

## ASPECTS OF MENSTRUAL HEALTH IN THE UNIVERSITY SETTING

### ASPECTOS DA SAÚDE MENSTRUAL NO CONTEXTO UNIVERSITÁRIO

### ASPECTOS DE LA SALUD MENSTRUAL EN EL CONTEXTO UNIVERSITARIO

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#### ABSTRACT

**Objective:** to describe aspects of menstrual health and menstrual hygiene management among university students who menstruate. **Method:** observational, descriptive, cross-sectional study conducted in a virtual setting between September 2022 and July 2023, with university students aged 18 and older enrolled at the University of São Paulo in Ribeirão Preto. Data were collected via an electronic questionnaire containing sociodemographic questions, as well as questions regarding menstrual health and menstrual hygiene management. Descriptive analyses were conducted, including frequency calculations and measures of central tendency. **Results:** the study included a total of 212 participants; 95.8% identified as women, with a mean age of 22 years (SD = 2.26). Frequent menstrual pain was reported by 43.4% of the participants, and 78.8% reported using pain relievers. Regarding academic impact, 41.0% reported difficulty concentrating during menstruation, and 17.0% reported missing classes on some occasions. Regarding management, 39.6% used products for extended periods due to a lack of adequate facilities for replacement, and 16.5% used non-menstrual materials due to a lack of products. **Conclusion:** menstruation significantly impacts the daily lives and academic performance of college students, highlighting the need to strengthen health education initiatives and institutional strategies that promote dignity and adequate menstrual care in the university setting.

**Keywords:** Menstruation; Menstruation Disturbances; Dysmenorrhea; Premenstrual Syndrome; Menstrual Hygiene Products; Women's Health; Universities; Students; Student Health; Observational Study; Cross-Sectional Studies.

#### RESUMO

**Objetivo:** descrever aspectos da saúde menstrual e do gerenciamento/gestão da higiene menstrual entre pessoas universitárias que menstruam. **Método:** estudo observacional, descritivo e transversal, realizado em ambiente virtual entre setembro de 2022 e julho de 2023, com pessoas universitárias maiores de 18 anos, matriculadas na Universidade de São Paulo, em Ribeirão Preto. A coleta de dados foi realizada por meio de formulário eletrônico contendo questões sociodemográficas, de saúde menstrual e de gerenciamento da higiene menstrual. Foram conduzidas análises descritivas, com cálculo de frequências e medidas de tendência central. **Resultados:** participaram 212 pessoas; 95,8% identificaram-se como mulheres, com média de idade de 22 anos (DP = 2,26). Dor menstrual frequente foi referida por 43,4% das participantes, e 78,8% relataram uso de analgésicos. Quanto ao impacto acadêmico, 41,0% relataram dificuldade de concentração durante a menstruação e 17,0% informaram faltar à universidade em algumas ocasiões. Em relação ao gerenciamento, 39,6% utilizaram produtos por tempo prolongado devido à falta de instalações adequadas para a troca, e 16,5% fizeram uso de material não menstrual por falta de produtos. **Conclusão:** a menstruação impacta de forma significativa o cotidiano e o desempenho acadêmico de pessoas universitárias, evidenciando a necessidade de intensificação de ações de educação em saúde e de estratégias institucionais que promovam a dignidade e a gestão menstrual adequada no ambiente universitário.

**Palavras-chave:** Menstruação; Distúrbios Menstruais; Dismenorreia; Síndrome Pré-Menstrual; Produtos de Higiene Menstrual; Saúde da Mulher; Universidades; Estudantes; Saúde do Estudante; Estudo Observacional; Estudos Transversais.

#### RESUMEN

**Objetivo:** describir aspectos de la salud menstrual y del manejo/gestión de la higiene menstrual entre personas universitarias que menstrúan. **Método:** estudio observacional, descriptivo y transversal realizado en un entorno virtual entre septiembre de 2022 y julio de 2023, con personas universitarias mayores de 18 años matriculadas en la Universidad de São Paulo, en Ribeirão Preto. La recolección de datos se realizó mediante un formulario electrónico que contenía preguntas sociodemográficas, de salud menstrual y de manejo de la higiene menstrual. Se efectuaron análisis descriptivos, calculando frecuencias y medidas de tendencia central. **Resultados:** participaron 212 personas; el 95,8% se identificaron como mujeres; la edad promedio fue de 22 años (DE = 2,26). El 43,4% de las participantes reportaron dolor menstrual frecuente, y el 78,8% señalaron el uso de analgésicos. En cuanto al impacto académico, el 41,0% refirieron dificultad de concentración durante la menstruación y el 17,0% indicaron que a veces faltaban a la universidad. Respecto al manejo, el 39,6% utilizó productos durante más tiempo por falta de instalaciones adecuadas para el cambio y el 16,5% recurrieron a materiales no menstruales ante la falta de productos. **Conclusión:** la menstruación impacta de manera significativa la vida cotidiana y el desempeño académico de las personas universitarias, lo que evidencia la necesidad de ampliar acciones de educación en salud y estrategias institucionales que promuevan la dignidad y una gestión menstrual adecuada en el ámbito universitario, contribuyendo a la promoción de la salud integral de los adolescentes en el contexto educativo.

**Palabras clave:** Menstruación; Trastornos de la Menstruación; Dismenorrea; Síndrome Premenstrual; Productos para la Higiene Menstrual; Salud de la Mujer; Universidades; Estudiantes; Salud del Estudiante; Estudio Observacional; Estudios Transversales.

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## INTRODUCTION

Menstruation is the cyclical bleeding that occurs in people with a uterus during their reproductive years and is considered a physiological process inherent to their lives. Menstrual management is characterized by the practices used by menstruating people to manage their menstrual period, based on five pillars: clear and accessible information, access to adequate hygiene products and facilities, healthcare for discomfort, a social environment free of stigma, and the freedom to participate fully in life without discrimination due to menstruation<sup>(1,2)</sup>. Menstrual poverty, however, reflects social inequalities in this aspect of life by restricting access to information and products for menstrual care<sup>(1)</sup>. In the Brazilian context, public policies recognize these concepts and promote affirmative action aimed at promoting equity and reducing barriers that undermine menstrual dignity, through educational initiatives and the distribution of hygiene products to the most vulnerable populations<sup>(3)</sup>.

