



The Freyja Study Summary of Results: Women and partners' views and experiences of using Natural Cycles when trying to conceive

Background information and why we did the study

The number of fertility awareness apps has grown rapidly in recent years. Fertility awareness methods can be used to monitor the menstrual cycle and to identify the 'fertile window' (the time in the menstrual cycle when pregnancy is most likely). By identifying their fertile window, individuals or couples can either avoid having vaginal sex or use condoms during that time to prevent pregnancy, or they can have vaginal sex or undergo 'intrauterine insemination' (e.g. with donor sperm) to increase chances of pregnancy. There has been little previous research about the way people use fertility awareness apps when trying to conceive.

'Natural Cycles' is a fertility awareness app (smartphone/online) where users can enter data on their menstrual cycle, basal body temperature (body temperature reached after at least three hours of rest), and, if they wish, the results of ovulation strips (hormone-based urine tests to predict ovulation). Natural Cycles then calculates the fertile window from the entered data, with estimates getting more precise as more data is entered. 'Fertile days' are shown in red with the deeper the red colour, the greater fertility; and green indicates days when women are very unlikely to be fertile.

Researchers from the London School of Hygiene and Tropical Medicine (LSHTM) and the University of Plymouth carried out the Freyja Study to explore the views and experiences of people who were using or had previously used Natural Cycles in 'plan a pregnancy' mode, or whose partners had done so. This research was funded by Natural Cycles, but the research team from these two universities had complete independence in the design, analysis and publication of the results.

Study Methods: what we did and who we interviewed

The research team interviewed 30 people online via video or audio calls. Participants had to be living in the UK, aged 18+ years (up to 44 for women trying to conceive) and have used Natural Cycles at some point in 'plan' mode (themselves or their partner). We advertised the study through an in-app message and on social media. We aimed to interview participants with varied ages, ethnicities, partner gender, income coping (how well people felt they were managing on current income) and duration using Natural Cycles in 'plan'. We asked participants about their views and experiences of using Natural Cycles and other methods while trying to conceive, and how these fitted in with their everyday lives and fertility plans. We interviewed some participants who had used Natural Cycles in 'prevent a pregnancy' mode before switching to 'plan'. We audio-recorded interviews and analysed them to identify topics that were shared and contrasted between participants. Participants included 24 cis-gender women aged 24-43 of varied ethnicities, income coping and duration using Natural Cycles, just one of whom had a female partner, and six partners who were all white British cis-gender men aged 30-39 years living comfortably on their income.

Results: what we learned

Most participants liked that Natural Cycles was 'natural', compared to hormonal contraception or fertility treatment, but also 'scientific' with the app's use of algorithms and graphs. The app was mostly easy to use and understand. Many women described how the app helped them get to know their bodies better – in a way they had never been taught about or paid attention to previously. Most messages people had received at school and from health services focussed on preventing pregnancy rather than how to improve chances of conceiving. Some participants would have liked the app to accommodate changes they noticed in their bodies around the time of ovulation (e.g. pain, discharge), and some dismissed the app's predictions when they didn't align with these signs. Some recommended the app provide more information about when and how to seek advice after trying to conceive for longer.

Entering and viewing data daily, immediately after waking, meant that the app was very present in many participants' daily lives and relationships. For some, this provided reassurance by helping them keep track of what was going on, but for others it increased anxiety - a constant reminder that they weren't pregnant yet, or concerns that a drop in basal body temperature might indicate a miscarriage. Both women and men in heterosexual relationships talked about the pressure of timing sex around the fertile window.

Although some women felt the app gave them greater control, it also placed responsibility on them to use the app consistently and 'correctly'. This was easier for those with regular daily routines. Those working shifts, who had children or had to travel for work found it harder to keep to a 'strict regime'. Partner involvement varied. While the decision to use the app was usually shared, for most it was women trying to conceive who did the initial research and were responsible for the day to day use. Some women managed how they used or talked to their partners about the app to avoid putting pressure on them.

Participants talked about silences around fertility in society and health services and how isolating this could be, especially for those worried about getting pregnant or who had had a miscarriage. Some women had shown the app to family or friends and this had helped start conversations about fertility, but others chose not to. The app and other websites were important sources of information. Most participants had not talked to health professionals about trying to get pregnant, due to concerns about being dismissed or over-burdening the National Health Service (NHS). Those who had were usually told to come back after 12 months of trying to conceive. Two women explained that their doctors had discredited app-based fertility awareness methods, but another had used the app to show precise pregnancy data and one woman had first learned about Natural Cycles from her GP. While most participants could afford the app or budgeted to cover the cost (£40/year at the time of the research), some noted that it would be less affordable to those on low incomes. Some participants noted that advertisements appeared to prioritise the 'prevent' mode, and that marketing and messaging were not sufficiently inclusive of women of colour, women with disabilities and sexual and gender minorities.

Conclusions

Fertility awareness apps can provide information and support to help those wanting to conceive. However, they should be accompanied by greater investment in fertility awareness and healthcare. Natural Cycles and other fertility awareness app developers need to provide users with information on how long conception may take and when and how to seek advice. We urge app developers to acknowledge how app use can affect users' mental health and relationships, to provide options for users to track broader signs of ovulation (e.g. discharge), and to promote options for partners to share

in app use if users wish. Health professionals should be encouraged to discuss fertility and pre-pregnancy care with patients, including app use, with recognition of their potential benefits and limitations, including effects on mental health and relationships. Any consideration of offering fertility awareness apps on the NHS will require efforts to make sure that they don't replace 'human support' or worsen existing health inequalities. We urge app developers, health services and researchers to actively include (potential) users and partners of varied ages, ethnicities, sexualities, gender identities and socio-economic circumstances, across different countries and regions in the development and evaluation of apps, services and research,, to make sure that fertility awareness options accommodate their diverse experiences and needs. You can read more about the Freyja Study results in free-to-access journal articles [here](#)

Research Team

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