Real-World Perspective on Wearable Sensor Technology as a Complement to Traditional Fertility Services and an Employer-covered Benefit

B. M. Goodale, Phd, M. Blaivas, MD, MBA
Ava AG, Zurich, Switzerland

Contact Information
brianna.goodale@avawomen.com

Introduction

- One in eight women have difficulty trying to conceive (TTC)[1]
- Fertility services can cost over $50,000 and not be covered by health insurance[2]
- Employer-subsidized wearable fertility devices (WFD) might be a complementary or alternative option for women TTC
- **Research Aim:** To examine how a WFD could help subfertile women conceive and serve as an employer-subsidized alternative to fertility treatments

Methods

- *n*=1756 women (mean age = 32.5 years (SD = 4.0 years) who had previously purchased the Ava Fertility Tracker completed an online survey (mean = 9.4 min to complete; SD = 56.5)
- Assessed the suitability of Ava Fertility Tracker, a WFD, as a complement to traditional fertility treatments
  - Ava bracelet measures 5 biophysical parameters via 3 sensors every 10s
  - Syncs with a complementary smartphone app
  - Machine learning algorithms detect the user's real-time fertile window

Figure 1. Ava Fertility Tracker and its mobile application.

- Analyzed descriptive statistics of women's TTC journey, fertility service usage, insurance coverage and attitudes towards WFD as an employer-covered benefit

Results

- Mean ease of use = 1.79 (SD = 0.72) on a 5-point scale from 1=very easy to 5=very hard
- *Fertility service usage and costs*: *n*=495 women underwent fertility treatments; mean out of pocket (OOP) costs = $7,165 (SD=$14,693, range = $0-$100,000)
- 10% (*n*=56/563 women who became pregnant without fertility services) chose to use the Ava Fertility Tracker because fertility services were too expensive or burdensome
- *Insurance coverage*: 76% (*n*=267/353 respondents) relied on own insurance for fertility treatments instead of the partners', 30% (*n*=105) needed to pay all fertility treatments OOP
- *Attitudes*: 56% (*n*=918) of all respondents would consider the WFD as an employer fertility-related benefit to positively impact their choice of joining or staying at a company

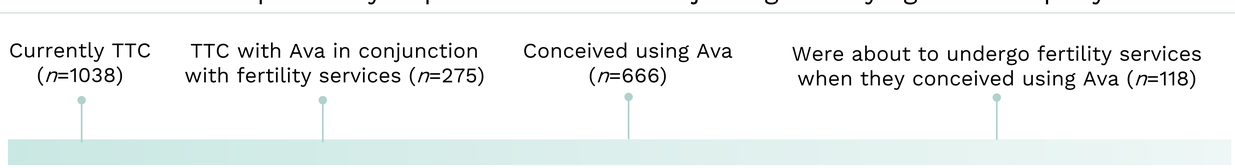

Figure 2. Respondents' current stage in their TTC journey

Answers with >10% respondent agreement on emotions/perceptions towards OOP payment and employers including the WFD as benefit

Emotion	*n* (%)
Frustrated	282 (57)
Stressed	269 (54)
Sad	161 (33)
Angry	140 (28)
Bitter	130 (26)
Alone	72 (15)
Doubtful	54 (11)

Table 1. Emotions towards having to pay for fertility services (*N=495 requiring fertility services)*

Perception	*n* (%)
Like they cared about my health	1125 (64)
Grateful	1039 (62)
Proud	625 (36)
Enthusiastic	557 (32)
Empowered	539 (31)
Loyal	337 (19)
Would not affect my perception	187 (11)

Table 2. Employer-related perceptions if WFD was offered as a benefit *(N=1756, whole sample)*

Perception	*n* (%)
Caring	1156 (66)
Progressive	1066 (61)
Modern	938 (53)
Innovative	726 (41)
Inclusive	667 (38)
Smart	600 (34)
Feminist	456 (26)
Remarkable	313 (18)

Table 3. Perceptions of a company who offered WFD as a free benefit *(N=1756, whole sample)*

Conclusion

- Wearable sensor technology can provide an easy-to-use, cheap alternative to more traditional fertility services with some self-reported success
- Employer benefits such as a WFD could make companies more attractive to women TTC

References

[1] **National Center for Health Statistics**. Key statistics from the National Survey of Family Growth. https://www.cdc.gov/nchs/nsfg/key_statistics/i_2015-2017.htm#infertilityservices. Published 2019. Accessed February 11, 2020
[2] **FertilityIQ**. Costs of IVF: Is IVF Good Value? https://www.fertilityiq.com/ivf-in-vitro-fertilization/costs-of-ivf#is-ivf-good-value. Accessed February 11, 2020.