Exploring the Use of Menstrual Cycle Applications among Pharmacy Students

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Background

Menstrual cycle apps enable women to predict their general health. Traditionally, women used to track their menstrual cycles manually; however, in this digital era, menstrual cycle apps on mobile devices are enormously popular. Period Tracker Period Calendar, Flo Menstrual & Period Tracker and Ovulation & Period Tracker are the top 3 apps in Google Play Store, with downloads that surpassed 10 million (1).

While they can help assist women in tracking their periods and provide good personal care and symptom management capabilities, little is known about why and how women use the digital health data they generate (2).

Introduction

Monitoring the menstrual cycle via mobile apps can improve awareness of their bodies, prepare their emotional moods and detect early physiological indicators, such as the emergence of cervical secretions a few days prior to ovulation. Therefore, the development of mobile applications like menstrual cycle apps can help women track their periods, as the apps provide good personal care and symptom management capabilities (1).

Most studies focused on the perspectives towards the general population of women; none focused on a specific population, for example, female students in a particular educational institution (3). Therefore, this study aimed to explore the use of menstrual cycle apps amongst female pharmacy students at Universiti Teknologi MARA (UiTM) Puncak Alam.

Materials and Methods

A cross-sectional survey was conducted among female pharmacy students at the Faculty of Pharmacy, UiTM Puncak Alam, from March to May 2023. The development of the questionnaire involved three stages:

1) Questions were adapted from previous studies (2,3).
2) The draft questionnaire was validated by expert panels consisting of academicians from UiTM Faculty of Pharmacy and an Obstetrics and Gynaecology (O&G) consultant.
3) The questionnaire was piloted with 20 students, and their feedback was used to refine the final version of the questionnaire for data collection.

The questionnaire was administered online through Google Forms; the survey link was shared via Whatsapp groups of each pharmacy student batch.

Results and Discussion

The preliminary work presented here concerned the demographics and results on the use of menstrual cycle apps among UiTM pharmacy students.

A total of 227 respondents participated in the survey. This research yielded valuable demographic information, as presented in **Figure 1**. The doughnut chart in **Figure 1** shows that the majority of survey participation came from 3rd-year students, comprising 36.6% of the responses, followed by 4th-year students at 22.9%. The 1st and 2nd-year students accounted for 20.3% of the respondents.

Out of 227 respondents, approximately 55.5% fell within the normal body mass index (BMI) indexes as illustrated by **Figure 2.**

As shown on **Figure 3**, we found that many students (63.9%) had chosen to install menstrual cycle apps on their smartphones. Nearly half of the students used the My Calendar app (30.8%), followed by the Flo app (11%).

The primary motivation behind using these apps is revealed in **Table 1**, which is to track their menstrual cycles. About 35% used the apps to know the time of ovulation. Students also used these apps to understand symptoms or physiological changes during menstruation and to gain related health information.

This tracking feature would enhance students' understanding of their bodies and menstrual cycles and aid them in identifying any changes that may require medical attention (3,4). Interestingly, a small number of students used the menstrual apps to come off contraception.

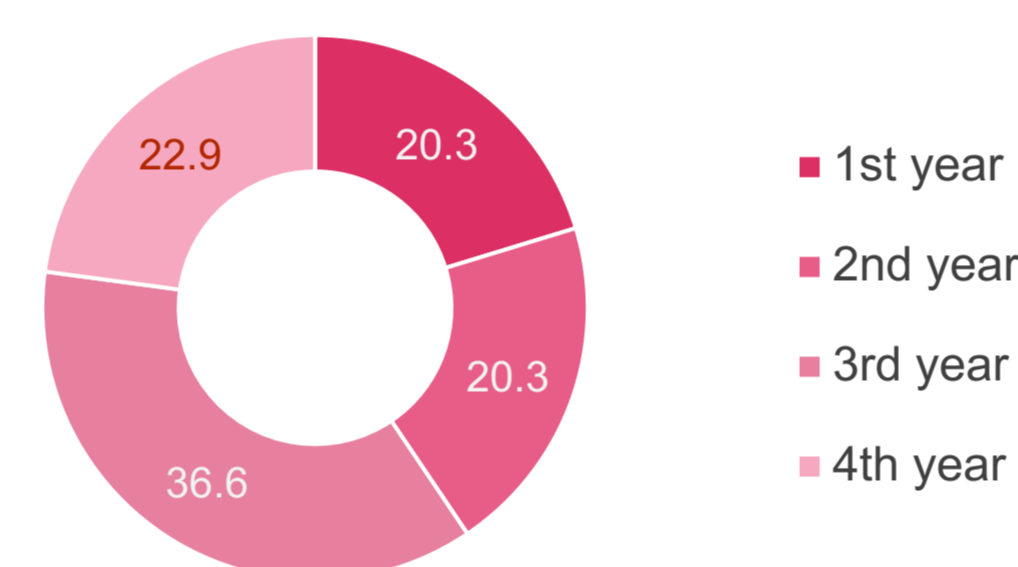**Figure 1.** Percentage of student respondents (n=227)

- 1st year
- 2nd year
- 3rd year
- 4th year

Figure 2. Body mass index: Percentage of respondents (n=227)

