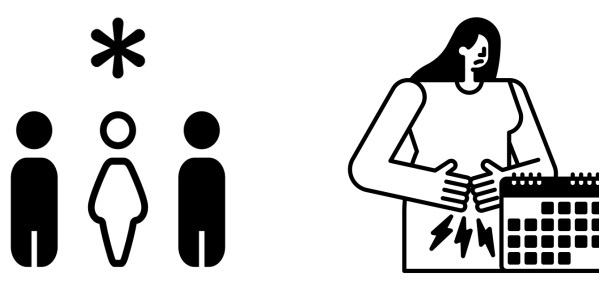# One Size Does Not Fit All: Two Approaches to Better Support Women in Understanding and Managing their Health

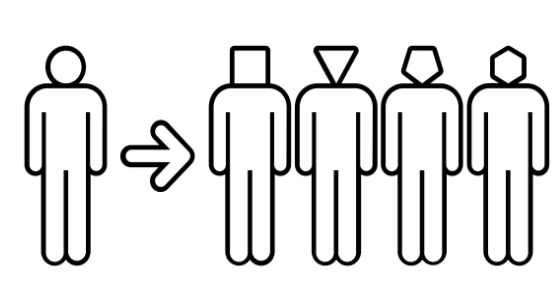## Nastaran Jadidi, Carly Atwell, Asma Khan, Sujit Kumar Kamaraj with Vineet Pandey

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(Done for the class CS 6968: Designing Digital Health Systems)

KAHLERT SCHOOL OF COMPUTING
THE UNIVERSITY OF UTAH

Women's needs can be different from men's and from each other

Women experience symptoms related to their menstrual cycles that men do not

Each woman has a different experience of their menstrual cycle, lifestyle context, and related symptoms

Institutional work often misses out on how women experience health disorders

As a result, women are left with unanswered questions and undiagnosed disorders

Are my IBS symptoms related to my period?

Can altering my diet improve period symptoms?

Are my mood swings a sign of a menstrual disorder?

Personal health tracking systems don't support efforts specific to women

Period tracking apps' predefined options don't allow people to *define* how they track or interpret their data
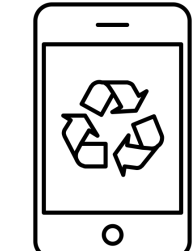
Common fitness tracking apps lack features specific to women

Research Question: How might women better understand and manage their symptoms using personal health informatics systems? Our work suggests two approaches:

1. Design new tracking tools through co-design

2. Repurpose existing tracking tools by adding new features

For women, by women: Self-awareness through self-exploration for people who menstruate

Menstrual tracking can empower women's self-discovery with…
- Agency: Explore connections between symptoms & lifestyle
- Intentionality: Decide what to track, how, and why
- Privacy and care: Emphasis on protected data & empathy

Our study: Which personalized tracking features might help women identify patterns related to menstruation?
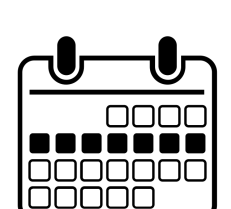
Methods

Four people participated in our four-phase study

1. Semi-structured pre-interviews about menstrual health awareness, tracking experience, and motivation

2. Co-design sessions for participants to curate their own period tracker (customized Google Form)

3. Use self-designed tracker to log menstruation data and other factors for their next cycle

4. Semi-structured post-interviews

Findings: Themes developed

Menstrual Cycle Self-Knowledge	Source of Menstrual Knowledge	External Factors Affecting Cycles	Customized Tool Design	Tracking Practices and Motivations
• Cycle phases & patterns • Symptom awareness	• Formal Sources • Informal In-Person Sources • Online Sources	• Health & lifestyle • Emotional factors	• Design choices • Visualization preferences	• Tools used • Existing motivations • Anti-motivations • Curiosities from co-design • Existing tool limitations

Future Work
- Larger, more varied participant pool. Both projects had four participants.
- Extended duration of tracking,(beyond one menstrual cycle) for longitudinal findings
- Control for potential confounding factors (i.e. missed tracking days, atypical menstruation, etc.)

Missing Data: Understanding the effect of menstrual cycle on gastrointestinal symptoms
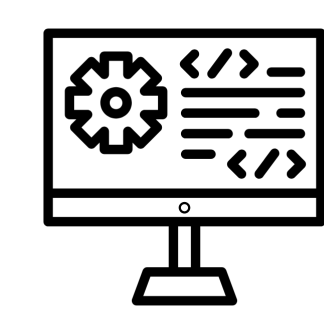
Previous studies for GI symptoms tracked food triggers and overlooked women-specific features
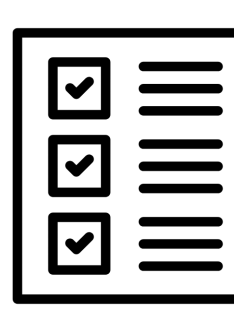
Does menstruation affect GI symptoms?
Can existing tracking systems benefit from including features specific to women?

