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Menstrual health and management during the COVID-19 syndemic in the Barcelona area (Spain): A qualitative study

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Abstract

Background: Available evidence suggests that menstrual health and management have been impaired during the COVID-19 syndemic. However, research in this area is scarce, and it is failing to voice the experiences of women and people who menstruate regarding their menstrual experiences.

Objectives: This study aimed to explore the experiences of menstrual health and menstrual management among women and people who menstruate in the Barcelona area (Spain) during the COVID-19 syndemic.

Design: This is a qualitative study, conducted taking a critical feminist approach, is embedded in the 'Equity and Menstrual Health in Spain' project.

Methods: It includes photo-elicitation individual interviews with 34 women and people who menstruate in the area of Barcelona (Spain). Data were collected in person and through telephone calls between December 2020 and February 2021. Analyses were performed using Thematic Analysis.

Results: Main findings navigated through the menstrual changes experienced by some participants, especially women living with long COVID-19, and the barriers to access healthcare and menstrual products during COVID-19. While some participants experienced menstrual poverty, this did not appear to be exacerbated during COVID-19. Instead, access to menstrual products was compromised based on products' availability and mobility restrictions. Menstrual management and self-care were generally easier, given that menstrual experiences were almost exclusively relegated to private spaces during lockdown periods.

Conclusions: Our findings highlight the need to further research and policy efforts towards promoting menstrual health and equity, considering social determinants of health, and taking intersectional and gender-based approaches. These strategies should be further encouraged in social and health crises such as the COVID-19 syndemic.

Keywords

COVID-19, gender, long COVID-19, menstrual equity, menstrual health, menstrual management, menstruation, qualitative research

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Introduction

The COVID-19 syndemic, a concept to describe and conceptualize ill-health in complex pandemics, taking into account the intersection between socio-environmental and biological factors,[1,2] has particularly had a negative psychosocial impact on women and gender non-conforming people,[3,4] deepening gender inequities.[5] Further, the syndemic has affected the access to healthcare, especially among women, low-income populations, and other vulnerable groups.[6] This was especially evident at the beginning of the syndemic, since healthcare access was compromised given the saturation in healthcare systems, public health measures and the population's fear of infection.[5,6] Financial and practical barriers, including the digital divide given that some healthcare services got virtualized,[6] are other factors for the limited access to healthcare.

Menstrual health, a public health and human rights issue, has also been reportedly affected since the onset of the COVID-19 syndemic, alongside sexual and reproductive health.[7–10] First, through anecdotal accounts of women and people who menstruate (PWM) (i.e. gender non-conforming menstruators), and recently through an increasing amount of scientific evidence.[11–13] Menstrual alterations reported during the syndemic include changes in the frequency, volume, length of menstruation and the menstrual cycle and in the severity of dysmenorrhea.[11,10,13] These menstrual alterations have been associated with stress levels,[12,14,15] socioeconomic stressors SARS-COV-2 infection,[16] and long COVID-19.[11] Challenges for menstrual management and access to menstrual products in the context of the COVID-19 syndemic have also been reported.[17–21] These reports are suggestive of how menstrual inequities have deepened during COVID-19.[9]

To our knowledge, few studies have explored menstrual experiences during the syndemic. While most available research have investigated menstrual alterations from a more biomedical perspective,[16,22] other studies have focused on the challenges for menstrual management, often in the Global South,[23] and among vulnerable populations in the Global North.[19] It is urgent that not only menstrual alterations in the context of COVID-19 are researched and made visible, but that menstrual inequity is considered a public health issue that needs to be addressed through public policy and in the context of social and health crisis such as the COVID-19 syndemic. The authors understand menstrual inequity as

> the systematic and avoidable differences in the access to menstrual education and healthcare, and to products, services and facilities for menstrual management, menstrual-related experiences of stigma and discrimination, the lack of research on the menstrual cycle and menstruation, and the barriers to social, community, political and economic participation based on having a menstrual cycle and menstruating.

