

"I think meningitis is a virus, while septicaemia might be caused by bacteria." A study of MenACWY uptake and vaccination views among freshers at a London university

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Introduction

- New university students are at increased risk of invasive meningococcal disease (IMD).
- Group W, a particularly aggressive strain, is increasing in prevalence and the high case-fatality rate among adolescents is concerning
- MenACWY vaccine has been recommended for this age group since 2015.
- National uptake has been low.
- Previous research¹²³⁴ showed vaccine coverage at UK universities is variable, and is particularly low among older or international students.

Aims:

- Quantify uptake of MenACWY vaccine at a London-based university with a high proportion of international students.
- Investigate knowledge of IMD and vaccination views.
- Quantify MMR uptake.

Methods

Mixed methods:

- Questionnaire ($n = 144$) using SurveyGizmo
- Follow-up interviews ($n = 13$)
- Eligibility criteria were first year students, undergraduates and over the age of 18.
- Statistical tests, including multiple logistic regression.
- Interviews analysed thematically.

Participant recruitment:

- Questionnaire distributed via a university email newsletter and university social media pages.
- Posters containing a QR code linking to the questionnaire posted around campus.
- Interview participants recruited through the questionnaire.

Table 1: A table showing the MenACWY vaccine coverage at other UK universities, reported by previous research in comparison with the findings of this study

University	Year	MenACWY Vaccine Coverage
University of Nottingham ¹	2015	31%
University of Liverpool ²	2016	68.1%
Universities across NI ³	2015	Age 18: 90.7%/87.3% (f/m) Age 20-25: 39.6%/32.7% (f/m)
University of Edinburgh ⁴	2016	71.5%
University College London	2019	84%

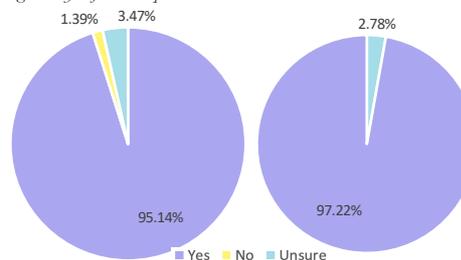
Limitations

- Small number in sub-groups
- Sample was skewed towards medical students, female students and students from a more advantaged socioeconomic background.

References

- ¹Hilton, S. et al. (2013) 'Teenagers' understandings of and attitudes towards vaccines and vaccine-preventable diseases: A qualitative study', *Vaccine*. Elsevier Ltd, 31(22), pp. 2543–2550. doi: 10.1016/j.vaccine.2013.04.023
- ²Blagden, S. et al. (2017) 'Uptake of a new meningitis vaccination programme amongst first-year undergraduate students in the United Kingdom: A cross-sectional study', pp. 1–16
- ³Moore, P. J. A., Millar, B. C. and Moore, J. E. (2017) 'Meningococcal ACWY vaccine uptake and awareness among student freshers enrolled at Northern Ireland universities', *International Journal of Adolescent Medicine and Health*, pp. 1–11. doi: 10.1515/ijamh-2016-0087
- ⁴Traynor, K. M. A., Anderson, N. and Cameron, J. C. (2018) 'A mixed-methods study to identify factors associated with MenACWY vaccine uptake, barriers and motivations towards vaccination among undergraduate students', *Health Education Journal*, 1–14. doi: 10.1177/0017896918796049

Figure 2: Pie charts showing the vaccination views of respondents, with the percentage that believe vaccines to be generally safe and important



Responses to "Are vaccines generally safe?" Responses to "Are vaccines important?"

Results

- Response rate cannot be calculated as denominator unknown.
- MenACWY vaccine uptake was 84%, higher than at other universities in previous studies.
- Students from more socioeconomically disadvantaged backgrounds were less likely to be vaccinated (aOR = 0.117, $p = 0.006$).
- Most students thought vaccines were safe (95.1%) and important (97.2%).
- Students with above average knowledge were more likely to be vaccinated (OR = 3.057, $p = 0.019$).
- Students unaware that meningitis can be fatal were less likely to be vaccinated (aOR = 0.173, $p = 0.035$).
- Vaccination views of interview participants were positive and knowledge level was moderate to high.
- Some interview participants believed incorrectly that vaccination with the MenACWY vaccine prevents any cause of meningitis.

Reasons for vaccination include:

- Influence of authority figures and peers
- To avoid disease
- Trust of vaccines

Reasons for non-vaccination include:

- Temporary illness
- Laziness
- Forgetfulness
- Difficulty with GP access.

Summary of Key Results

- MenACWY uptake was **84%**.
- More **socioeconomically disadvantaged** students are less likely to be vaccinated.
- **International students** are equally likely to be vaccinated as home students.
- Students with above average **knowledge of meningitis** are more likely to be vaccinated.
- Most students believe vaccines to be **safe and important**.
- Some students incorrectly believe that the vaccine **prevents any cause of meningitis**.

Conclusions

- Uptake at this London university in 2019 was higher than at other universities in previous studies.
- This may be due to the university's vaccination campaign, or due to the higher national uptake since initial studies were conducted.
- Contrary to other studies, under-vaccination of international students was not seen in this study, suggesting that the university's direct targeting of international students with awareness campaigns was successful.
- Findings regarding socioeconomic status were unique and concerning.
- Student views of vaccination were positive but knowledge was variable, with misunderstanding of key facts reported.
- This research highlights several areas for further study and raises questions about inequality of vaccine uptake.
- The higher MenACWY uptake in this study is promising, but uptake needs to be increased further and across all demographic groups to ensure students are adequately protected.