According to the United Nations Children's Fund (UNICEF)<sup>(1)</sup>, it is estimated that 1.8 billion people worldwide menstruate each month; however, millions of them face difficulties in managing their menstrual cycle in a dignified and healthy manner. For instance, access to menstrual products and knowledge regarding menstruation can affect the quality of life and self-esteem of people who menstruate, and are considered essential to ensuring dignity throughout this process<sup>(1)</sup>.

In Nepal, a study with 276 adolescents found that 56% cleaned their genital area after changing their sanitary pads, and only 21% changed their pads 4–6 hours after use<sup>(4)</sup>. In another study with 791 adolescents in Ethiopia, 33.9% did not use sanitary pads, 23.7% used homemade sanitary pads, and 60.3% had poor menstrual hygiene practices<sup>(5)</sup>.

These practices, however, are not limited to developing countries, as shown by a study conducted in Spain with 22,823 menstruating individuals (96.8% women and 3.2% non-binary/other), aged between 18 and 55 years: 69.7% used disposable menstrual products (tampons and pads), 54.9% used reusable products (menstrual cups, reusable pads), 5.6% reported using toilet paper, and 3.7% did not use any products<sup>(6)</sup>. The authors concluded that the use of menstrual products varies according to age, level of education, financial status, and among trans and non-binary participants and cisgender women<sup>(6)</sup>.

Therefore, in addition to assessing the volume and duration of menstrual flow, psychological, socioeconomic,

and cultural factors should also be considered<sup>(7)</sup>, such as the need for social support, access to menstrual products, knowledge regarding menstruation, and the identification of medical conditions<sup>(8)</sup>. It is worth noting that a lack of knowledge among menstruating individuals regarding basic aspects of the menstrual cycle, characteristics of menstrual flow, hygiene practices, and the adequate use of menstrual products compromises menstrual health, as the process is no longer understood as a physiological phenomenon and instead becomes stigmatized<sup>(1,9)</sup>. This knowledge gap may be related to families' difficulties in discussing the theme and the limited space dedicated to menstrual education in schools, which restricts access to information<sup>(9)</sup>.

As a result, people who menstruate often find it difficult to describe the symptoms they experience during their menstrual cycle, as they believe these symptoms to be normal. However, many of them suffer from menstrual disorders such as heavy bleeding, painful periods, amenorrhea, endometriosis, premenstrual syndrome, and polycystic ovary syndrome<sup>(8)</sup>.

It is also worth noting that, among school-age and university-age individuals, menstrual experiences can negatively impact education, leading to increased absenteeism and reduced confidence and self-esteem during menstruation<sup>(10)</sup>. In an Australian study<sup>(10)</sup>, it was found that only 16.2% of female university students felt confident managing their periods, due to negative perceptions, social stigma, and a lack of access to adequate products and restrooms.

Therefore, menstrual health education in school and university settings is essential for promoting body awareness, an understanding of the menstrual cycle and menstrual products, as well as helping to reduce stigma and discrimination related to menstruation, so that students have a safe environment in which to manage their menstruation without it adversely affecting their daily activities<sup>(10)</sup>.

In the Brazilian scenario, recent scientific research on menstruation has focused primarily on the discussion of menstrual poverty as an expression of socioeconomic vulnerabilities and structural inequalities. A scoping review conducted in international and Latin American databases revealed that the scientific evidence has prioritized factors associated with menstrual poverty, its impacts, and coping strategies, especially in contexts of social vulnerability<sup>(11)</sup>. In this sense, a Brazilian study conducted in a school setting supports this outlook by showing that menstrual insecurity, absenteeism, and barriers to accessing supplies are critical issues among adolescents<sup>(12)</sup>.

Despite advancements in research with schoolchildren, there is a lack of data on the university setting. There remains the need for further research into how institutional infrastructure and policies impact menstrual management and the health of menstruating individuals, ensuring their academic dignity. In light of this, the objective of this study was to describe menstrual health and the management of menstrual hygiene among university students who menstruate.

## METHODS

### Study design

Observational, descriptive, cross-sectional study conducted between September 2022 and July 2023, which followed the guidelines of the Checklist for Reporting Results of Internet E-Surveys (CHERRIES)<sup>(13)</sup> for the presentation of the results.

### Data Collection

Data collection was conducted in a virtual environment at the University of São Paulo (USP), located in Ribeirão Preto, in the state of São Paulo, Brazil, via Information and Communication Technologies, which have increased public participation in health research<sup>(14)</sup>.

For data collection in this study, an electronic survey was created on an online platform, based on a review of the scientific literature<sup>(4,6,10,15)</sup>. The survey was divided into six sections and contained 50 structured questions, covering information on the participants' sociodemographic characteristics (age, marital status, field of study, year of graduation, and religion); information on menstrual health (age at menarche, pain, and other complaints during the menstrual period) and on menstrual hygiene management (use and disposal of menstrual products, hygiene, and use of sanitary facilities). To ensure the instrument's adequacy, the electronic survey was pre-tested by the researchers themselves to verify the clarity of the questions, the navigation logic, and the platform's overall functionality. It should be noted that no formal pilot test was conducted with external participants; instead, an internal review was performed to ensure the survey's functionality and consistency prior to the start of data collection.

The study population consisted of female university students who menstruate. The inclusion criteria were: age 18 years or older, being currently enrolled at USP

(Ribeirão Preto campus), and having access to the internet. The exclusion criteria were: use of a contraceptive method that suppresses menstruation and incomplete survey forms.

Recruitment was conducted via social media and messaging apps, through electronic invitations sent to the academic community. The invitations detailed the study's objectives, guaranteed the confidentiality of information and the freedom to refuse or withdraw at any time, and included a link to the online survey. Access to the survey was not linked to other services or websites; participation was voluntary and offered no incentives. This was a closed survey, with access restricted to those who logged in using an institutional email address (with the "@usp.br" domain). This restriction was intended to prevent duplicate responses, allowing only one submission per email address, thereby ensuring the authenticity and uniqueness of the collected responses.

The Ribeirão Preto campus provides courses in various fields of study, including health, biological sciences, and exact sciences, among others. No sample size calculation was performed, as this was a descriptive study using a convenience sample and voluntary recruitment.