Women and PWM living in Spain experienced a strict national lockdown from 15 March 2020 to 9 May 2020, followed by curfews and severe restrictions on mobility throughout 2020 and 2021. Based on previous evidence on the impact of COVID-19 on menstrual health in Spain,[11] this study aimed to qualitatively explore the experiences of menstrual health and menstrual management among women and PWM in the Barcelona area (Spain) during the COVID-19 syndemic.

Methods

This is an explorative qualitative study using photo-elicitation interviews with women ($N=31$) and PWM ($N=3$) between 18 and 47 years old in the Barcelona area (Spain) (see Table 1). Inclusion criteria were having menstruated at least once in the 12 months preceding the study, being between 18 and 55 years old, living in the area of Barcelona, and being able to communicate in Spanish, Catalan or English. Main exclusion criteria were having entered menopause (1 year or more without menstruating). However, it came to light that one participant had recently entered early menopause during the interview. For ethical reasons, this participant's data were still included in the analyses. Data included in this publication are part of the 'Equity and Menstrual Health in Spain' project, a larger mixed-methods study that took a critical and feminist approach[24] to assess and explore experiences of menstrual inequity and menstrual health in Spain.

Sampling and Recruitment

Sampling was purposive and selective. Recruitment strategies included social media (Instagram, Twitter and WhatsApp), key persons and organizations (e.g. sexual and reproductive health centres, non-governmental organizations, and other local organizations), and snowball sampling. Participants were contacted by the researchers and key persons and organizations, including healthcare professionals. All participants received oral and written information on the aims and context of the study before deciding to participate. Four potential participants contacted the researchers to take part in the study but were unreachable to set a time for the interview later on. Given the nature of the sampling methods, the researchers were unable to know how many other potential participants refused to participate. Special attention was paid to recruiting women and PWM affected by the digital divide, people living in socioeconomic deprived areas, participants from the Roma community and migrant populations. Discourse diversity was ensured by recruiting participants with different

Table 1. Participants' sociodemographic characteristics ($N = 34$).

ID	Age	Country of birth	Administrative status	Employment status	Completed education	Gender	Identified as trans	Self-reported COVID-19	Self-reported long COVID-19*	Interview location
P1	27	Spain	Spanish nationality	No employment/income	Primary education	Woman	No	Yes, diagnosed by a healthcare professional	No	ASSIR**
P2	40	Spain	Spanish nationality	Works full-time	Secondary education	Woman	No	Not sure	No	ASSIR
P3	23	Spain	Spanish nationality	Maternity leave	Professional education	Woman	No	Yes, diagnosed by a healthcare professional	No	ASSIR
P4	24	Spain	Spanish nationality	Works full-time	University studies	Woman	No	No	No	Telephone
P5	25	Spain	Spanish nationality	Works full-time	University studies	Woman	No	No	No	Telephone
P6	29	Spain	Spanish nationality	Self-employed	University studies	Not sure	Not sure	No	No	Telephone
P7	33	Spain	Spanish nationality	Works full-time	University studies	Woman	No	No	No	Telephone
P8	35	Spain	Spanish nationality	Works full-time	University studies	Woman	No	No	No	Telephone
P9	24	Spain	Spanish nationality	Works full-time	University studies	Woman	No	Not sure	No	Telephone
P10	33	Spain	Spanish nationality	Works full-time	University studies	Woman	No	No	No	Telephone
P11	33	Spain	Spanish nationality	Works full-time	University studies	Woman	No	No	No	Telephone
P12	25	Spain	Spanish nationality	Work full-time; Studies part-time	University studies	Woman	No	No	No	Public space
P13	25	Spain	Spanish nationality	Works full-time	University studies	Woman	No	No	No	Public space
P14	26	Spain	Spanish nationality	Studies full-time	University studies	Woman	No	No	No	Public space
P15	25	Spain	Spanish nationality	Works part-time	University studies	Woman	No	Not sure	Not sure	Telephone
P16	47	Spain	Spanish nationality	Works full-time	Professional education	Woman	No	No	No	Telephone
P17	34	Spain	Spanish nationality	Works full-time	University education	Woman	No	Yes, diagnosed by a healthcare professional	Yes	Telephone
P18	23	Spain	Spanish nationality	Medical leave; Studies part-time	Professional education	Woman and non-binary	Not sure	No	No	Telephone
P19	25	Spain	Spanish nationality	Studies full-time; Works part-time	Secondary education	Woman	No	Yes, diagnosed by a healthcare professional	No	Telephone
P20	20	Spain	Spanish nationality	Studies full-time	Secondary education	Woman	No	No	No	Telephone
P21	35	Spain	Spanish nationality	Self-employed; Studies part-time	University studies	Woman	No	No	No	Telephone
P22	18	Spain	Spanish nationality	Studies full-time	Secondary education	Woman	No	Not sure	No	Public space
P23	28	Spain	Spanish nationality	Works full-time	University education	Woman	No	Yes, diagnosed by a healthcare professional	Yes	Telephone
P24	20	Spain	Spanish nationality	Studies full-time	Secondary education	Non-binary	Yes	No	No	Telephone
P25	37	Morocco	Permanent residence	Works full-time	Professional education	Woman	No	No	No	Telephone
P26	24	Spain	Spanish nationality	Works part-time	Professional education	Woman	No	No	No	Telephone
P27	35	Colombia	Spanish nationality	Unemployed	University studies	Woman	No	Not sure	No	Telephone
P28	37	Spain	Spanish nationality	Works full-time	University studies	Woman	No	No	No	Telephone
P29	23	Argentina	Refugee status	No income	Secondary education	Woman	No	Yes, diagnosed by a healthcare professional	No	ASSIR
P30	22	Spain	Permanent residence	Works full-time	Professional education	Woman	No	No	No	ASSIR
P31	25	Pakistan	Permanent residence	Works full-time	Professional education	Woman	No	Yes, diagnosed by a healthcare professional	No	Public space
P32	29	Spain	Spanish nationality	Works full-time	University studies	Woman	No	Not sure	No	Telephone
P33	28	Spain	Spanish nationality	Works full-time	University studies	Woman	No	No	No	Telephone
P34	38	Brazil	Spanish nationality	Unemployed	Professional education	Woman	No	No	No	ASSIR

