HOME OF DAYSY AND LADY-COMP

New Study: "The Performance of a Fertility Tracking Device"

Journal

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Aims of the study

- Fertility trackers such as Daysy provide women with direct information about their fertility. The aim of this study was to understand how the Fertility Tracker algorithm adapts to the different physiological conditions of the individual menstrual cycle.

- To analyze with what accuracy the Fertility Tracker distinguishes infertile from fertile days and which physiological factors have an influence on the calculation of fertile and infertile days.

Scientific partners

This study was developed in collaboration with experts from Georgetown University and Martin C. Koch (chief physician, specialist for gynecology and obstetrics, head of the Breast Center West Middle Franconia).

Why analyze the accuracy of fertility trackers?

There are many devices and apps for monitoring the menstrual cycle, but there are no consistent methods to compare their quality and reliability. The Pearl-Index (PI), which has been widely used for this purpose in the past, dates back to a time when algorithms and smart tech did not exist – moreover, the index was primarily used to determine the safety of physical or hormonal contraceptive methods, which by definition do

About Daysy

Daysy is a fertility tracker that determines fertile and infertile days based on the calculothermal measurement method, which can be used to promote conception and monitor menstrual cycles.

not include fertility trackers. In order to provide women with a transparent decision-making tool, it is important to examine how accurately fertility trackers calculate fertile and infertile days and what factors may influence the results. It is essential that the results are carried out under scientific standards and lead to the same repeatable results at all times.
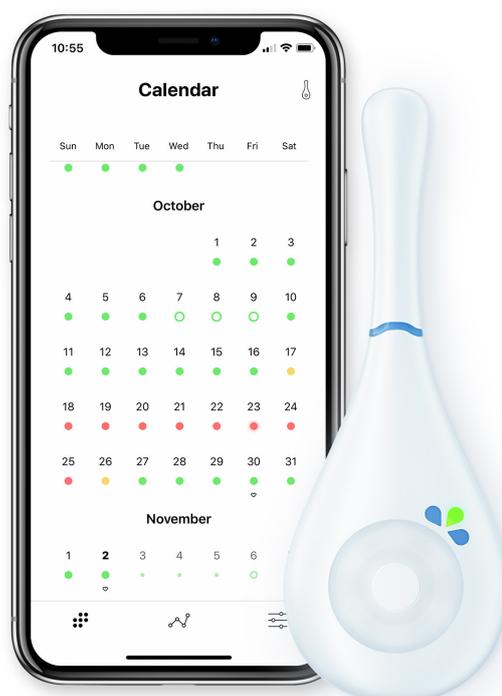
Why a Daysy study?

Valley Electronics was the first provider of fertility trackers in 1983, and has since made it its mission to help women learn about their cycle and how to use it to their advantage. Part of that mission includes dispelling preconceptions and providing modern, timely decision support for women and users. This is the first purely data-based study to analyze, test and evaluate fertility tracker algorithms from various defined physiological perspectives.

Study Design

For the scientific study, 107,000 cycles (basal temperature, menstrual input) of 5,328 women from Germany and Switzerland were evaluated over a period of ten years.

Women with cycles shorter than 19 days and longer than 50 days were excluded. Furthermore, datasets had to contain at least one complete cycle to be included in the analysis. Cycles in which pregnancy was assumed by a significantly high temperature (post-ovulation phase) was present for more than 25 days, were excluded from the analysis.

Studies results

Characteristics of the study

- The average age of the women was 30 years, with a body mass index (BMI) of 22.07 (normal weight is 18.5 to 25).

- For the Analysis, the fertility tracker was used for 22 complete cycles on average

- The average cycle length was 29.5 days

- The average length of the follicular phase (before ovulation) was 16.8 days, while the average length of the luteal phase was 12.8 days. The study shows that only 12.5% of all cycles were 28 days long.

Analysis of fertile and infertile days

- Of the 53.1% of users who used the Fertility Tracker 80-100% of their cycle, an average of 41% potentially fertile (red) days, 42% infertile (green) days were calculated.

- Overall, 0.6% of all green (infertile) days displayed by the Fertility Tracker were calculated incorrectly, therefore in the user's fertile window. Thus, the Fertility Tracker has an accuracy in calculating infertile (green) days of 99.4%.

Conclusion

The data shows that women are able to use the device correctly and measure their temperature more consistently throughout the cycle, thus self-efficacy of Fertility Tracker increases over time. Consistent BBT measurement provides more data for better performance of the device and less undefined (yellow) days by Fertility Tracker. The analysis of the data has shown that the temperature shift algorithm used by Fertility Tracker is able to exclude the fertile window with very high accuracy and to detect the different phases of the menstrual cycle. Further research is needed to explore the efficacy of the device in a prospective study.

#performance #research #daysy #accuracy