People who clicked on the link to complete the survey were first directed to the Informed Consent Form; upon agreeing to it, they proceeded to the next page of the online survey. Each item on the survey was marked as required, though participants had the option to leave it blank. Upon completion, participants were allowed to review their responses before final submission. A total of 218 people were recruited; however, 212 participants fully completed the questionnaire, resulting in a completion rate of approximately 97.3%. The six incomplete survey forms were discarded.

### Data Analysis

The data obtained from the completed questionnaires were transferred from the online platform to a spreadsheet and analyzed using the SPSS statistical software (version 22.0). Based on the study's objectives, descriptive analyses were performed, with qualitative variables described by absolute frequencies (n) and relative frequencies (%). Quantitative variables were presented as mean and standard deviation and, when relevant, as minimum and maximum values.

No statistical correction methods were applied for sample adjustment. Since this was a convenience sample, consisting of students who accessed the survey form via USP's institutional email, the data reflect the responses

of the group that voluntarily participated in the study, without extrapolation or adjustments for population representativeness.

### Ethical Aspects

The study was reviewed and approved by the Research Ethics Committee (CAEE 60416322.2.0000.5393), in compliance with the guidelines and regulatory standards for research involving human beings, as established by CNS Resolution 466/2012. The collected data were stored in an electronic file not accessible via the network, restricted solely to the research team.

### RESULTS

A total of 212 female university students who menstruate participated in the study; of these, 66.5% were between the ages of 21 and 25, with a mean age of 22 (SD = 2.26). Regarding place of origin, 16% were from Ribeirão Preto, São Paulo, while 76.4% were from other cities in the state of São Paulo. Regarding gender identity, the majority (95.8%) identified as cisgender women, while 1.9% identified as non-binary. The academic profile showed a concentration in the Nursing program (59.9%). Regarding religion, the absence of religious affiliation was prevalent (38.2%), followed by Catholic (29.2%), Christian (10.8%), and Spiritualist (9.0%) (Table 1).

Regarding menstrual history, 30.7% of participants reported having had their first period at age 12, with the mean age at menarche being 11.7 years (SD = 1.4). Regarding access to information about menstruation, 77.8% of participants received this information prior to menarche, and 85.4% of these individuals received it from their families. Most participants (91%) did not feel embarrassed to discuss menstruation; however, 40.6% had never discussed the theme in healthcare services (Table 2).

Regarding the duration of menstruation, 34.9% of participants reported that their cycle lasted five days, and 62.7% reported having moderate menstrual flow. The most frequently experienced feelings during the menstrual period were irritability (91%), sensitivity (90.6%), and fatigue (90.1%). In addition, the most common symptoms were gastrointestinal problems (54.7%), acne (53.8%), and back pain (50.9%) (Table 3).

Although the majority (75%) had not been diagnosed with a menstrual disorder, 43.4% reported frequent pain, and 51.9% considered these symptoms to be normal. For pain management, 78.8% used painkillers, while only 35.8% reported having discussed menstrual pain

Table 1 — Distribution of participants by age, city, gender, and community/religion. Ribeirão Preto, SP, Brazil, 2023. (N=212)

| Variable                               | N   | %     |
|----------------------------------------|-----|-------|
| <b>Age</b>                             |     |       |
| < 20 years                             | 59  | 27.83 |
| 21 to 25 years                         | 141 | 66.50 |
| > 26 years                             | 12  | 5.66  |
| <b>City</b>                            |     |       |
| Ribeirão Preto                         | 34  | 16    |
| Other cities in the state of São Paulo | 162 | 76.4  |
| Other states                           | 16  | 7.5   |
| <b>Course*</b>                         |     |       |
| Nursing                                | 127 | 59.9  |
| Biological Sciences                    | 18  | 8.5   |
| Chemistry                              | 12  | 5.7   |
| Pedagogy                               | 10  | 4.7   |
| Administration                         | 6   | 2.8   |
| Psychology                             | 6   | 2.8   |
| Economy                                | 5   | 2.4   |
| Physical Therapy                       | 4   | 1.9   |
| Others                                 | 24  | 11.3  |
| <b>Gender</b>                          |     |       |
| Cisgender woman                        | 203 | 95.8  |
| Non-binary                             | 4   | 1.9   |
| Trans man                              | 1   | 0.5   |
| Non-binary trans                       | 2   | 0.9   |
| I do not wish to answer                | 2   | 0.9   |
| <b>Religion</b>                        |     |       |
| None                                   | 81  | 38.2  |
| Catholic                               | 62  | 29.2  |
| Christian                              | 23  | 10.8  |
| Spiritualist                           | 19  | 9.0   |
| Umbanda                                | 14  | 6.6   |
| Evangelical                            | 10  | 4.7   |
| Jewish                                 | 2   | 0.94  |
| I do not know how to answer            | 1   | 0.5   |

\*Others: Accounting Sciences, Law, Pharmacy, Dentistry, Computer Science, Physical Education, Library Science, Medical Physics, Biomedical Informatics, Speech-Language Pathology, Medicine, Nutrition, and Occupational Therapy.

Source: Research data

with healthcare professionals or within their social circle (Table 3).

When questioned about symptoms experienced in the past six months, 72.2% reported not having experienced any of the listed symptoms. Among the participants, 18.9% sought medical attention from a healthcare professional due to their symptoms, and 17% underwent some form of treatment (Table 3).

Regarding the impact of menstruation on daily life, 61.8% of participants expressed concern over staining

Table 2 — Distribution of participants by menstrual history. Ribeirão Preto, SP, Brazil, 2023. (N=212)

| Menstrual history                                                                         | N   | %    |
|-------------------------------------------------------------------------------------------|-----|------|
| <b>Age at Menarche</b>                                                                    |     |      |
| 9 years                                                                                   | 9   | 4.2  |
| 10 years                                                                                  | 25  | 11.8 |
| 11 years                                                                                  | 65  | 30.7 |
| 12 years                                                                                  | 60  | 28.3 |
| 13 years                                                                                  | 33  | 15.6 |
| 14 years or more                                                                          | 20  | 9.4  |
| <b>Received information about menstruation before menarche</b>                            |     |      |
| Yes                                                                                       | 165 | 77.8 |
| No                                                                                        | 45  | 21.2 |
| I do not know how to answer                                                               | 2   | 0.9  |
| <b>Sources of information about menstruation*</b>                                         |     |      |
| Family                                                                                    | 181 | 85.4 |
| School                                                                                    | 123 | 58   |
| Friends                                                                                   | 97  | 41.8 |
| Internet                                                                                  | 87  | 41   |
| Magazine                                                                                  | 34  | 16   |
| <b>Feeling embarrassed to talk about menstruation</b>                                     |     |      |
| Yes                                                                                       | 17  | 8.0  |
| No                                                                                        | 193 | 91.0 |
| I do not know how to answer                                                               | 2   | 0.9  |
| <b>Searching for information about menstruation at healthcare services or drug stores</b> |     |      |
| Yes                                                                                       | 56  | 26.4 |
| No, and I would not like to                                                               | 86  | 40.6 |
| No, but I would like to                                                                   | 59  | 27.8 |
| I do not know how to answer                                                               | 11  | 5.2  |

\*For the items marked, participants could select more than one answer option.