*Long COVID-19 was self-reported by participants. At the time of data collection, long COVID-19 was defined as experiencing COVID-19 symptoms for at least 4 weeks, having had a positive COVID-19 test.
**ASSIR = sexual and reproductive healthcare centre.

characteristics (age, socioeconomic context, country of origin, administrative status, and gender identity).

Data collection

Thirty-four qualitative interviews took place between December 2020 and February 2021, either in sexual and reproductive health centres, public open spaces (e.g. city parks), or by telephone. Recruitment and data collection were significantly limited due to COVID-19 restrictions at the time of the research, hence the combination of face-to-face and telephone interviews. Besides, given the timeframe in which we conducted the interviews, we did not collect participants' potential menstrual alterations related to COVID-19 vaccination. A topic guide and two photographs for the photo-elicitation were used for data collection, although data from the photo-elicitation are not included in this publication. Both the topic guide and the photographs used are available as supplemental material in a previously published article.[17] Interviews lasted 40 to 85 min and were conducted by ASH and LMP. While ASH was training as a researcher at the time of the interviews, LMP is an experienced qualitative researcher, and PhD in Health Psychology, and supported and trained ASH, an MPH trainee, to conduct the interviews. Both researchers conducting the interviews identify their gender as women. All interviews were audio-recorded and transcribed verbatim by ASH and external transcribers. Data saturation criteria were considered, reaching saturation after 17 interviews. All participants received a 10€ voucher as a token of thanks for their participation in the study.

Quality and rigour for the qualitative study have been ensured by following the Guba and Lincoln[25] criteria and through the Consolidated Criteria for Reporting Qualitative Research checklist.[26] Reflexivity processes were in place throughout the whole study to ensure the quality of the study,

Data analysis

Qualitative data were analysed using Thematic Analysis,[27] including COVID-19-related data only. First, ASH and LMP carried out preliminary analyses by reading, reflecting, and discussing the data. Then, interviews were coded by ASH and LMP. The coding schema was triangulated between ASH, CJA, and LMP, by discussing codes and potential themes/subthemes and sharing analytical interpretations. Through a collaborative and reflexive process, initial themes and subthemes were then identified between ASH and LMP and discussed with all co-authors until a final thematic framework was devised. Field notes were also considered throughout the analysis process.

