Title of Research: Navigating Perimenopause: A Study on Symptom Tracking, Healthcare Communication, and Effective Tools Among Women in Transition

Summary

This study aims to explore the experiences of women in perimenopause regarding symptom tracking and communication with healthcare providers. With a focus on identifying effective tools and strategies, the research seeks to gather insights that can improve support systems for women navigating this transitional phase of life. By understanding the methods women use to track their symptoms and engage with healthcare, the study aims to enhance their mental and physical health, ultimately providing recommendations for resources and tools that empower women during this significant life stage.

How will participants be recruited?

I will recruit women between the ages of 30-60 through the following methods:

- Inviting personal contacts in this demographic
- Ask my supervisor to utilise professional and colleague email contacts and distribution lists to identify and invite women to participate
- posting a link to the form on social media groups and forums dedicated to women's health and menopause (only if struggling with recruitment).

I am to recruit up to 20 participants across the three phases of this project.

To the participants that will be recruited via email, the email will be structured as follows:

Dear possible participant,

I am a 4th-year undergraduate computer science student making an app to help women through the perimenopausal phase. You are being contacted because you are a woman between the ages of 30-60. This study aims to provide a helpful tool to help women navigate this transitional phase of life. If you decide to participate, you may be asked to either fill out an online survey, test the app, or provide feedback via an online form or interview. You will not be required to participate in all the phases of the study if you do not wish to. To find out more information please see the attached Participant Information Sheet.

Thank you for your time,

Kiran Mahn
4th Year Computer Science Student
University of Strathclyde

What will the participants be told about the proposed research study?

Please see the attached Participant Information Sheet.

How will consent be demonstrated?

Please see the attached Consent Form.

What will participants be expected to do?

Participants are expected to answer questions relative to each phase and some will be asked to use an app developed during the study:

User Requirements Phase (Nov 20 – Dec 31): In preparation for building the product, participants will be asked to complete a questionnaire via Microsoft Forms. This online questionnaire will contain the following questions. The first page of all online surveys done will be the consent form with text saying that by completing the survey, they are implying consent to take part in that phase. The survey is here: https://forms.office.com/Pages/ResponsePage.aspx?id=YwceYzMV60elzQRXvuWUTmZRiFbzRbxNrl7mdBlWOx9URE4zV1hGSVNRUEY1WEFPMzYwNENNRDNHQy4u

Testing and evaluation (Jan 1 – March 25):
After creating the initial product, users will be asked to use the app. This will involve creating an account with the app (username, password, and email) and tracking their perimenopausal symptoms for up to one week If time allows another round of testing and evaluation will be carried out.

This does not have to be a real email, and they are advised that their password should not be an existing password that you use for another site or service. Their email, username, password, and any information they provide in using the app will be stored on the university run server. Only the researcher and their supervisor will have access to this data which will be deleted in April of 2025 when the study is complete.

A few participants will be asked to complete an online system usability survey with questions from the SUS provided by the Agency for Healthcare Research and Quality (.gov) at this link: https://digital.ahrq.gov/sites/default/files/docs/survey/systemusabilityscale%2528sus%2529_comp%255B1%255D.pdf.

In addition, a small selection of participants may be asked to do in-person/online interviews. I will share my screen with a copy of the consent form and orally ask for the participant's verbal consent. There will be an audio recording of the live interviews done on Microsoft Teams that will be transcribed after without attaching the participants name to their transcription to keep the data anonymous. Once the transcription has been made, the original audio will be deleted. The transcription will be deleted at the end of the study. They may be asked some of the following questions:

1. **What were your initial impressions of the app when you first started using it?** What aspects stood out to you, either positively or negatively?
2. **How did the app meet or not meet your expectations for tracking symptoms?** *Was there anything specific that exceeded or fell short of what you were looking for?*
3. **Can you walk me through how you typically use the app?** *What's your process for logging symptoms or accessing insights, and how does it fit into your daily routine?*
4. **Which features or tools within the app did you find the most useful, and why?** *Were there specific aspects that made tracking easier or more insightful?*
5. **Did any part of using the app feel confusing or difficult?** *Was there anything in the navigation, terminology, or setup that caused hesitation?*
6. **Were there any features you found yourself wanting or expecting that the app didn't offer?** *Any specific data views, customization options, or reports?*
7. **Can you describe any new insights or patterns you discovered using the app?** *Did the app help reveal any previously unnoticed trends in your symptoms?*
8. **Would you use the app data to share tracking information and trends with your healthcare provider (hypothetically)?** If yes, *how did that go? Did the app provide helpful information for that discussion?*
9. **How has the app impacted your understanding of your symptoms or perimenopausal experience overall?** *Do you feel more in control, knowledgeable, or equipped to handle certain symptoms?*
10. **How did you feel about the app's notifications or reminders to log symptoms?** *Were they helpful, or annoying, or did you need them to be more customizable?*
11. **What, if any, impact has using the app had on your self-care or symptom management practices?** *Have you implemented any new strategies or approaches because of tracking?*
12. **Do you feel the app sufficiently addresses your mental and emotional well-being, or is it more focused on physical symptoms?** *Would you want more emphasis on mental health tracking or support?*
13. **Can you describe any specific frustrations, or pain points you've encountered when using the app?** *Are there things that interrupt your experience or make you less likely to use the app consistently?*
14. **If you could change one thing about the app, what would it be and why?** *This could include design, functionality, or specific features.*
15. **Would you continue using the app long-term? Why or why not?** *What would encourage or discourage continued use?*
16. **Are there any other comments or suggestions you have for improving the app?** *Anything about the experience that hasn't yet been covered?*
17. ***Is there anything else you would like to discuss or tell me about your experience? (if overtime ask for consent to continue, like do you have an extra 10 minutes)***

What data will be collected and how will it be captured and stored and disposed of?

The data collected via spreadsheet will include participant age, email, username, password, symptoms, and responses to the questionnaire/interview questions. All data

will be anonymized, and only the researcher and supervisor will have access to it. All data will be securely stored in a university-hosted database and deleted upon study completion. The user's email will be asked for when signing up for an account with the application and will be stored in the app database, separate from their research responses. Their email will also be optionally recorded if they choose to opt-in to be part of more than one phase of the study, this will also be stored separately from their results in their university OneDrive system.

How will the data be processed?

All the data collected will be aggregated and analysed for trends using varying Python algorithms for the app. This data will be visualised in graphs and charts. Since no participant's names are collected their data remains anonymous. For the descriptive analysis of the surveys and interviews, thematic analysis of free-text responses will be used to describe the data in Microsoft Word.