Source: Research data

Table 3 — Distribution of participants according to menstrual cycle characteristics and the presence of menstrual disorders. Ribeirão Preto, SP, Brazil, 2023. (N=212)

| Characteristics of the menstrual cycle and the presence of disorders | N   | %    |
|----------------------------------------------------------------------|-----|------|
| <b>Duration of menstruation</b>                                      |     |      |
| Less than 3 days                                                     | 10  | 4.7  |
| 4 days                                                               | 61  | 28.8 |
| 5 days                                                               | 74  | 34.9 |
| 6 days                                                               | 51  | 24.1 |
| More than 7 days                                                     | 16  | 7.5  |
| <b>Menstrual Flow</b>                                                |     |      |
| Mild                                                                 | 37  | 17.5 |
| Moderate                                                             | 133 | 62.7 |
| Intense                                                              | 42  | 19.8 |
| <b>Feelings caused by menstruation*</b>                              |     |      |
| Irritated                                                            | 193 | 91   |
| Sensitive                                                            | 192 | 90.6 |
| Tired                                                                | 191 | 90.1 |
| Sadness                                                              | 116 | 54.7 |
| Dirty                                                                | 90  | 42.5 |
| Distracted                                                           | 30  | 14.2 |
| Happy                                                                | 27  | 12.7 |
| Embarrassed                                                          | 11  | 5.2  |
| <b>Symptoms caused by menstruation*</b>                              |     |      |
| Gastrointestinal problems                                            | 116 | 54.7 |
| Acne                                                                 | 114 | 53.8 |
| Back Pain                                                            | 108 | 50.9 |
| Headache                                                             | 107 | 50.5 |
| Painful menstruation                                                 | 100 | 42.2 |
| Intense bleeding                                                     | 60  | 28.8 |
| Irregular menstruation                                               | 56  | 26.4 |
| Others                                                               | 10  | 4.8  |
| <b>Menstrual disorder diagnosis</b>                                  |     |      |
| None                                                                 | 159 | 75   |
| Polycystic ovary syndrome                                            | 40  | 18.9 |
| Dysmenorrhea                                                         | 12  | 5.7  |
| Endometriosis                                                        | 4   | 1.9  |
| Others                                                               | 4   | 1.9  |
| <b>Menstrual cramps</b>                                              |     |      |
| Sometimes                                                            | 72  | 34   |
| Yes, always.                                                         | 92  | 43.4 |
| Rarely                                                               | 39  | 18.4 |
| Never                                                                | 9   | 4.2  |

Continue...

Continuation

| <b>Perceptions of the normality of menstrual pain</b>                        |     |      |
|------------------------------------------------------------------------------|-----|------|
| Yes, sometimes it hurts                                                      | 110 | 51.9 |
| Yes, it always hurts                                                         | 45  | 21.2 |
| No, it hurts a lot                                                           | 33  | 15.6 |
| No, it does not hurt                                                         | 8   | 3.8  |
| I do not know how to answer                                                  | 16  | 7,5  |
| <b>Methods for relieving menstrual pain*</b>                                 |     |      |
| Painkillers                                                                  | 167 | 78,8 |
| Contraceptive                                                                | 36  | 17   |
| Natural remedies                                                             | 33  | 15,6 |
| Nothing                                                                      | 21  | 9,9  |
| Hot water pads                                                               | 14  | 6,6  |
| Physical Exercise                                                            | 1   | 0,5  |
| <b>Account of a previous conversation with someone about menstrual pain*</b> |     |      |
| Friends                                                                      | 158 | 9,4  |
| Healthcare professional                                                      | 113 | 6,6  |
| Family members                                                               | 152 | 5,2  |
| I did not talk to anyone                                                     | 16  | 7,5  |

\*For the items marked, participants were able to select more than one answer option.

Source: Research data

their clothes with blood; 43.4% avoided physical exercise during menstruation; 48.1% stopped participating in swimming pool activities; and 25% sometimes skipped certain activities with friends (Table 4). Regarding academic performance, 54.7% reported that they had never missed college classes due to menstruation; 41% stated that they sometimes had difficulty concentrating in class; and 18.9% felt less capable of performing evaluative activities during their menstrual period (Table 4). In addition, 47.6% of participants reported that they never had to make up excuses to avoid revealing that they were menstruating; 13.7% were targeted for ridicule for menstruating; and 48.1% witnessed someone else being targeted for ridicule for the same reason (Table 4).

The menstrual products most familiar to the participants were: disposable external pads (99.5%), disposable tampons (98.6%), menstrual cups (98.1%), and reusable cloth pads (95.3%). The three most commonly used

Table 4 — Distribution of participants according to the impact of menstruation on their daily activities. Ribeirão Preto, SP, Brazil, 2023. (N=212)