More details on the methods can be found in a previously published article.[17]

Results

Four themes were identified: (1) menstrual changes and the experiences of those affected by long COVID-19; (2) access to healthcare services and the systemic disregard of menstrual, sexual and reproductive health; (3) COVID-19 lockdown as an opportunity for menstrual self-care and improved menstrual management; and (4) access and affordability of menstrual products.

Menstrual changes and the experiences of those affected by long COVID-19

Around half of the participants did not notice any changes in their menstruations. For four participants, this was related to being either pregnant, post-partum, in fertility treatment or in perimenopause at time of the research. Other participants reported menstrual alterations since the start of the syndemic. Menstrual changes included a different abundance pattern (P13, P22) ('More blood was coming out for more days'–P22), increased menstrual pain (P15), amenorrhea during the first lockdown

> When lockdown started, hmm. . . well on a personal level, depression, fear, uncertainty, (. . .) it has affected me. And I did not have it (menstruation) for two or three months. But then I don't know if it was in May or June that it came back on its own.–P28

and increased tiredness during menstruation since the onset of the syndemic (P31). Other women experienced more emotional alterations and an increased severity of premenstrual syndrome since the syndemic started: 'I did notice a little more premenstrual syndrome, more than usual'.- P8.

Independent of whether participants had experienced menstrual alterations, it was common to consider stress as a risk factor for menstrual changes: '(. . .) The whole thing of changing habits and stress and everything, I think it is super normal, it must have happened to everyone'.–P9. However, many participants reported not remembering if their cycles were different. This lack of awareness among some participants was also evident as they appeared to solely focus on menstrual cycle length and disregard other menstrual characteristics (e.g. bleeding abundance): 'I think not, I think I have them registered and I think the cycles were normal . . . Maybe one lasted 42 or 43 days, but the rest I think were normal .'..–P12. This seemed to indicate that cycle length may be more often used to indicate menstrual health 'normality' rather than, for example, experiencing dysmenorrhea.

Two participants, diagnosed with long COVID-19 (P17 and P23), reported significant menstrual changes since getting COVID-19. Both reported longer and irregular cycles, severe menstrual pain, high menstrual abundance,

and menstrual clots. They also described how long COVID-19 symptoms had a cyclical nature and were related to the menstrual cycle, advocating for the need to research on long COVID-19 and menstrual alterations:

> *well. . . the research teams must consider this* (relationship between long COVID-19 symptoms and the menstrual cycle) *as well. And, in fact, we* (people living with long COVID-19) *are emphasizing this a lot, that it* (long COVID-19 symptoms) *gets worse when there is the cycle* (menstruation) *and the fact that most of us* (people affected by long COVID-19) *are women, it also seems that this* (long COVID-19 affecting more women than men) *has a bit of a correlation.*–P23.

Access to healthcare services and the systemic disregard of menstrual, sexual and reproductive health

Access to healthcare for menstrual, sexual and reproductive health during the first COVID-19 lockdown was perceived to be challenging. One participant explained how she only managed to get a healthcare consultation to change her contraceptive implant because she had her midwife's private phone number. Based on her experiences, she perceived the access to private healthcare to be easier, but she did not have the resources to have a private health plan. She expressed her fear of an unwanted pregnancy if she could not change her implant timely:

> Ooh, the truth is that I was trying, calling, calling, calling, and calling. It was a challenge. Nobody would pick it up and then (. . .) the answering machine (. . .) was full. (. . .) And in the end I had to find on my own some way to be able. . . because I was also very worried. I don't want to have children. (. . .) So I was worried. I used condoms but also. . . I did not feel safe. (. . .) If I had private healthcare, it would have been something else (laughs). The truth is that in the public healthcare system I had a bit of a bad time.–P25.

