Fertility Tracking Methods Efficacy on Pregnancy

Jamie Pelkowsky, MSN Candidate
Dr. Emily Cabrera
Graduate School of Nursing, MCPHS University

INTRODUCTION

Pregnancy is an aspect of womanhood many look forward to. Conception comes easy to some, while others that have more difficulty seek fertility awareness-based methods (FABMs) to help determine their fertile window (Jensen & Wrede, 2020). Natural FABMs include the monitoring of cervical mucus or body temperature (Duane et al., 2022). Advancements in technology in the last several decades have included a rapid proliferation of mobile application (app) FABMs available on smartphones as alternate options to natural methods for fertility tracking (Duane et al., 2022).



RESEARCH PROBLEM

Given the numerous available FABMs, it is unclear whether one approach far exceeds the others in estimating fertile windows effectively leading to pregnancy.

RESEARCH PURPOSE

Determining which FABM provides the most accurate fertile window predictions will be extremely valuable for women seeking ways to track their ovulation and fertility windows to increase their chances of pregnancy.

RESEARCH QUESTION

What is the efficacy of pregnancy in a woman of childbearing age through fertility tracking via mobile technology app in comparison to non-application natural family tracking methods over a one-year time frame?



METHODOLOGY

- The scholarly project provides a comprehensive review of the literature.
- Database search included PubMed, Health and Medicine (Gale OneFile), CINAHL, Medline (via OVID), and Google Scholar through the MCPHS University library.
- Keywords including ovulation, fertility, menstrual cycle, pregnancy, fertility tracking, mobile applications, and fertility awareness-based methods were entered to find relevant articles.
- Five quantitative, three qualitative, and two mixed-method primary research articles were recovered that passed individualized critiquing processes confirming the studies believability and robustness. These ten articles were used for this review.
- The Theory of Goal Attainment introduced by Imogene King explains that when personal, interpersonal and social systems intermingle, goal attainment can be achieved (Smith & Parker, 2015). Applying this theoretical framework is appropriate to the literature review given the aspiration to determine the best approach to achieve the goal of pregnancy.

SYNTHESIS of the LITERATURE

- Mobile apps are currently the most popular method utilized by woman trying to conceive despite non-application methods being around much longer (Ali et al., 2020; Blair et al., 2021; Gambier-Ross et al., 2018; Grenfell et al., 2021; Levy & Romo-Aviles, 2019).
- Prices for mobile apps vary greatly but are often pricey while non-applications methods are virtually costless (Ali et al., 2020; Bouchard et al., 2018; Perez-Capotosto & Jurgens, 2020).
- Days intercourse was initiated were highly influenced by the results from both tracking methods (Grenfell et al., 2021; Jennings et al., 2019).
- Estimated fertile windows varied from app to app given different algorithm use making it harder to determine which provided more accurate predictions (Ali et al., 2020; Jennings et al., 2019; Levy & Romo-Aviles, 2019).
- Those with irregular menstrual cycles did not see the same pregnancy success using mobile apps than those with regular cycles (Broad et al., 2022; Levy & Romo-Aviles, 2019; Perez-Capotosto & Jurgens, 2020).
- Women using mobile apps placed strong trust in them for conception even after months of failure and did not feel privacy of inputted data was an issue (Ali et al., 2020; Blair et al., 2021; Broad et al., 2022).
- Women felt very in tune with their bodies when using non-application methods because they became good at knowing exactly what stage of their menstrual cycle their body was in (Blair et al., 2021; Perez-Capotoso & Jurgens, 2020).

DISCUSSION/CONCLUSIONS

- This literature review was not able to conclude an answer to the research question
- All FABMs have proven to aid conception, but not all FABMs are effective for all women
- The success of application methods versus non-application methods depends on the women's knowledge, feelings toward the method of choice, and cycle regularity





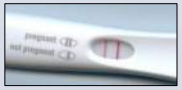
IMPLICATIONS for NURSING PRACTICE

- Providers must recognize the uniqueness of each woman when determining the best fertility tracking approach.
- Acknowledge and put personal biases aside when choosing fertility tracking approach
- Providers must stay up-to-date through seeking continued education and following evolving research on fertility tracking approaches



RECOMMENDATIONS for FUTURE RESEARCH

- Focus on quantitative and mixed-method research approaches as qualitative research makes up majority of available literature so that results can be more generalizable
- Greater diversity of participants including women of different ethnic backgrounds, socioeconomic status, or education level
- Seek understanding if one specific algorithm used applications to estimate fertile windows is most accurate to bring forth to policymakers to standardize mobile apps



REFERENCES

Ali, R., Gürtin, Z. B., & Harper, J. C. (2020). Do fertility tracking applications offer women useful information about their fertile window?. *Reproductive Biomedicine Online*, S1472-6483(20)30509-5. Advance online publication. https://doi.org/10.1016/j.rbmo.2020.09.008

Blair, D. L., Morgan, H. M., & McLernon, D. J. (2021). Women's perspectives on smartphone apps for fertility tracking and predicting conception: A mixed methods study. *The European Journal of Contraception & Reproductive Health Care: The Official Journal of the European Society of Contraception*, *26*(2), 119–127. https://doi.org/10.1080/13625187.2021.1874336

Bouchard, T., Fehring, R., & Schneider, M. (2018). Achieving pregnancy using primary care interventions to identify the fertile window. *Frontiers in Medicine*, *4*. https://doi.org/10.3389/fmed.2017.00250

Broad, A., Biswakarma, R., & Harper, J. C. (2022). A survey of women's experiences of using period tracker applications: Attitudes, ovulation prediction and how the accuracy of the app in predicting period start dates affects their feelings and behaviours. *Women's Health*, *18*, 17455057221095246. https://doi.org/10.1177/17455057221095246

Duane, M., Stanford, J. B., Porucznik, C. A., & Vigil, P. (2022). Fertility awareness-based methods for women's health and family planning. *Frontiers in Medicine*, *9*, 858977. https://doi.org/10.3389/fmed.2022.858977

Gambier-Ross, K., McLernon, D., & Morgan, H. (2018). A mixed methods exploratory study of women's relationships with and uses of fertility tracking apps. *Digital Health*, *4*, 2055207618785077. https://doi.org/10.1177/2055207618785077

Jennings, V., Haile, L. T., Simmons, R. G., Spieler, J., & Shattuck, D. (2019). Perfect- and typical-use effectiveness of the DOT fertility app over 13 cycles: Results from a prospective contraceptive effectiveness trial. *The European Journal of Contraception & Reproductive Health Care*, *24*(2), 148–153. https://doi.org/10.1080/13625187.2019.1581164

Jensen, A., & Wrede, J. (2020). Fertility awareness-based methods for family planning: A literature review. *Journal of Christian Nursing: A Quarterly Publication of Nurses Christian Fellowship*, *37*(4), 212–220. https://doi.org/10.1097/CNJ.0000000000000758

Levy, J., & Romo-Avilés, N. (2019). "A good little tool to get to know yourself a bit better": A qualitative study on users' experiences of app-supported menstrual tracking in Europe. *BMC Public Health*, *19*(1), 1213. https://doi.org/10.1186/s12889-019-7549-8

Perez-Capotosto, M., & Jurgens, C. Y. (2020). Exploring fertility awareness practices among women seeking pregnancy. *Nursing for Women's Health*, *24*(6), 413–420. https://doi.org/10.1016/j.nwh.2020.09.002

www.PosterPresentations.com