# Acceptability of the Meningococcal Group B Vaccine to Prevent Gonorrhea Among South African Women

#1033

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## BACKGROUND

Women in eastern and southern Africa experience high rates of *Neisseria gonorrheae* (NG). NG treatments are limited with increasing antimicrobial resistance. Observational data indicate potential for partial protection against NG with the 4CMenB (Bexsero) vaccine. Future vaccine uptake will depend in part on its acceptability in target populations.

## METHODS

- BIYELA is a randomized, double-blind trial evaluating 4CMenB efficacy for NG prevention in South African sexually active women aged 18-45 years, at risk of gonorrhea (prior PrEP use, history of STIs, or 2 partners), and not pregnant or breastfeeding.
- Participants were randomized to 4CMenB or placebo injection, provided at enrollment and Month 2, and followed quarterly through Month 18.
- Vaccine acceptability, including preferences for a future NG vaccine, was assessed via a self-administered 24-item survey at Month 3 among participants in both arms.
- Survey items were informed by the Health Belief Model and Theoretical Framework of Acceptability (TFA).
- Survey responses were summarized with descriptive statistics and associations between demographics, sexual behavior, STI perceived risk, and vaccine acceptability were assessed with regression models.

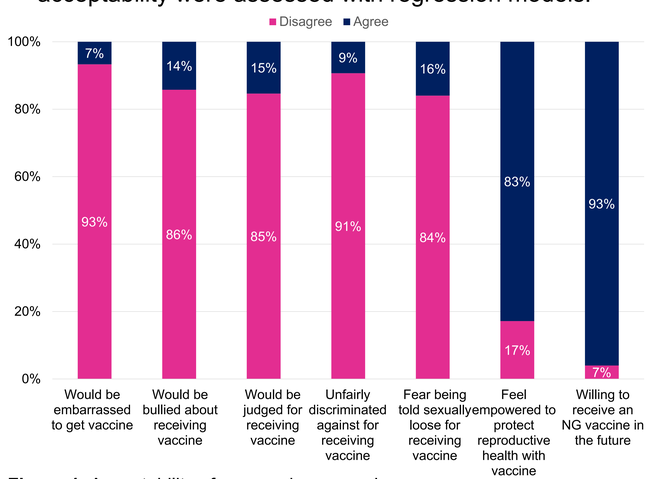



**Figure 1.** Acceptability of a gonorrhoea vaccine

**Acceptability of a future gonorrhoea vaccine among South African women was high and did not vary by socio-behavioral, STI risk perception or previous vaccine acceptance.**

## RESULTS

- From September 2025 through April 2025,1529 participants were screened, and 1100 enrolled in this ongoing 4CMenB trial for NG prevention in women.
- Enrolled participants had a median age of 28 (IQR 23-33) years, 86% had some secondary education, 99% had a current sex partner but 74% were not living with them; 55% had an STI in past 12 months, 22% reported PrEP use in the past year, 20% were living with HIV, and 5% had NG detected at screening.
- At month 3, 1064 attended the visit and 1058 participants completed the acceptability survey. A total of 985 (93%) said they would be willing to receive a NG vaccine in the future. Vaccine acceptability was high (Figure 1).
- Vaccine willingness was similar across different efficacy scenarios, with 849 participants (80%) being willing to accept a 50% efficacy vaccine and 804 participants (76%) a 33% efficacy vaccine. Overall, 993 (94%) would be willing to receive a NG vaccine every 3 years.
- Vaccine willingness was not associated with site, age, education, number of sexual partners, STI history, or prior COVID vaccination in multivariate analyses (Table 1).
- Perceived STI risk (range: 0-24, Cronbach's $\alpha$=0.61) was also not significantly associated with vaccine acceptability scale score (range: 0-21, Cronbach's $\alpha$=0.81) in a linear regression model, adjusted for site ($\beta$=0.02; 95% confidence interval: -0.05-0.09).
- Personal protection (51%) and public health benefits (38%) were the main reasons for vaccine acceptance (Figure 2).

| Characteristic | Willing to receive a vaccine in the future n=985, n (%) | Unwilling to receive a vaccine in the future n=40, n (%) |
|---|---|---|
| Age (years) | | |
| 18-28 | 549 (56%) | 19 (48%) |
| 29-45 | 436 (44%) | 21 (53%) |
| Education | | |
| <completed secondary | 317 (32%) | 14 (35%) |
| completed secondary | 535 (54%) | 19 (48%) |
| some post secondary | 131 (13%) | 7 (18%) |
| Previous COVID-19 vaccinations | | |
| 0-1 shot | 657 (67%) | 21 (53%) |
| >1 shot | 326 (33%) | 19 (48%) |
| Living with HIV | 202 (21%) | 11 (28%) |
| STI prior to enrollment | 642 (65%) | 23 (58%) |
| CT/NG and/or syphilis at enrollment | 253 (26%) | 8 (20%) |
| NG at enrollment | 51 (5%) | 1 (3%) |
| No. sex partners | | |
| 1-2 | 563 (57%) | 24 (60%) |
| 3+ | 419 (43%) | 16 (40%) |

**Table 1.** Willingness to accept a gonorrhoea vaccine in the future if shown to be effective, by socio-behavioral characteristics (N=1058)

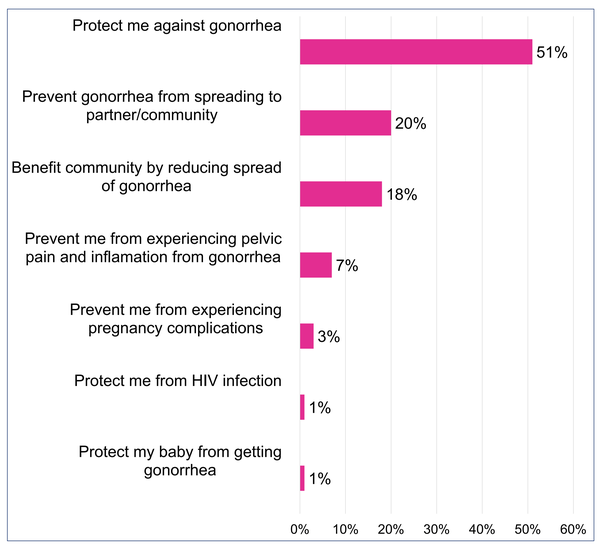



**Figure 2.** Perceived benefits of NG vaccination.

## CONCLUSIONS

NG vaccine acceptability was high in this cohort of South African women with high bacterial STI prevalence enrolled in a 4CMenB vaccine trial for NG prevention. Vaccine acceptability did not vary by demographics, prior sexual behavior or STIs, risk perception or COVID vaccine receipt. These findings are encouraging for future NG vaccine demand in a population that could benefit, and provide useful insights for future vaccine demand creation strategies.

**PLAIN LANGUAGE SUMMARY:** This study looked at whether South African women would be willing to use a vaccine that might help prevent gonorrhoea, a common sexually transmitted infection that is becoming harder to treat. The researchers found that the vast majority of women said they would accept such a vaccine—even if it was only partly effective—suggesting strong support for future gonorrhoea vaccination programs.

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