Furthermore, P17, who was diagnosed with long COVID-19, highlighted not only the difficulties in accessing healthcare but the prevailing dismissal of menstrual health and gynaecological issues related to COVID-19 by healthcare professionals. She added that she worried about the long-term effect of long COVID-19 on fertility, and the lack of information and responses received in healthcare services. For P24, accessing healthcare services was even more complicated (during COVID-19 and not), given the struggles he had to face regarding his gender identity:

> I feel that we are used to assume people's gender, assume. . . the pronouns they use (. . .) I feel it is super important that we start having that conversation and normalising the fact that. . . when you present yourself tell them your name, tell them your pronouns (. . .) So that it is not a point of, come on I'm going to get all my strength and express my identity in the world, it's like fuck, so maybe I don't feel like it, you know?–P24.

On the other hand, P11 mentioned that health education programmes (including menstrual education) at schools were stopped during lockdown, suggesting a potential impact on menstrual education and health for girls and young PWM because of the COVID-19 syndemic:

> (. . .) in my clinic and in several clinics in Barcelona, the health program called "Health and School", nurses from the clinics go to talk to the schools about various health issues throughout the course. Now with COVID it is suspended–P11.

COVID-19 lockdown as an opportunity for menstrual self-care and improved menstrual management

Participants often considered menstrual management to be easier since the onset of the syndemic, given that participants spent significantly more at home and less in public spaces. P11, who worked as a primary healthcare doctor, mentioned the decrease in face-to-face consultations as an enabler to change menstrual products more frequently when menstruating, something she had previously struggled with due to the high volume of healthcare consultations:

> Now with COVID it has changed a lot because there are not so many patients in person. But before, there were always people in the waiting room, so of course, (. . .) I had to go in front of those people to go to the bathroom and people are waiting to go in, so they're nervous.–P11.

P14 shared a similar experience as she started using pads again during the syndemic:

> I have spent much more time at home or at someone else's home, in private places and I have even opted for the pad. I haven't used it for a long time because sometimes you think you're going to be seen or it's more uncomfortable. And being at home makes it easier to clean.–P14.

On the other hand, P24, who identified as non-binary, explained how not being in public spaces in his (P24's preferred pronouns) day-to-day meant that he was not confronted with having to choose whether to manage his menstruation in the men's or women's public bathroom, which would sometimes trigger feelings of gender dysphoria:

> Many times I do not have a problem and I go into the first one (bathroom stall) that comes up and I do not care, but depending on the day, if that day I have something like dysphoria or I feel a little more insecure, no matter what happens, yes it is like "holy shit, which bathroom represents me, (which bathroom should) I have to go to?" And then everything is a drama. . . [. . .] it is super important that. . . there are neutral spaces that. . . (. . .) I don't know. . . the reason why there shouldn't be, but yes. . .–P24.

Pain management was also described to be more attainable as self-care was more easily available staying at home. In line with the improved opportunities for menstrual management and self-care during lockdown, P18 reported that her relationship with menstruation improved significantly during the syndemic:

> Honestly, during the pandemic I have experienced the best menstruation, because it is when I have had the best relationship with myself, that I have not had to worry about anything, and let's say, I have had the best relationship (with menstruation). But in general, yes, I consider it as . . . I experience it as an annoying process for me.–P18.

However, menstrual management was also challenging in situations in which menstruation had to be managed in public spaces. One participant (P30) reported her struggles finding a public bathroom to change her menstrual product when national lockdown measures were lifted but strict public health restrictions were still in place (e.g. bars and restaurants were closed):

> Oh yes. . . Just recently, when the restaurants were closed and such, I was with a friend, we were taking a walk and then of course I noticed that I was staining that. . . the pad was no longer holding and I. . . "wow" where can we go now, everything is closed, the bars are closed, they don't let anyone in, and I was like "uff". In the end we had to run to my friend's house, I had to go upstairs, changing my pad. . . and I had already stained.–P30.

