# PERFECT-USE PREGNANCY RATES WITH PHEXXI®, A NON-HORMONAL VAGINAL CONTRACEPTIVE: EFFICACY RESULTS FROM AMPOWER

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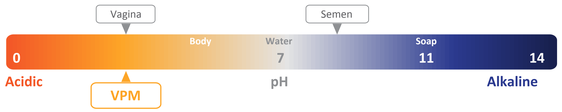
## INTRODUCTION

- Current guidelines recommend women who have been diagnosed with or are receiving treatment for cancer to avoid hormonal contraceptive methods due to the possibility of hormone-related risks and sensitivities, and to seek reversible and/or hormone-free methods[1]
- The vaginal pH modulator (VPM; Phexxi®) was developed as a novel, non-hormonal, woman-controlled, water-based, surfactant-free vaginal gel for the prevention of pregnancy and sexually transmitted infections[2,3]
  - Compared with other vaginally administered products such as spermicides and vaginal rings that may contain surfactants, VPM is a surfactant-free, water-based, non-hormonal, non-systemic vaginal gel[4]
  - VPM has acid-buffering properties and is able to maintain the acidic vaginal environment (pH 3.5-4.5) even in the presence of alkaline semen[2] (**Figure 1**)
  - VPM is designed to form a barrier layer over the vaginal and cervical surfaces

### Figure 1. VPM Has Unique Acid-buffering Properties and Can Maintain the Acidic Vaginal Environment




VPM, vaginal pH modulator.

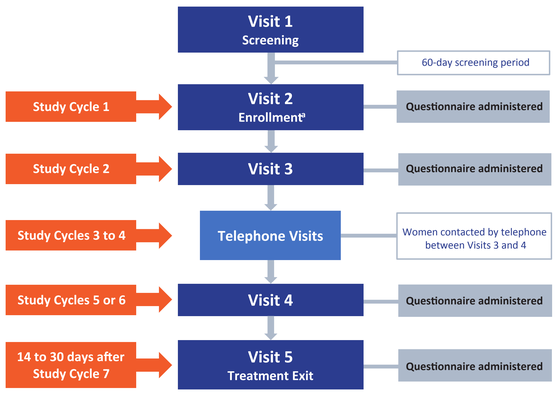
## AIM

- To present the efficacy results in the efficacy evaluable (EE; "perfect-use") study population with VPM

## METHODS

- AMPOWER (NCT03243305) was a single-arm, open-label, confirmatory trial conducted at 112 US sites[4] (**Figure 2**)
- Women were instructed to administer a single prefilled applicator of study drug intravaginally before each episode of intercourse

### Figure 2. AMPOWER Study Design



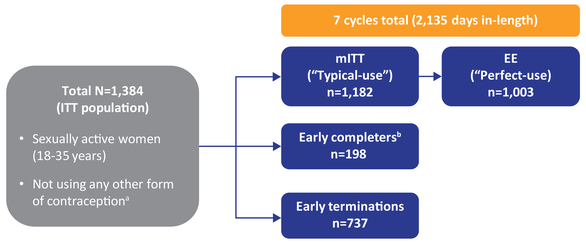

[a]The cycle during which enrollment occurred was considered cycle 0. The woman's 7 Study Cycle was cycles 0 to 6 if the time from enrollment to the woman's next menstrual period was ≥21 days. If the time from enrollment to the woman's next menstrual period was <21 days, the woman's 7 Study Cycles were cycles 1 to 7.

- To determine efficacy, all evaluable cycles had to meet rigorous criteria, including:
  - 21-35 day cycle
  - No backup or emergency contraception
  - ≥1 recorded act of vaginal intercourse
- All enrolled women were considered part of the intent-to-treat (ITT) population, and women in the ITT population using VPM at least once were included in the safety population
- For inclusion in the typical-use efficacy analyses (modified intent-to-treat [mITT] subset of the ITT population), women must also have:
  - Had ≥1 cycle without any backup or emergency contraception, **or**
  - Become pregnant with a conception date between enrollment and <8 days after final VPM use
- For inclusion in the EE ("perfect-use") efficacy:
  - Study cycles had to meet all aforementioned criteria, **and**
  - VPM must have been used consistently and correctly for every act of intercourse in that cycle as documented in the eDiaries
- To more accurately evaluate efficacy, additional sensitivity analyses were performed to remove factors that confounded efficacy assessment by:
  - Expanding cycle lengths to include 21-42 day cycles, **and**
  - Removing subjects with incomplete washout of previous hormonal contraceptive and removing pregnancies from cycles with inconsistent eDiary reporting in which no sexual activity with product use was reported ± 7 days from the estimated date of conception

## RESULTS

- AMPOWER enrolled a total of 1,384 women (**Figure 3**):
  - 1,182 were included in the mITT population (had a least one cycle that was considered evaluable for the mITT analysis)
  - 1,003 were included in the EE population (had at least one cycle that was considered evaluable for the EE analysis)

