic factors influencing MenB vaccination rates

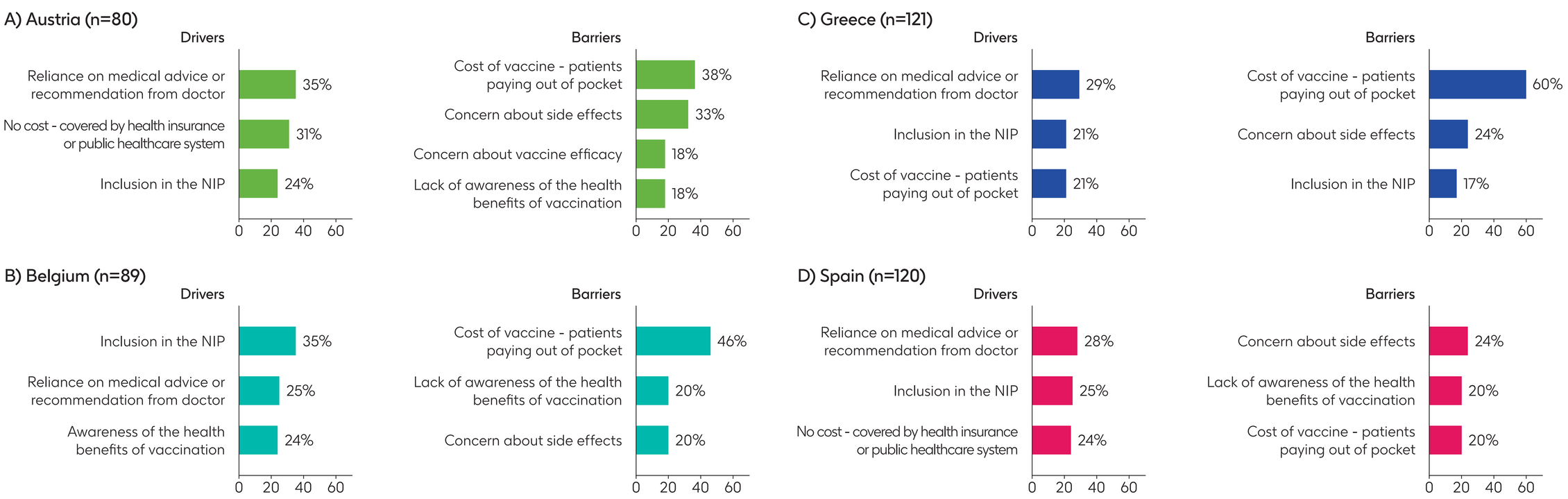
- Ethnicity (Austria, Greece, Spain) and low health literacy (Belgium) were considered to have a high effect on vaccination rates. Income, health literacy and ethnicity were perceived to have moderate effects across countries (**Table 1**)
- Physicians in Austria and Belgium considered vaccine reimbursement to have a moderate effect on MenB vaccination rates. A similar trend was observed in Greece, but robust correlation estimates could not be generated due to the low number of individuals in this sub-category
- Physicians in Spain believed there is a moderate effect on MenB vaccination rate if the vaccinated individual is used to paying out of pocket for healthcare expenses

Table 1: **Socioeconomic characteristics with a high or moderate effect on MenB vaccination rates, based on Pearson's correlation coefficient**

Country	High impact (r=0–0.3)	Moderate impact (r=0.4–0.7)
Austria	• Ethnicity: Black/African/Caribbean • Ethnicity: Mixed/Multiple • Ethnicity: Other	• Usually reimbursed by state or insurance • Health literacy: Low • Health literacy: Medium • Health literacy: High • Income: Low • Ethnicity: Hispanic/Latino • Ethnicity: Asian[a] • Ethnicity: Middle Eastern/North African
Belgium	• Health literacy: Low	• Usually reimbursed by state or insurance • Health literacy: Medium • Income: Low • Ethnicity: Asian[a]
Greece	• Ethnicity: Asian[a] • Ethnicity: Hispanic/Latino	• Health literacy: High • Ethnicity: Mixed/Multiple • Ethnicity: Other
Spain	• Ethnicity: Middle Eastern/North African • Ethnicity: Mixed/Multiple • Ethnicity: Other	• Usually pay out of pocket • Health literacy: Low • Income: Low • Income: High • Ethnicity: Black/African/Caribbean, Asian,[a] or Hispanic/Latino

Pearson's correlation analyses evaluated the linear association between MenB vaccination rates among all eligible individuals and vaccination rates among eligible individuals with a particular socioeconomic characteristic. Characteristics with a statistically significant Pearson's correlation coefficient ($p<0.05$), based on two-tailed tests, are reported. [a] Including Indian continent, Southeast Asian, and Other Asian

Figure 1. **Top three drivers and barriers of MenB vaccination selected by vaccinating physicians**



Drivers and barriers are reported as the percentage of respondents who selected a prelisted factor as 'rank 1' or 'rank 2'. Factors with the highest proportion of 'rank 1' and 'rank 2' responses in the questionnaire were selected as the most common

Background

- *Neisseria meningitidis* causes invasive meningococcal disease (IMD), which is associated with high case fatality rates and severe long-term sequelae. Serogroup B accounts for the majority (62%) of cases in Europe[1]
- The highest IMD incidence rates are observed in infants aged <1 year, followed by children aged 1–4 years and adolescents/young adults aged 15–24 years[1]
- MenB vaccination is recommended in Austria (small children from 2 months, with catch-up until 25 years) and reimbursed for high-risk groups, and recommended in Belgium (high-risk groups and ages 2 months–5 years) but not reimbursed. Until very recently, MenB vaccination was reimbursed only for high-risk groups in Greece
- In Spain, MenB vaccination is included in the NIP for newborns, whereas vaccination in adolescents is recommended by scientific societies but not in the NIP

Conclusions

Drivers, barriers and socioeconomic factors affecting MenB vaccination in Austria, Belgium and Greece differed from those in Spain, which may be due to national differences in vaccine access and reimbursement, suggesting that reimbursement is a key parameter influencing vaccination

Clinical recommendations, inclusion in NIPs, vaccine reimbursement and socioeconomic factors need to be considered to minimise health inequities and optimise vaccination strategies against severe infectious diseases such as IMD

Abbreviations

IMD, invasive meningococcal disease; MenB, meningococcal serogroup B; NIP, national immunisation program

References

1. European Centre for Disease Prevention and Control. Invasive meningococcal disease: Annual epidemiological report for 2022. 2024. Available at: https://www.ecdc.europa.eu/en/publications-data/invasive-meningococcal-disease-annual-epidemiological-report-2022 (Accessed: October 2024)

Disclosures

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