Access and affordability of menstrual products

In general, participants did not report differences in the accessibility and affordability of menstrual products during the syndemic. Using the menstrual cup, as some participants did, meant not having the need to buy menstrual products during the syndemic. However, living in a small city or rural area made it more challenging to access menstrual products. Supermarkets did not always sell preferred menstrual products and mobility restriction during lockdown prevented the population to access other shops that were further away from their place of residency:

> Maybe, I have gone to look for a specific one and there was none, that maybe yes. But being with no protection like that, no (. . .) Or well, maybe I have noticed it more during the pandemic, because if, of course, during the pandemic you couldn't walk to many supermarkets either, you had to go to one and you would have to manage, then it was like I did not have other opportunities to enter other supermarkets to find what I was looking for.–P26.

In order to avoid having to shop often, and due to fear of shortages during lockdown, one participant reported buying larger quantities of menstrual products than usual (P16).

Besides, there were accounts of friends and family members struggling financially since the syndemic started, and how that could mean for them to experience menstrual poverty:

> I have relatives and I have friends . . . who have lost their jobs (. . .) Usually what do people do? People with a little common sense, the products they need, they buy them cheaper. (. . .) I'm going to look for them cheaper, even if they are of less quality (. . .), and if you don't manage (to buy them), using (toilet) paper, or making the pads last longer? Of course, the thing is that you will menstruate anyway. Whether you have money or not (. . .)–P2.

Besides, two participants compared the mask mandates during COVID-19 to menstrual products being necessary goods that are not affordable for all. P9 also made a remark on face masks being mandatory for the whole population, while menstrual products were 'only' required by women and PWM:

> If it is something mandatory that I have to wear, that I don't choose, it cannot be something that costs me a lot of money. And I was thinking, well, why haven't we thought about this before? It is exactly the same (with menstrual products). But the pandemic affects everyone, that's the difference I think.–P9.

Discussion

This study explored the experiences of menstrual health and menstrual management among women and PWM in the Barcelona area (Spain) during the COVID-19 syndemic. Some participants experienced menstrual alterations, particularly those diagnosed with long COVID-19, while others did not notice any changes. Besides, healthcare access was compromised, and participants shared experiences of menstrual health concerns being disregarded by healthcare professionals. Another important finding is that menstrual management and self-care were generally easier given the reduced exposure to public spaces.

Based on data from previous international study, including data from 15 countries including Spain, menstrual cycle indicators changed during the first 6 months of 2020.[28] However, some participants in our study did not recall any menstrual alterations and often perceived their menstruations as 'normal', particularly if they had regular menstrual cycles. The focus on the 'regularity' and length of the menstrual cycle rather than their lived experiences (such as fatigue or pain), could suggest a lack of menstrual awareness and body literacy[18,29,30] and the general neglect of subjective menstrual experiences. It can also be explained through how menstruation is usually conceptualized socially and reduced to a biomedical perspective, relegated to sexual and reproductive health.[18,31] Overall, this could mean that menstrual alterations may have remained unnoticed unless they were very obvious and persistent, and consistent with a

biomedical framework on menstruation and the menstrual cycle.

Consistently with available published research,[12,15] stress was mentioned by participants as a risk factor for menstrual health during COVID-19. The syndemic has come with multiple possible stressors, from fear of infection, and fear of loved ones having COVID-19 or being hospitalized, to losing jobs and livelihoods, having children at home because of school lockdown, caring for dependent people, not being able to leave home and continue with your normal life, increased strains in relationships, increased experiences of gender-based violence.[32,33] These strains might very well be linked to menstrual alterations experienced by some participants.[11]