| <b>The impact of menstruation on daily activities</b>                               | <b>N</b> | <b>%</b> |
|-------------------------------------------------------------------------------------|----------|----------|
| <b>Concern over staining clothes during menstruation</b>                            |          |          |
| Sometimes                                                                           | 47       | 22,2     |
| Yes, always                                                                         | 131      | 61,8     |
| Rarely                                                                              | 30       | 14,2     |
| Never                                                                               | 4        | 1,9      |
| <b>Absence from college due to menstruation</b>                                     |          |          |
| Never                                                                               | 116      | 54,7     |
| Rarely                                                                              | 56       | 26,4     |
| Sometimes                                                                           | 36       | 17       |
| Yes, always                                                                         | 2        | 0,9      |
| I do not know how to answer                                                         | 2        | 0,9      |
| <b>Interruption of physical exercise during menstruation</b>                        |          |          |
| Sometimes                                                                           | 92       | 43,4     |
| Rarely                                                                              | 41       | 19,3     |
| Yes, always                                                                         | 36       | 17       |
| Never                                                                               | 32       | 15,1     |
| I do not know how to answer                                                         | 9        | 4,2      |
| <b>Avoids water activities (swimming pool or beach) during the menstrual period</b> |          |          |
| Yes, always                                                                         | 102      | 48,1     |
| Sometimes                                                                           | 55       | 25,9     |
| Never                                                                               | 33       | 15,6     |
| Rarely                                                                              | 20       | 9,4      |
| I do not know how to answer                                                         | 2        | 0,9      |
| <b>Loss of some activities with friends during menstruation</b>                     |          |          |
| Never                                                                               | 95       | 44,8     |
| Rarely                                                                              | 57       | 26,9     |
| Sometimes                                                                           | 53       | 25       |
| Yes, always                                                                         | 6        | 2,8      |
| I do not know how to answer                                                         | 1        | 0,5      |
| <b>Difficulty concentrating in class during menstruation</b>                        |          |          |
| Sometimes                                                                           | 87       | 41,0     |
| Yes, always                                                                         | 25       | 11,8     |

Continue...

Continuation

|                                                                                                |     |      |
|------------------------------------------------------------------------------------------------|-----|------|
| Rarely                                                                                         | 45  | 21,2 |
| Never                                                                                          | 45  | 21,2 |
| I do not know how to answer                                                                    | 10  | 4,7  |
| <b>Perceived decline in performance during assessments during the menstrual period</b>         |     |      |
| Sometimes                                                                                      | 78  | 36,8 |
| Yes, always                                                                                    | 40  | 18,9 |
| Rarely                                                                                         | 37  | 17,5 |
| Never                                                                                          | 47  | 22,2 |
| I do not know how to answer                                                                    | 9   | 4,2  |
| <b>Frequency with which you make excuses to avoid revealing that you are menstruating</b>      |     |      |
| Sometimes                                                                                      | 39  | 18,4 |
| Yes, always                                                                                    | 9   | 4,2  |
| Rarely                                                                                         | 63  | 29,7 |
| Never                                                                                          | 101 | 47,6 |
| <b>Account of embarrassment caused by derogatory comments regarding menstruation</b>           |     |      |
| Yes                                                                                            | 29  | 13,7 |
| No                                                                                             | 164 | 77,4 |
| I do not know how to answer                                                                    | 19  | 9    |
| <b>Account of having witnessed derogatory comments regarding another person's menstruation</b> |     |      |
| Yes                                                                                            | 102 | 48,1 |
| No                                                                                             | 94  | 44,3 |
| I do not know how to answer                                                                    | 16  | 7,5  |
| <b>Account of having witnessed derogatory comments regarding menstruation itself</b>           |     |      |
| Yes                                                                                            | 29  | 13,7 |
| No                                                                                             | 94  | 44,3 |
| I do not know how to answer                                                                    | 16  | 7,5  |

Source: Research data

menstrual products were disposable pads (89.6%), menstrual cups (25.9%), and toilet paper (13.2%) (Table 5).

Among the participants, 72.6% reported not feeling embarrassed about buying menstrual products, while 87.3% reported that menstrual products were expensive. In addition, 9.9% stated that they sometimes did not have

the money to buy these products, and 29.7% reported that they sometimes purchased menstrual products they did not prefer due to a lack of financial resources (Table 5).

Most participants (72.2%) reported being unable to obtain free menstrual products at the university, and 30.2% stated that they did not feel comfortable asking for menstrual products in public environments. Regarding the use of menstrual products, 24.5% reported that, on some occasions, they use the product for longer than recommended due to a lack of replacements; 39.6% used it for longer than indicated due to a lack of adequate restroom facilities, and 16.5% reported that they sometimes need to use toilet paper due to a lack of menstrual products (Table 5).

In addition, among the study participants, 38.7% practiced hand hygiene before changing their menstrual products, and 92% washed their hands after changing them. As for intimate hygiene, 86.8% practice it using soap and water.

Table 5 — Distribution of participants based on their experiences with menstrual products. Ribeirão Preto, SP, Brazil, 2023. (N=212)

| Menstrual products/materials                                         | N   | %    |
|----------------------------------------------------------------------|-----|------|
| <b>Well-known menstrual products*</b>                                |     |      |
| Reusable cloth pad                                                   | 202 | 95,3 |
| Disposable external sanitary pad                                     | 211 | 99,5 |
| Disposable internal sanitary pad                                     | 209 | 98,6 |
| Menstrual Cup                                                        | 208 | 98,1 |
| Menstrual Underwear                                                  | 13  | 6,1  |
| Menstrual Disc                                                       | 4   | 1,9  |
| <b>Used menstrual products*</b>                                      |     |      |
| Disposable external sanitary pad                                     | 190 | 89,6 |
| Menstrual Cup                                                        | 55  | 25,9 |
| Toilet Paper                                                         | 28  | 13,2 |
| Disposable internal sanitary pad                                     | 17  | 8,0  |
| Reusable cloth pad                                                   | 15  | 7,0  |
| Menstrual underwear                                                  | 4   | 1,8  |
| Menstrual Disc                                                       | 2   | 0,9  |
| <b>Frequency of embarrassment when purchasing menstrual products</b> |     |      |
| Sometimes                                                            | 23  | 10,8 |
| Yes, always                                                          | 4   | 1,9  |
| Rarely                                                               | 29  | 13,7 |

Continue...

