

# The need for alternatives to DMPA in Sub-Saharan Africa

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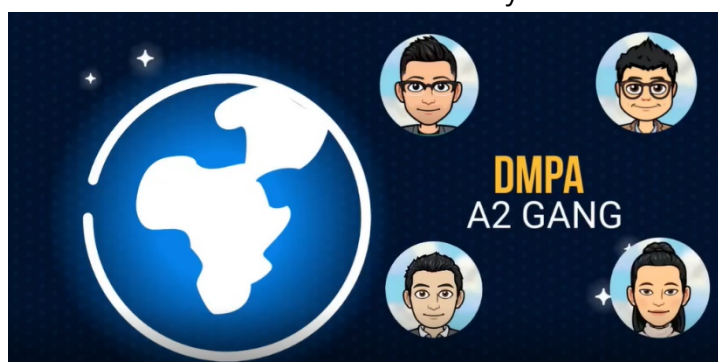
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## Abstract

Depo-Medroxyprogesterone Acetate (DMPA), or depo, is an injectable hormonal contraceptive, which through studies on sex workers in Sub-Saharan Africa has shown to increase the risk of human immunodeficiency virus (HIV)<sup>1,2</sup>. The uptake results in an increase in diversity within the vaginal microbiome<sup>1</sup>. Furthermore, the increase in diversity is responsible for the decrease in *Lactobacilli*, leading to increased inflammation and activation of T cells<sup>1,2</sup>. This is correlated with increased HIV-1 acquisition<sup>1</sup>. Unfortunately, the ease of access to DMPA makes it the most popular contraceptive method in Sub-Saharan Africa<sup>1</sup>. This multimedia submission is meant to educate peers about the issues associated with DMPA in an entertaining way. It also serves the purpose of raising awareness that more research is required along with financial aid in making safer and cheaper alternatives accessible to women of lower social status to protect them from being infected with HIV<sup>3</sup>.

Video link: [bit.ly/2VeAM5E](https://bit.ly/2VeAM5E)

A2 GANG – DMPA ft. Jocelyn Wessels



## Acknowledgements

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## References

1. Hapgood, J. et al. Hormonal Contraception and HIV-1 Acquisition: Biological Mechanisms. *Endocrine Reviews*. **39**, 36-78 (2018).
2. Heffron, R. et al. Use of hormonal contraceptives and risk of HIV-1 transmission: a prospective cohort study. *The Lancet Infectious Diseases*. **12**, 19-26 (2011).
3. Hansen, J. Common birth control shot linked to risk of HIV infection. *American Association for the Advancement of Science*. (2018).