Findings from the 'Equity and Menstrual Health in Spain' project suggest that long COVID-19 diagnosis is a risk factor for reporting menstrual alterations.[11] This is consistent with the experiences shared by two participants in this qualitative research, who reported menstrual alterations since getting COVID-19. Moreover, they shared their experiences on the systemic neglect of menstrual health in healthcare services, with healthcare professionals often dismissing the menstrual alterations they experienced. This could point to healthcare professionals not acknowledging menstruation and the menstrual cycle as vital sign of health,[34] which directly points out to the prevalent androcentric views and the continuous neglect of gender in health research and practice.[18,35,36] However, even if highly strained, sexual and reproductive healthcare centres in Catalonia stayed opened throughout the syndemic. Thus, the lack of response from healthcare professionals could also be the result of healthcare system being under pressure, not being able to prioritize menstrual health. Besides, healthcare professionals may have not had enough time, material, and informational resources to address menstrual health consultations at the start of the COVID-19 syndemic, partly as professionals also lacked knowledge to address COVID-19 and its impact on the populations' health. Through our research, participants claimed for more research on the impact and management of long COVID-19, especially regarding menstrual health considering that more women are affected by long COVID-19.[37] Healthcare professionals should also be given support to access necessary resources to address menstrual health.

Nonetheless, participants generally reported not having attempted accessing healthcare. Those who had, reported barriers receiving non-COVID-19-related healthcare.[11] A general reduction in utilization of healthcare services has been across the world during the initial lockdown,[6] with vulnerable populations having a higher risk for unwanted pregnancies and unsafe abortions due to healthcare restrictions.[38] An explanation could be due to the populations' fear of contracting COVID-19 when utilizing both public and private healthcare services. Furthermore, the use of digital health solutions such as telemedicine, which started to be implemented to avoid face to face consultations during lockdown, potentially aggravated health inequities among populations affected by the digital divide.[39] Despite the COVID-19 syndemic may have magnified the barriers to healthcare access, it is important to acknowledge that these were already prevalent prior to the syndemic, including for menstrual health.[18]

In this study, participants generally reported menstrual management to be easier during the COVID-19 lockdown. This was reported to be due to an easier access to adequate menstrual management spaces during lockdown, more opportunities to menstrual self-care, including for pain management. In essence, having access to a menstrual-friendly environment. This was only possible as the syndemic meant life, and consequently menstrual management, happened almost exclusively in private spaces (i.e. their homes) for most women and PWM. Not having to manage menstruation in public defused common challenges such as the access to adequate menstrual management spaces, and experiencing menstrual taboo, stigma and discrimination,[18,40–42] including for gender non-conforming menstruators. While menstrual management was easier when was relegated to private spaces,[18,19,43] it became challenging when lockdown measures started to lift but closures of, for instance, bars and restaurants impeded the access to bathroom in public spaces. Our findings differ from previous research including the experiences of vulnerable populations, such as women and PWM in situations of homelessness[19] or living in contexts with impaired access to water, sanitation, and hygiene (WASH).[44] This can be explained as participants in our study lived in stable housing and were generally not living in situations of socioeconomic deprivation. It also reinforces the need to further research on how social and health crises may deepen intersecting social inequities of health, based on sociohistorical oppressions, for instance and particularly on women. While the COVID-19 syndemic has been established as a crisis of care,[45] making the negative impact of neoliberal politics on social reproduction (a term referring to self-care and care for others, including healthcare) bare, our findings highlight that menstrual self-care may have been facilitated when housing and socioeconomic conditions were adequate. As previously discussed, this relates to the repercussions menstruating in public has on women and PWM,[40,41] and points towards the need to create safe menstrual spaces in public spheres as enabling menstrual self-care is imperative to menstrual health and equity.

Experiences of menstrual poverty, which refers to financial barriers to access menstrual products,[18,46,47] were shared by participants in our research.[18] Access to menstrual products during lockdown was mentioned to be challenging, particularly based on product availability in shops that were within the are participants could commute to. Strict mobility restrictions in Spain, which prevented the population from moving beyond a few metres from their place of residency, were also mentioned to constrain accessibility given that participants could not travel to