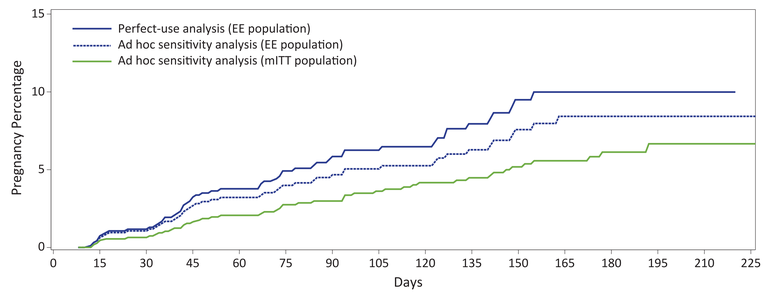
### Figure 3. Patient Disposition




[a]Except for use of emergency contraception, as indicated. [b]There were 198 "early completers" who had completed ≥6 study cycles but were among 252 women inadvertently scheduled for their final study visit before study end.
EE, efficacy evaluable; ITT, intent-to-treat; mITT, modified intent to treat.

- In the EE population (n=1,003), the 7-cycle cumulative pregnancy percentage was 9.99% (95% CI 7.17%, 12.81%) (**Figure 4**)
- In the expanded cycle length EE population without protocol deviations, the 7-cycle cumulative pregnancy percentage ranged from 6.67% (95% CI 4.61%, 8.73%) including all evaluable cycles to 8.44% (95% CI 5.90%, 10.98%) including only perfect-use cycles (**Table 1**)

### Figure 4. 7-cycle Cumulative Pregnancy Probability With Perfect Use




EE, efficacy evaluable; mITT, modified intent to treat.

### Table 1. Ad Hoc Sensitivity Analyses of 7-cycle Cumulative Pregnancy Percentage With Perfect Use

| Analyses | Population | Pregnancies[a] | Cumulative pregnancy percentage, % | 95% CI for pregnancy percentage, % |
|---|---|---|---|---|
| Ad hoc sensitivity analyses with perfect-use | EE n=1,003 | 49 | 8.44 | 5.90, 10.98 |
| | mITT n=1,182 | 49 | 6.67 | 4.61, 8.73 |

[a]Excludes women who had a pregnancy detected after being enrolled but the pregnancy was determined to have started before enrollment date. Women with cycles with backup emergency contraception are excluded unless they became pregnant while in the study.
EE, efficacy-evaluable; mITT, modified intent-to-treat.

- Taking into account all potentially ovulatory cycles, including those where backup contraception was used, where no intercourse occurred, and with cycle lengths between 21-42 days, the 7-cycle cumulative pregnancy percentage for typical- and perfect-use was 11.31% and 6.68%, respectively, which would closely represent "real-world" efficacy rates (**Table 2**)

### Table 2. 7-cycle Cumulative Pregnancy Percentages and Perfect-use Analysis Representing "Real-world" Use

| Analyses | Population | Pregnancies[a] | Cumulative pregnancy percentage, % | 95% CI for pregnancy percentage, % |
|---|---|---|---|---|
| Typical-use | mITT n=1,182 | 100 | 11.31 | 8.92, 13.70 |
| Perfect-use | mITT n=1,182 | 56 | 6.68 | 4.87, 8.49 |

Includes cycles with backup contraception, no intercourse, and cycle lengths between 21-42 days.
[a]Excludes women who had a pregnancy detected after being enrolled but the pregnancy was determined to have started before enrollment date.
mITT, modified intent-to-treat.

## CONCLUSIONS/IMPLICATIONS

- There are multiple ways that efficacy can be measured
- Contraception clinical trials for FDA approval are not designed to accurately evaluate "real-world" use of the method due to stringent criteria for defining "evaluable" cycles
- Using multiple sensitivity analyses to determine perfect-use efficacy, women's 7-cycle cumulative pregnancy percentage ranged from 6.67% to 9.99% with VPM
- When allowing analyses parameters with fewer restrictions to represent "real-world" contraceptive use, the perfect-use pregnancy percentage is 6.68% with VPM

## REFERENCES

1. Patel A, et al. *Contraception*. 2012;86:191-198.
2. Garg S, et al. *Contraception*. 2001;64:67-75.
3. Bayer LL, et al. *Contraception*. 2014;90:11-18.
4. Thomas MA, et al. *Contraception X*. 2020;2:100031.

## ACKNOWLEDGEMENTS

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## DISCLOSURE

***BTC:*** *Research, Evofem Biosciences, Inc.*
***KC:*** *Employee, Evofem Biosciences, Inc.*
***CD:*** *Employee, Health Decisions, which received funding from Evofem Biosciences, Inc. to help conduct this study.*
***BH:*** *Employee, Evofem Biosciences, Inc.*

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