## Continuation

|                                                                                                       |     |      |
|-------------------------------------------------------------------------------------------------------|-----|------|
| Never                                                                                                 | 154 | 72,6 |
| Someone else buys it for me                                                                           | 2   | 0,9  |
| <b>Perception that menstrual products are expensive</b>                                               |     |      |
| Yes                                                                                                   | 185 | 87,3 |
| No                                                                                                    | 14  | 6,6  |
| I do not know how to answer                                                                           | 13  | 6,1  |
| <b>Frequency of lack of money to purchase menstrual products</b>                                      |     |      |
| Sometimes                                                                                             | 21  | 9,9  |
| Yes, always                                                                                           | 2   | 0,9  |
| Rarely                                                                                                | 29  | 13,7 |
| Never                                                                                                 | 158 | 74,5 |
| I do not know how to answer                                                                           | 1   | 0,5  |
| <b>Frequency of use of non-preferred menstrual products due to the cost of preferred products</b>     |     |      |
| Sometimes                                                                                             | 63  | 29,7 |
| Yes, always                                                                                           | 18  | 8,5  |
| Rarely                                                                                                | 43  | 20,3 |
| Never                                                                                                 | 87  | 41,0 |
| I do not know how to answer                                                                           | 1   | 0,5  |
| <b>Gets free menstrual products at the university</b>                                                 |     |      |
| Yes                                                                                                   | 10  | 4,7  |
| No                                                                                                    | 153 | 72,2 |
| I do not know how to answer                                                                           | 49  | 23,1 |
| <b>Comfortable places to order menstrual products*</b>                                                |     |      |
| I never had to ask                                                                                    | 121 | 57,1 |
| No, I do not feel comfortable                                                                         | 64  | 30,2 |
| University                                                                                            | 49  | 23,1 |
| Club                                                                                                  | 17  | 8    |
| Downtown                                                                                              | 17  | 8    |
| People in the social circle                                                                           | 1   | 0,5  |
| Church                                                                                                | 1   | 0,5  |
| <b>Frequency of using menstrual products for longer than recommended due to a lack of replacement</b> |     |      |
| Sometimes                                                                                             | 52  | 24,5 |
| Yes, always                                                                                           | 10  | 4,7  |
| Rarely                                                                                                | 67  | 31,6 |
| Continue...                                                                                           |     |      |

## Continuation

|                                                                                                                                          |    |      |
|------------------------------------------------------------------------------------------------------------------------------------------|----|------|
| Never                                                                                                                                    | 80 | 37,7 |
| I do not know how to answer                                                                                                              | 3  | 1,4  |
| <b>Frequency of using menstrual products for longer than recommended due to not finding facilities for adequate disposal<sup>1</sup></b> |    |      |
| Sometimes                                                                                                                                | 84 | 39,6 |
| Yes, always                                                                                                                              | 18 | 8,5  |
| Rarely                                                                                                                                   | 73 | 34,4 |
| Never                                                                                                                                    | 36 | 17,0 |
| I do not know how to answer                                                                                                              | 1  | 0,5  |
| <b>Frequency of use of non-menstrual products<sup>2</sup></b>                                                                            |    |      |
| Sometimes                                                                                                                                | 35 | 16,5 |
| Yes, always                                                                                                                              | 1  | 0,5  |
| Rarely                                                                                                                                   | 77 | 36,3 |
| Never                                                                                                                                    | 98 | 46,2 |
| I do not know how to answer                                                                                                              | 1  | 0,5  |

<sup>1</sup>Examples of adequate sanitary facilities: private restroom, hand soap, clean restroom

<sup>2</sup>Examples of non-menstrual products: toilet paper, bread stuffing.

\*For the items marked, participants could select more than one answer option.

Source: Research data

## DISCUSSION

The results revealed a high prevalence of physical and emotional symptoms associated with the menstrual cycle, with direct repercussions on the academic and social spheres. Obstacles to menstrual management were identified, manifested by the prolonged use of sanitary products and insufficient sanitary infrastructure for adequate disposal. On the other hand, although previous access to information and low stigma were reported, practical barriers and the normalization of pain persist, reflected in the low rate of seeking professional care. These findings inform the debate on menstrual health in higher education and highlight the urgency of institutional support policies.

Despite the fact that a significant share of the participants in this study reported having access to information about menstruation, uncertainties and inadequate handling of materials persist. The negative impact on academic and emotional well-being remains high, exacerbated by low demand for professional support. These findings underscore the need for high-quality, strategic

health education, positioning healthcare professionals as key agents in promoting dignity and menstrual well-being in the university setting<sup>(16)</sup>.

It was also noted that, among menstruating individuals, a significant share of them reported menstrual pain and frequent use of pain relievers. The severity of these menstrual disorders can cause discomfort for students, negatively affecting their interpersonal relationships and reducing their academic performance, whether in exams or internships, which causes insecurity and results in a significant impact of menstruation on university life<sup>(17)</sup>.

People who menstruate reported frequent physical and emotional symptoms during their menstrual period, such as irritability, fatigue, tenderness, and pain. These findings are consistent with the results of the study<sup>(18)</sup> conducted with 127 female medical and nursing students in western India, in which mood swings (74%), skin rashes (22%), and lower abdominal pain (64.65%) were reported. These findings highlight the complexity of symptoms associated with the menstrual cycle.

Due to the impact of symptoms on activities of daily living, more than half of the participants reported being unable to engage in leisure activities during their menstrual period, as well as difficulties concentrating in class and during assessments. In this sense, menstrual symptoms can severely compromise daily life and work activities. Although taking time off is often necessary, social stigma and fear of adverse consequences silence complaints and lead to the neglect of symptoms<sup>(19)</sup>.

In the university setting, a study<sup>(10)</sup> with a qualitative approach identified negative experiences related to menstruation, attributed to menstrual pain, feelings of embarrassment, and difficulties in managing menstrual flow. These factors adversely affected academic performance, leading to absenteeism and a lack of engagement among undergraduate students. These findings corroborate those of this study, showing that absenteeism and difficulty concentrating are common during the menstrual period.

As a result, the disregard of symptoms related to menstruation leads to insufficient seeking of medical care when abnormal symptoms are present<sup>(20)</sup>. An individualized assessment of menstrual health, combined with health education, aids in the recognition of medical conditions and the identification of strategies for managing this period, thereby establishing menstrual health as an essential component of women's healthcare<sup>(8)</sup>. In addition, it has been noted that menstruating individuals living in low- and middle-income countries face barriers to meeting their menstrual needs, primarily due to widespread menstrual stigma and limited access to safe and reliable

information<sup>(16)</sup>. It is worth noting that girls who reach menarche without any prior knowledge of menstruation often describe feeling distressed and embarrassed<sup>(16)</sup>.

People who menstruate, who participated in this study, reported challenging circumstances, such as the improvised use of toilet paper and the lack of adequate sanitation facilities. Data from the literature confirm that menstrual hygiene allows people to manage and collect their flow in a clean, safe, and comfortable manner. Furthermore, poor hygiene conditions are linked to the risk of reproductive tract infections and a lack of attention to policies promoting menstrual dignity<sup>(21)</sup>.