alternative shops to buy their preferred menstrual products. Interestingly, participants did not mention buying menstrual products online, potentially as online shopping infrastructures were not as established at the start of the syndemic. This was slightly more difficult in rural areas. These limitations in accessing menstrual products are consistent with previous research in Spain, which indicate that over 2 in 10 women and PWM had difficulties accessing menstrual products during the syndemic.[11] Evidence in other countries[21,20] also supports these findings, especially in contexts where access to WASH has also been burdened during the syndemic.[48] For this reason, reusable products such as the menstrual cup may have facilitated menstrual management during lockdown.[49] Further research is needed to explore accessibility of menstrual products and menstrual poverty (including price regulations) among vulnerable populations, and particularly those who were highly burdened the economic impact of the syndemic or that were already in socioeconomic vulnerable contexts prior to the syndemic.[20] Besides, some participants referred to the public complaints that arose when facemask for COVID-19 prevention were made mandatory, given the economic cost facemasks had. They compared this public debate with the lack of public discussions in Spain around the need for menstrual products' price regulations and accessibility issues, even if they are necessary goods for half the population (regardless of a syndemic). This again may underline the structural neglect of women, PWM and menstruation, and the historical lack of attention towards menstrual needs.[41]

Limitations

Several limitations to this research should be considered. Most participants had completed high education and lived in stable housing; thus, our results may not be illustrative of the experiences of socioeconomically deprived women and PWM, who may have been more impacted by the COVID-19 syndemic. Besides, recruitment and data collection may have been compromised given that they were mainly done online due to COVID-19 restrictions at the time of the research. Potential participants affected by the digital divide may have encountered barriers to participate. Despite non-binary PWM took part in the study, accounts in this publication do not include an exhaustive representation of the diverse experiences of non-binary, trans, and intersex PWM. Finally, participants interviewed at sexual and reproductive health centred may have felt restrained to share negative healthcare experiences, which could have compromised the exploration of healthcare-related issues.

Conclusions

This study highlights the experiences of menstrual health and management among women and PWM in the Barcelona area (Spain) during the COVID-19 syndemic. While some women and PWM experienced menstrual changes since the start of the syndemic, especially those living with long COVID-19, participants expressed how access to healthcare services was highly impaired and menstrual health consultations were sometimes disregarded. Considering that women and PWM in our study had access to stable housing and did not experience situations of severe socioeconomic deprivation, menstrual management and self-care were mentioned to be facilitated during lockdown. This was due to the relegation of menstrual management to the private sphere and the consequent decreased exposure to barriers for menstrual management in public spaces, and to menstrual stigma and discrimination. Restrictions to access menstrual products, due to mobility restrictions and products' availability, were also mentioned. Although more research is needed to widen the overview of menstrual experiences, especially among socioeconomically vulnerable women and PWM, our findings support the need to address menstrual health and inequity, particularly in times of social and health crises. Further research is required to deepen the evidence on the impact of the COVID-19 syndemic on menstrual health and menstrual equity to ensure syndemic preparedness. Research should be conducted alongside policies that ensure the access to healthcare services, menstrual management and self-care in public settings, and menstrual products. These policies should be far-reaching, allow women and PWM to actively make informed choices, and adapted to the needs of different population groups, to effectively address core determinants of menstrual health and equity. Social determinants of health and intersectional gender-based approaches should be imperative in both research and policy efforts, ensuring women and PWM actively participate and lead both research and policymaking.

Declarations

Ethics approval and consent to participate

Approvals from the Institut Universitari d'Investigació en Atenció Primària Jordi Gol i Gurina (IDIAP Jordi Gol) Ethics Committee were obtained on 21 November 2020 (Ref 19/178-P). All participants were informed of the study and gave their oral and written consent to take part in the interviews. Verbal consent was obtained to ensure consent to participate right before starting the interviews and starting the audio recordings. Also, to build rapport with participants. Data have been stored safely to ensure participants' anonymity and confidentiality.

Consent for publication

All participants gave their written consent to publish their anonymised data.

Author contribution(s)

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Competing interests

The author(s) declared the following potential conflicts of interest with respect to the research, authorship, and/or publication of this article: The authors declare having recently received funds from DIM Protect to support the team's future research on equity and menstrual health. DIM Protect was not involved in any way in the conceptualization or development of this study, neither they funded it. The authors declare no other conflict of interest.

Availability of data and materials

The datasets generated and analysed during the current study are available from the corresponding author on reasonable request. Datasets are not publicly available to maintain participants' anonymity and confidentiality.

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Supplemental material

Supplemental material for this article is available online.

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