- <18.5 (Underweight)
- 18.5 – 24.9 (Normal)
- 25.0 – 29.9 (Overweight)
- >30.0 (Obesity)
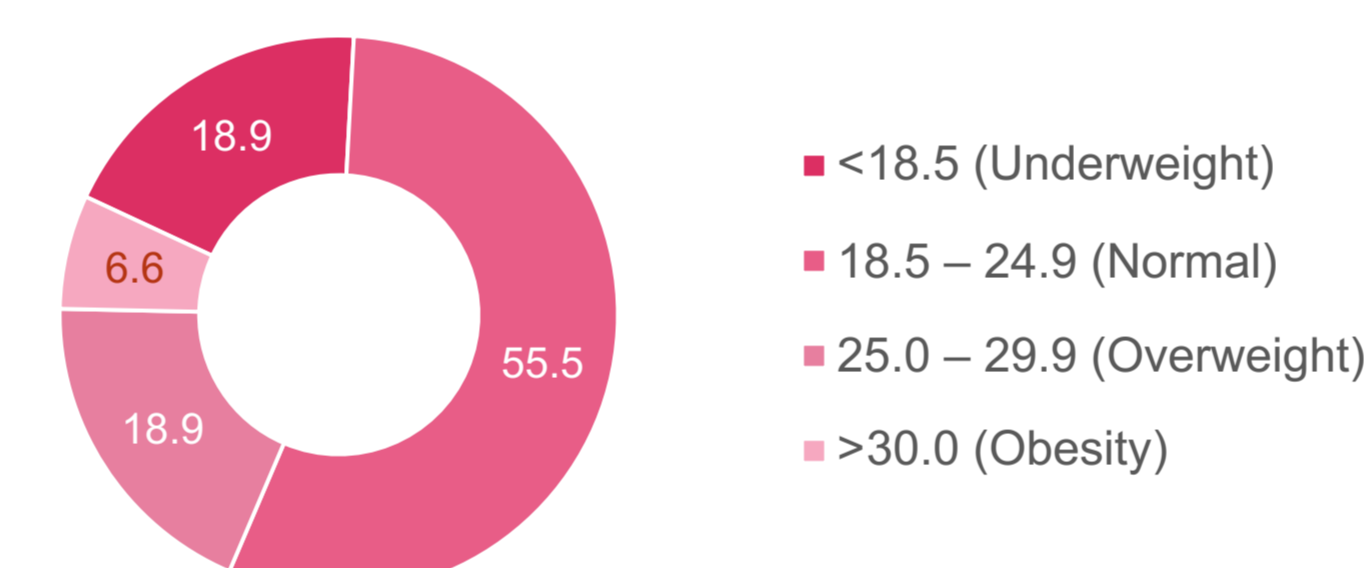
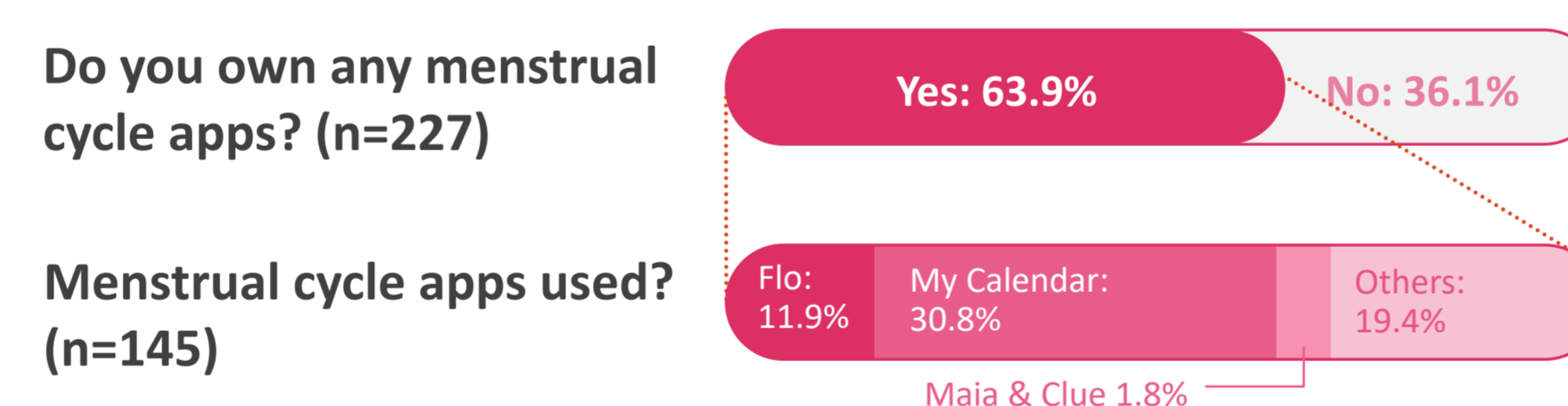**Figure 3:** The use of menstrual cycle apps amongst pharmacy students

Do you own any menstrual cycle apps? (n=227)

Yes: 63.9%   No: 36.1%

Menstrual cycle apps used? (n=145)

Flo: 11.9%   My Calendar: 30.8%   Others: 19.4%
Maia & Clue 1.8%

Table 1: Students' motivation for using menstrual cycle app

Reasons for use (n=145)	%
I can know when my period is arriving and be prepared	99.3
I can understand any symptoms or changes during menstruation	49.0
I can gather information related to my health for self-tracking or informing my healthcare professional	51.7
I can know I am ovulating	34.5
I can predict when to come off contraception	3.4
Other	2.1

Conclusion

This study was conducted to explore the use of menstrual cycle apps among pharmacy students at the UiTM Faculty of Pharmacy.

Our study found that the primary motivation for using menstrual cycle apps is to track their periods. A small number of undergraduates were using these apps to predict the time to come off contraception. My Calendar Period Tracker seemed to be the most preferred app for nearly half of the students.

In conclusion, menstrual cycle apps can offer significant benefits to female students, serving as valuable assistants on their mobile phones for understanding their bodies and menstrual cycles while aiding in the early detection of any symptoms and changes that need medical attention.

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Ethical approval

This final year project study was granted the ethical approval from UiTM Research Ethics Committee (REC(PH)/UG/063/2023).

Conflict of interest

The authors declare no conflict of interests. This research did not receive any financial support.

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