PCR9

Role of Video vs Text Information in Willingness to be Vaccinated for Invasive Meningococcal Disease Among US Adolescents/Young Adults and Parents

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BACKGROUND

- Vaccination remains the best strategy to prevent invasive meningococcal disease (IMD) caused by the common meningococcal serogroups A, B, C, W, and Y (MenABCWY).[1]
- Uptake of meningococcal vaccines is low among adolescents and young adults in the United States.[2]
- Understanding what determines preferences for IMD vaccination may help increase vaccination uptake and can guide vaccination discussions between providers and patients.
- Vaccine attributes, as well as how disease and vaccine information is presented to individuals, may influence vaccine preferences and willingness to be vaccinated (WTV).

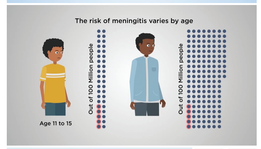
OBJECTIVE

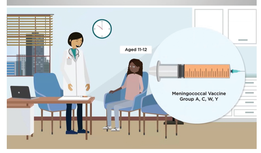
- This study evaluated how vaccine attributes, the availability of a new pentavalent (MenABCWY) vaccine, and the presentation of vaccine and IMD information affect WTV among US adolescents/young people (AYP) and parents/legal guardians (PLG).

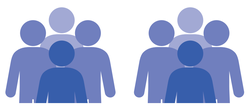
METHODS

- A discrete choice experiment (DCE) was conducted among AYP (16- to 23-year-olds) and PLG of 11- to 17-year-olds to assess WTV.
- All survey and background information was available in English and Spanish.
- Before completing the DCE, respondents were randomized to either a video or a text presentation conveying background information about IMD and vaccinations.
  - Qualitative plot interview feedback indicated the text version was lengthy; therefore, information was condensed in the text version only.

Participants were first presented with a either a video or a text conveying background information on IMD and vaccinations.

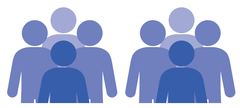






Saw video

- Meningococcal disease is an infection caused by bacteria. It can lead to meningitis or blood poisoning. Meningitis is an infection of the protective layers surrounding the brain and spinal cord. Blood poisoning can affect the whole body. Meningococcal disease is often just referred to as meningitis.
- The bacteria causing meningitis is spread through saliva or droplets.
- In the first few hours, meningitis causes flu-like symptoms that get worse quickly and turn into other symptoms.
- Over a five-year time period, anywhere from 200 to 2000 people out of 100 million people will get meningitis. This is shown using the following graphic. Here 200 people out of 100 million people get meningitis.
- The risk varies with age. For example, over five years, meningitis affects about 200 adolescents out of 100 million aged 11 to 15.
- Even with effective treatment, 5 to 15 out of 100 meningitis patients aged 11 to 23 die.
- About 1 in 3 patients who receive effective treatment will still have long-term complications.
- Complications can include scarring of the skin, reduced mobility in arms or hands, seizures, hearing difficulties, the loss of an arm or leg, or cognitive impairment.
- There are different groups of meningococcal bacteria that can cause meningitis; each referred to by a letter. The five most common groups are A, B, C, W and Y.
- Group B causes about 60 out of 100 meningitis cases among 16 to 23- year-old people.
- This is available to people between 16 and 23 years based on doctor's recommendation.
- From the age of 16, a total of 3 shots are recommended to protect against all 5 groups.
- About 9 out of 10 people have received the initial dose of the vaccine for groups A, C, W, and Y around 11 years old. Approximately half of these people also receive the booster.
- Approximately 3 in 10 people over 16 years receive at least one of two recommended doses of the group B vaccine.
- A new vaccine is currently being developed that combines the two vaccines. It requires fewer shots to be protected against the five groups.

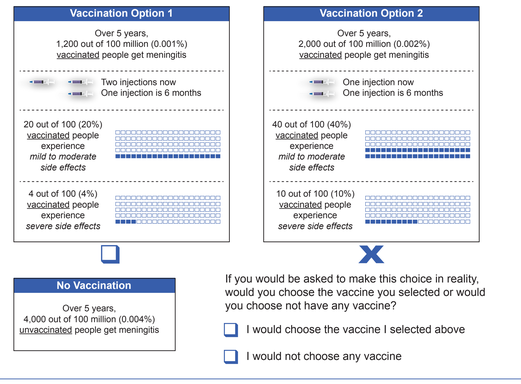


Read text

METHODS (continued)

- Respondents were shown a series of pairs of hypothetical IMD vaccine profiles and asked which they would choose, with an option to decline vaccination.

