**FEMTECH – Fertility tracking apps**

14-15 Million women are estimated to be using a fertility tracker. There is very little regulatory oversight. Most reviews are user-based.

Many apps assume or suggest the use of barrier contraception (condoms or diaphragm) or contraceptive methods (i.e. withdrawal, oral sex). The Church has taught and continues to teach that all acts of intercourse must be open to life. Contraception and contraceptive methods are always gravely sinful.

*God, the Lord of life, has entrusted to men the noble mission of safeguarding life, and men must carry it out in a manner worthy of this…Man's sexuality and the faculty of reproduction wondrously surpass the endowments of lower forms of life; therefore, the acts proper to married life are to be ordered according to authentic human dignity and must be honored with the greatest reverence. (Gaudium et spes, #51)*

*From this it follows that they (a man and women) are not free to act as they choose in the service of transmitting life, as if it were wholly up to them to decide what is the right course to follow. On the contrary, they are bound to ensure that what they do corresponds to the will of God the Creator. The very nature of marriage and its use makes His will clear, while the constant teaching of the Church spells it out. (Humanae Vitae 10)*

**Know your goals:**

1.  I want to track my periods so I can anticipate when the next one will start.
    - Any free period tracker will do. Data is based on past cycles (calendar/rhythm method)
    - A fertility tracker app based on NFP can identify the luteal phase (time of ovulation to the start of the next period), thus predicting the start of the next cycle with fairly good accuracy.
2. Trying to achieve pregnancy
    - Timing of intercourse on most fertile days is goal
    - Learning a FABM (fertility awareness based method) is the most precise and cost-effective method
    - Many apps claim to be able to pinpoint the day of ovulation, but that can only be achieved by ultrasound. The next, most precise, method is recognizing the day of peak fertile mucus via FABM
    - Pregnancy can occur from intercourse on days other than the day of ovulation. Sperm can live up to 5 days in the presence of fertile mucus, and the egg can live up to 24 hours.
3. Trying to postpone pregnancy
    - A FABM that tracks daily fertility signs and has published data on unintended pregnancy rates using the method, is the most effective means of preventing pregnancy. Many apps are nothing more than the calendar/rhythm method (past cycle data) developed in the 1930's, which has a proven high failure rate. Rhythm based apps are acceptable if you don't necessarily want to get pregnant but would not be upset if you did.
4. Tracking for health reasons
    - Need information on length, patterns, luteal phase, mucus
    - Simple period trackers won't help much
    - FABMs give detailed information, no need for an app other than to collect data
    - Methods and devices that provide data on hormone levels of estrogen, luteinizing hormone, and progesterone are helpful in diagnosing underlying issues and diseases.

Users of a fertility app for serious reasons (health, pregnancy) should be able to know how to recognize fertile signs, how to record, and how to interpret.

**Ovulation and Fertility Tracking Apps**

- Hundreds of them, most created by people who have little or no NFP knowledge or experience
- Most accurate and simplest way of predicting ovulation is peak mucus day along with luteinizing hormone (LH) from urine test

- Most apps use past cycle length as indicator of ovulation (calendar/rhythm method)
  This is a poor predictor because in any given cycle length, the actual day of ovulation occurs within a 10-day window. For cycles of 28 days, ovulation can occur from day 11 to day 20, while a calendar/rhythm app would target day 14 as ovulation day.
- FACTS Foundation conducted the first study of fertility tracking apps in 2016
  - They compared the app data to FABM data to identify fertile days. Out of the 95 apps reviewed, 55 were rejected as they did not use an identified FABM, were not designed to prevent pregnancy, and had no user override.
  - Of the 40 remaining, 30 claimed to predict the fertile window, though only 6 were able to do so.

## MOBILE APPS

1. Menstrual cycle trackers
   - No predictions: simply record start and end dates
2. Fertility trackers
   - Offers different settings for tracking and for avoiding or achieving pregnancy
   - Many have online forums
   - Some allow input of hormone levels or symptoms such as breast tenderness
   - Most based on calendar/rhythm and suggest barrier contraception use during fertile time to prevent pregnancy (which is against God's will for human sexuality)
3. Fertility Based Awareness Methods – FABM
   - Apps developed to correspond to a specific NFP method
   - Replace paper charting
   - May also interpret data
4. App-Based Fertility Awareness Method
   - Utilizes an algorithm to predict fertile time
   - Geared toward achieving pregnancy, but can be used to avoid

## DEVICES AND WEARABLES

1. Clear Blue
   - Monitors urine hormones
   - Developed by Marquette University
   - Was meant to be used in conjunction with the Marquette Method of NFP
2. Proov
   - Developed by a chemist who experienced chronic miscarriages
   - Measures progesterone and exposes weak luteal phases that can lead to miscarriage and/or infertility
3. TempDrop
   - Wearable thermometer
   - Intended to be used with symptom-thermo methods of NFP

## GOOD/BAD NEWS OF FEMTECH

1. Many more women are seeing the advantage of tracking and understanding their own fertility and health. This trend should continue in the future with monitors and trackers becoming more accurate and easier to use.
2. NFP is becoming more accepted and is seen as medically sound
3. Fertility knowledge among most women is very low, making it hard to understand how an app works
4. An app does not replace sound knowledge of how NFP works in general and how it works in a specific method
5. Women need accurate knowledge to trust their bodies and instincts over an app's interpretation.
6. The successful use of NFP always depends on the user's knowledge of how to interpret fertility signs
7. FemTech that relies on contraception during the fertile time is not an effective or morally licit method