Methods

Designed a tool for participants to track the severity of GI and menstrual symptoms

Four participants reported symptom severity for 3 days before their period and 3 days during their period

Compared the average severity of each symptom before and during period

Track Your Symptoms

Abdominal Pain

Morning: Not at all | Afternoon: Not at all | Evening: Not at all | Night: Not at all
Cause: IBS

Bloating or Gas

Morning: Not at all | Afternoon: Not at all | Evening: Not at all | Night: Not at all
Cause: IBS

Cramps

Morning: Not at all | Afternoon: Not at all | Evening: Not at all | Night: Not at all
Cause: IBS

Use our tool here!

Findings
- Each participant experiences different symptom severity.
- Some symptoms were not felt by some of the participants. *E.g.* abdominal pain was not felt by one of the participants at all
- Not all symptoms' severity changed during the study
- Our data *suggests* that menstrual cycles might affect GI symptoms

Severity of loose passage of stool and bloating increased during the period
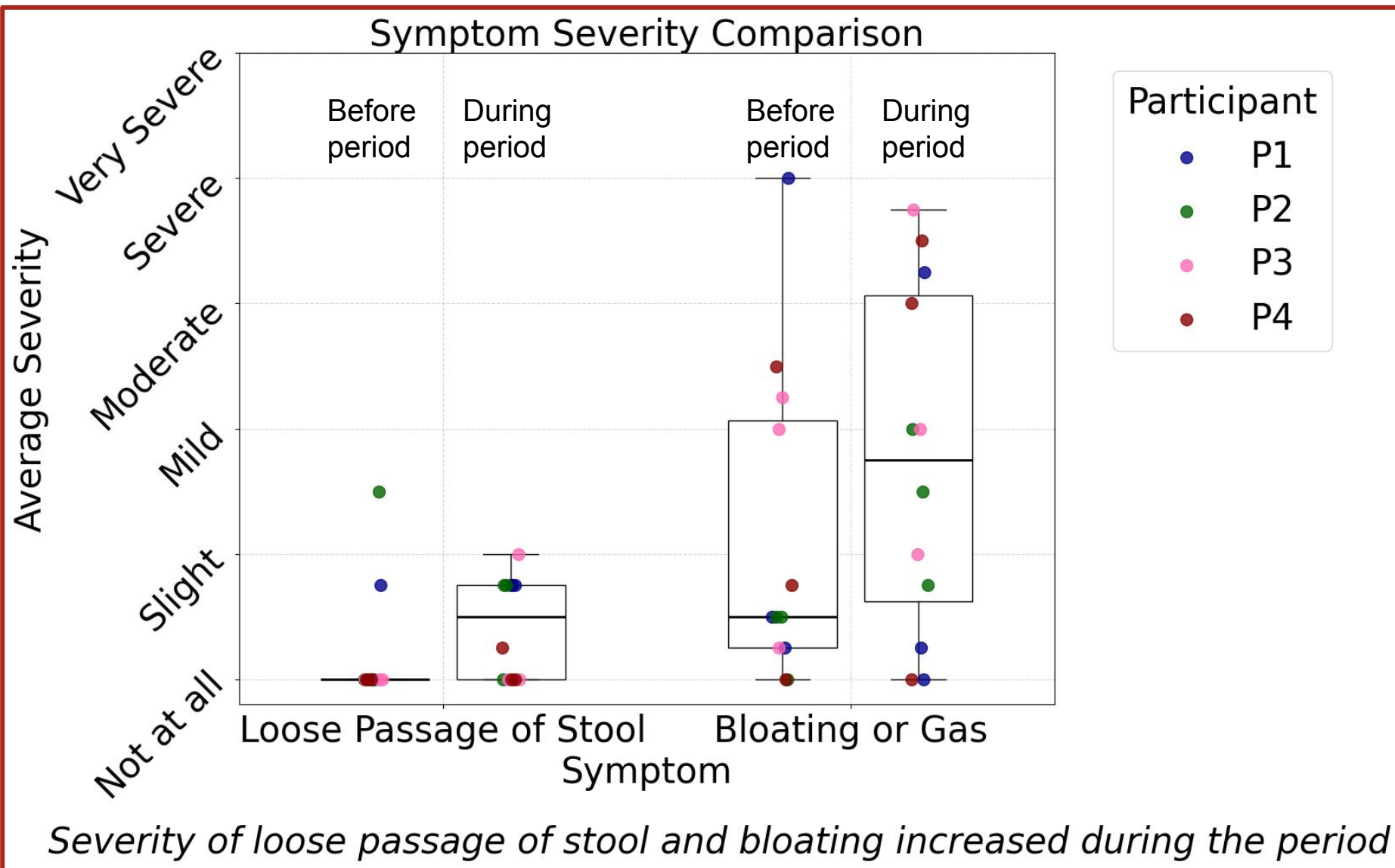
Note: We use the terms "women" and "men" but recognize that not all those who menstruate are women and not all women menstruate