Among the challenges faced, regular access to menstrual products, the choice of materials, and personal hygiene practices also stand out; these are essential factors in managing menstruation and directly influence women's well-being and quality of life<sup>(22)</sup>. In this study, although reported by a minor percentage of respondents, the prolonged use of menstrual products due to a lack of replacement highlights a highly significant issue of menstrual poverty. This is a public health problem that has garnered limited attention in academic circles and is therefore overlooked by public policy, which contributes to the negative experiences faced by people who menstruate<sup>(23)</sup>. From this perspective, Brazil has made progress through the implementation of social inclusion programs focused on the distribution of sanitary pads. However, addressing these vulnerabilities requires strategies that go beyond the provision of supplies, encompassing improvements in sanitation, the promotion of health education, and respect for cultural differences. It is imperative to ensure structural conditions that promote the autonomy and dignity of people who menstruate<sup>(24)</sup>.

In other words, it goes beyond access to menstrual products, including knowledge about how to use them, individual preferences, cost, and the availability of adequate and well-maintained restroom facilities, all of which directly affect comfort, safety, and well-being during menstruation. This is due to the fact that an inadequate choice and/or incorrect use of these products can lead to physical discomfort, such as irritation and infections, in addition to impacting self-confidence<sup>(22)</sup>. These findings emphasize the importance of expanding access to quality information, ensuring menstrual dignity, and promoting public policies that guarantee comprehensive menstrual health care for people who menstruate in the university setting.

Health education, as well as the identification and treatment of these conditions, enable people who menstruate to manage their menstrual health more safely and

effectively<sup>(18)</sup>. Despite this, the reality reveals a lack of knowledge, according to a quantitative study conducted with 8,473 Palestinian female university students in the West Bank, in which 66% of the respondents reported a need for more information about menstruation<sup>(25)</sup>.

The results of this study described menstrual health and its management among female university students who menstruate, highlighting the daily impact of menstrual symptoms on this population; however, these findings should not be generalized. As a limitation, it should be noted that most participants were enrolled in health-related programs, which may have led to a higher level of knowledge about menstruation and menstrual management, limiting the generalizability of the findings to students in other fields of study. It is suggested that future research consider characterizing participants by field of study to assess whether students in health-related programs do, in fact, possess greater knowledge compared to those in other fields.

In addition, the study was conducted at a large public university with good infrastructure, which may not reflect the reality of institutions with fewer resources. Therefore, it is recommended that similar studies be conducted at other public universities in different regions, with the aim of broadening the understanding of structural inequalities that influence the menstrual experience in the academic environment.

Despite these limitations, the study provides information on the menstrual health of Brazilian women, filling a gap in the national literature on the theme. This study also highlights the potential of using an online survey, which facilitated broad participation by students from various academic programs, providing a comprehensive overview of menstrual experiences in the university setting.

## CONCLUSION

This study constituted a relevant strategy for understanding and describing menstrual health and hygiene management among people who menstruate and are university students, including the characteristics of the menstrual cycle and the participants' experiences related to menstruation.

Based on the results obtained, it can be concluded that menstruation has a significant impact on the daily lives, menstrual dignity, and academic performance of people who menstruate. Concerns regarding possible stains on clothing, restrictions on physical and social activities during menstruation, difficulties with concentration

and academic performance, as well as access to menstrual products, stand out as challenges faced by many female university students.

It was possible to determine the importance of recognizing menstruation from different perspectives, encompassing both its natural and social aspects, not limiting it to the physiological realm, but also considering it as a culturally constructed phenomenon, situated within the context of each person who menstruates and influenced by their surroundings, including family, friends, school, community, and university.

In the face of the challenges involved in managing menstrual hygiene in a way that promotes dignified menstrual health, health education is essential to provide guidance and recommendations regarding menstruation and to enable people who menstruate to discuss the symptoms they experience during this time, as well as to acquire the necessary knowledge to manage their menstrual cycles in all settings, including at the university.

## REFERENCES

1. Fundo de População das Nações Unidas (UNFPA); Fundo das Nações Unidas para a Infância (UNICEF). *Pobreza menstrual no Brasil: desigualdades e violações dos direitos*. Brasília: UNFPA; 2018 [cited 2025 May 27]. Available from: [https://www.unicef.org/brazil/media/14456/file/dignidade-menstrual\\_relatorio-unicef-unfpa\\_mai2021.pdf](https://www.unicef.org/brazil/media/14456/file/dignidade-menstrual_relatorio-unicef-unfpa_mai2021.pdf)
2. Åkerman E, Wängborg A, Persson M, Sörensdotter R, Klingberg-Allvin M. Navigating menstrual stigma and norms: a qualitative study on young people's menstrual experiences and strategies for improving menstrual health. *BMC Public Health* [Internet]. 2024 [cited 2025 Jun 15];24(1):3401. Available from: <https://doi.org/10.1186/s12889-024-20936-5>
3. Brasil. Decreto nº 11.432, de 8 de março de 2023. Institui o Programa de Proteção e Promoção da Saúde Menstrual. *Diário Oficial da União*. 2023 March 8; Seção 1.
4. Yadav RN, Joshi S, Poudel R, Pandeya P. Knowledge, attitude, and practice on menstrual hygiene management among school adolescents. *J Nepal Health Res Counc* [Internet]. 2018 Jan 1 [cited 2025 Jun 15];15(3):212-6. Available from: <https://www.nepjol.info/index.php/JNHRC/article/view/18842>
5. Belayneh Z, Mekuriaw B. Knowledge and menstrual hygiene practice among adolescent school girls in southern Ethiopia: a cross-sectional study. *BMC Public Health* [Internet]. 2019 [cited 2025 Jun 15];19(1):1595. Available from: <https://doi.org/10.1186/s12889-019-7973-9>
6. Medina-Perucha L, Jacques-Aviñó C, Valls-Llobet C, Turbau-Valls R, Pinzón D, Hernández L, et al. Menstrual health and period poverty among young people who menstruate in the Barcelona metropolitan area (Spain): protocol of a mixed-methods study. *BMJ Open* [Internet]. 2020 [cited 2025 Jun 15];10(7):e035914. Disponível em: <https://doi.org/10.1136/bmjopen-2019-035914>