Discrete choice experiment survey

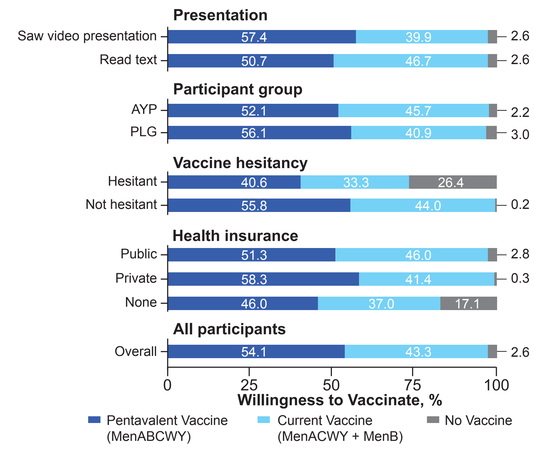


- Vaccines differed in dosing, level of protection, and risks of mild to moderate side effects and severe side effects.
- DCE data were analyzed using a fully correlated mixed logit model with participant characteristics as covariates.

RESULTS

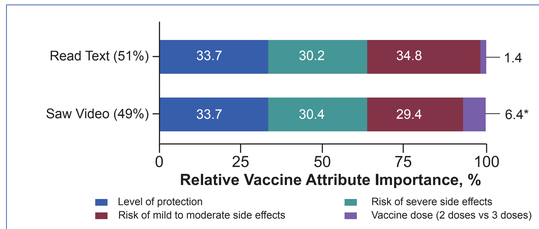
- Of the 801 participants, 407 were AYP and 394 were PLG.
- Respondents were 49% female and identified as White (78%), Black (13%), and/or Hispanic (17%).

WTV with the pentavalent vaccine was higher among participants who saw the video vs text on background information, who were not vaccine-hesitant vs vaccine-hesitant, and who had private health insurance vs public or no health insurance.



RESULTS (continued)

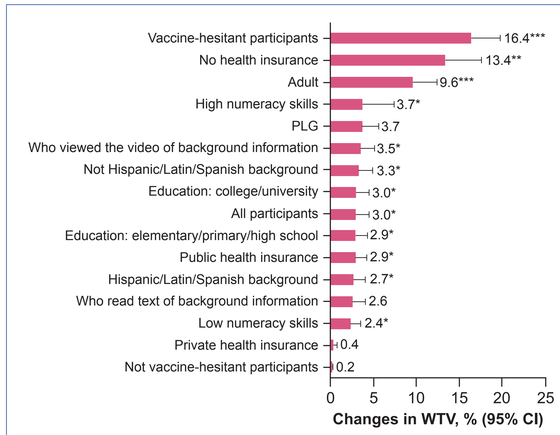
Compared with participants who read text-based information on IMD and vaccination, those who viewed video-based information gave greater relative importance to the number of vaccine doses given and less importance to the risk of mild to moderate side effects.



*P<0.05 vs importance of vaccine dose among those who read text.

- Across all 801 participants, the most important vaccine attributes were level of protection (relative attribute importance, 33.7%) and risk of mild to moderate side effects (relative attribute importance: 32.3%).
- Compared to other subgroups, dosing was considered more important to participants who viewed the video, the PLG, and those with high vaccine hesitancy.

WTV increased when access to a pentavalent (MenABCWY) vaccine was available, although this varied by subgroup.



***P<0.1%; **P<1%; *P<5%.

LIMITATIONS

- Although the study included many participants, the collected data fully relied on self-reports.
- The findings may not be generalizable to the greater US population.
- Selection bias is a potential study limitation because of the lack of information available regarding the preferences of participants who decided not to participate in the study.
- Although presenting IMD information as a video increased WTV, presenting background information by video vs text may be confounded by the amount of information; however, the pilot interviews suggested that more information could be included in the video without overburdening respondents.

CONCLUSIONS

- **Presenting options in multiple languages may increase diversity of participants.**
- **Most AYP and PLG support meningococcal vaccination.**
- **The introduction of a pentavalent meningococcal vaccine, MenABCWY, increased participants' willingness to be vaccinated, particularly among those who are vaccine-hesitant.**
- **Participants receiving background information through video vs text increased the significance of the number of doses of vaccine and the WTV with pentavalent MenABCWY, signifying the importance of communication approaches selected for public health initiatives.**
- **Further research on how to present vaccine information is needed because it has implications for vaccine communication strategies.**

Abbreviations

AYP, adolescents/young people; DCE, discrete choice experiment; IMD, invasive meningococcal disease; MenABCWY, Penbraya™, meningococcal serogroups A, B, C, W, and Y pentavalent vaccine (Pfizer Inc, New York, NY, USA); MenACWY, meningococcal serogroups A, C, W, and Y quadrivalent vaccine; MenB, meningococcal serogroup B bivalent vaccine; PLG, parents/legal guardians; WTV, willingness to vaccinate.

References

1. Guedes S, et al. *BMC Public Health*. 2022;22(1):380.
2. Masaquel C, et al. *Vaccines (Basel)*. 2023;11(2):256.

Acknowledgments

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Disclosures

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