7. Thiyagarajan DK, Basit H, Jeanmonod R. Physiology, menstrual cycle [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 [cited 2025 Jun 15]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK500020/>
8. Matteson KA, Zaluski KM. Menstrual health as a part of preventive health care. *Obstet Gynecol Clin North Am.* [Internet]. 2019 [cited 2025 Jun 15];46(3):441-53. Available from: <https://www.sciencedirect.com/science/article/pii/S0889854519300476?via%3Dihub>
9. Kaur R, Kaur K, Kaur R. Menstrual hygiene, management, and waste disposal: practices and challenges faced by girls/women of developing countries. *J Environ Public Health* [Internet]. 2018 [cited 2025 Jun 15];2018:1730964. Available from: <https://doi.org/10.1155/2018/1730964>
10. Munro AK, Keep M, Hunter EC, Hossain SZ. Confidence to manage menstruation among university students in Australia: evidence from a cross-sectional survey. *Womens Health (Lond)* [Internet]. 2022 [cited 2025 Jun 15];18:17455065211070666. Available from: <https://journals.sagepub.com/doi/10.1177/17455065211070666>
11. Paula MC, Monteiro BB, Ruela LO, Silva MMJ. Period poverty: a scoping review. *Rev Bras Enferm* [Internet]. 2025 [cited 2025 Jun 15];78(2):e20240567. Available from: <https://doi.org/10.1590/0034-7167-2024-0567>
12. Adomaitis JCO, Stofel NS, Silva MGF, Santos VC, Borges FA, Carlos DM, Farias BLS, Ogata MN, Monteiro JCDS. Menstrual health: an analysis of experiences among school-aged adolescents. *Rev Esc Enferm USP* [Internet]. 2026 Jan 19 [cited 2026 March 20];59:e20250003. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC12834388/>
13. Eysenbach G. Improving the quality of web surveys: the Checklist for Reporting Results of Internet E-Surveys (CHERRIES). *J Med Internet Res* [Internet]. 2004 [cited 2025 Jun 15];6(3):e34. Available from: <https://pubmed.ncbi.nlm.nih.gov/15471760/>
14. Schmidt B, Palazzi A, Piccinini CA. Entrevistas online: potencialidades e desafios para coleta de dados no contexto da pandemia de COVID-19. *REFACS* [Internet]. 2020 [cited 2025 Jun 15];8(4):960-6. Available from: <https://doi.org/10.18554/refacs.v8i4.4877>
15. Parent C, Tetu C, Barbe C, Bonneau S, Gabriel R, Graesslin O, et al. Menstrual hygiene products: a practice evaluation. *J Gynecol Obstet Hum Reprod.* [Internet]. 2022 [cited 2025 May 27];51(1):102261. Available from: <https://doi.org/10.1016/j.jogoh.2021.102261>
16. Mahfuz MT, Sultana F, Hunter EC, Jahan F, Akand F, Khan S, et al. Teachers' perspective on implementation of menstrual hygiene management and puberty education in a pilot study in Bangladeshi schools. *Global Health Action* [Internet]. 2021 [cited 2025 May 27];14(1):1955492. Available from: <https://doi.org/10.1080/16549716.2021.1955492>
17. De Mattia AL, Telles B, Santos CAM, Bernauer MC. Síndrome pré-menstrual: influências na equipe de enfermagem de centro cirúrgico. *Mundo Saude* [Internet]. 2008 [cited 2025 May 27];32(4):495-505. Available from: <https://revistamundodasaude.emnuvens.com.br/mundodasaude/article/view/838>
18. Parikh V, Nagar S. Menstrual hygiene among adolescent girls studying in a university of Gujarat. *J Family Med Prim Care* [Internet]. 2022 [cited 2025 Jun 15];11(7):3607-12. Available from: [https://doi.org/10.4103/jfmpc.jfmpc\\_2303\\_21](https://doi.org/10.4103/jfmpc.jfmpc_2303_21)
19. Leon-Larios F, Silva-Reus I, Puente Martínez MJ, Renuncio Roba A, Ibeas Martínez E, Lahoz Pascual I, Naranjo Ratia MC, Quílez Conde JC. Influence of menstrual pain and symptoms on activities of daily living and work absenteeism: a cross-sectional study. *Reprod Health* [Internet]. 2024 [cited 2025 Dez 10];21(1):25. Available from: <https://doi.org/10.1186/s12978-024-01757>
20. Özberk H, Bilgiç D, Badem A. Menstrual cycle abnormalities in women: characteristics, perceptions, and health-seeking behaviours. *Eur J Contracept Reprod Health Care* [Internet]. 2023 [cited 2025 Dez 12];28(6):301-7. Available from: <https://www.tandfonline.com/doi/full/10.1080/13625187.2023.2273753>
21. Rossouw L, Ross H. Understanding period poverty: socio-economic inequalities in menstrual hygiene management in eight low- and middle-income countries. *Int J Environ Res Public Health* [Internet]. 2021 [cited 2025 Jun 15];18(5):2571. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC7967348/>
22. Suleman A, Krishna S, Krishnakumar D, Nemoto K, Nguy[?]n MLT, Mehta SD. A pilot survey of students' menstrual attitudes, experiences, and needs on an urban university campus. *Womens Health (Lond)* [Internet]. 2024 [cited 2025 Jun 15];20:17455057241254713. Available from: <https://pubmed.ncbi.nlm.nih.gov/38819035/>
23. Oliveira VC, Pena ÉD, Andrade GN, Felisbino-Mendes MS. Acceso y prácticas de higiene menstrual en América Latina: revisión de alcance. *Rev Latinoam Enferm* [Internet]. 2023 [cited 2025 Jun 15];31:e4028. Available from: <https://doi.org/10.1590/1518-8345.6736.4028>
24. Gomes N da S, Cechin MBC, Willig CL, Santos LB, Fioretti-Foschi B, Vieira LB, et al. Desafios às práticas menstruais no Brasil: uma análise do Programa de Proteção e Promoção da Saúde Menstrual. *Ciênc Saúde Colet* [Internet]. 2025 [cited 2025 Dez 10];30(11):e11422025. Available from: <https://doi.org/10.1590/1413-812320253011.11422025>
25. Hassan S, Ghandour R, Bakri L, Shwaki S, Safi S, Abuzaid R, et al. Menstrual health and hygiene among young Palestinian female university students in the West Bank: a cross-sectional study. *BMJ Open* [Internet]. 2023 [cited 2025 Jun 15];13(3):e069222. Available from: <https://doi.org/10.1136/bmjopen-2022-069222>