Pregnancy in the lab

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No matter your career stage, pregnancy in the lab raises complex questions — and definitive answers are hard to come by. In conversation with members of Women in Supramolecular Chemistry (WISC), we share our experience, discuss research into the challenges and move the conversation to the support needed by people who are pregnant. We conclude that community is critical to improve experiences.

It's a question we are asked as mentors, and it's a question many of us have asked ourselves: how can I combine pregnancy and parenthood with my lab research and career? The questions proliferate from there (FIG. 1) and unless we know people who have been there before, answers can be hard to find.

Today, supramolecular researchers have a network of people to turn to through WISC, but in 2014 that was not the case, as Anna Slater explains: "I was a pregnant postdoctoral research associate with a rapidly ending contract, and it felt like I was the first person to ask what happened next." At that time university guidance was for permanent members of staff and advice on risks was generic. Pregnancy and parenthood still seemed the 'elephant in the laboratory'[1].

Luckily, Anna "had a supportive line manager as a first port of call." Line managers have a pivotal impact on the experiences of researchers[2], particularly when they are taking family leave. The UK Research Staff Association (UKRSA) carried out a survey[3,4] around parental leave in 2017 after similar studies from the National Postdoctoral Association in the USA[5]. Several respondents reported negative experiences with line managers and colleagues: pregnant people spoke about intrusive and sexist remarks about pregnancy and likening parental leave to a holiday. It seemed expected that people would be less ambitious and career-focused after giving birth[3,5]. However, advice for line managers supporting pregnant members of their team is not easy to find and often such unhelpful comments remain unchallenged.

It is clear from talking to members of WISC that experiences vary widely. For example, in Italy, working in a lab is not allowed during pregnancy at all, as Claudia Caltagirone explains: "I had to stop doing experiments and was not even allowed to enter the lab for a few minutes… I teach general chemistry lab practice and my colleagues had to take the class. I felt very guilty."

Completing risk assessments and staying safe while pregnant is also a real concern. Emily Draper recalls: "We were expected to know what to do, but how can you do a risk assessment in a shared lab when you don't know what chemicals everyone else is using?"

Some of the challenges pregnancy brings are expected but many are not: unpredictable health issues, protective personal equipment not fitting, exhaustion and missing out on opportunities like travelling to conferences or to meet with collaborators. It can feel unsurmountable. How can we best support researchers who are pregnant?

Adapting workload is one option: Anna moved to a smaller lab and spent time writing papers and funding applications, some of which included extra support; for example, a travel grant from the Engineering and Physical Sciences Research Council's Dial-a-Molecule Network included funds for a colleague to carry out the more hazardous chemistry. Funding bodies are increasingly including family support in grant costing options — but short deadlines and limited support for postdoctoral research associates on fixed-term grants show there is still a long way to go.

Workload allocation and expectations from institutions can provide support — or add pressure. Claudia recalls: "During my maternity leave I kept working from home trying to behave as though nothing had happened." Similarly, Nathalie Busschaert recounts: "I came in once a week to talk to my students. You are supposed to be off but I didn't see any other way of doing this, they couldn't go 2–3 months without supervision." Line managers and institution leaders must take a key role in ensuring expectations are fair and reasonable, that people are employed to cover workload where possible, and that all this is agreed in conversation with the person taking leave.

More support for researchers who are pregnant is still sorely needed. It is still the case that nearly half of all female scientists in the US leave the field after their first child is born, whereas 80% of postdocs without children stay in science[6]. A study from WISC exploring lived experiences of supramolecular chemists through the UK 2020 COVID-19 lockdown found that the biggest indicator for having a more negative experience was whether a person had caring responsibilities[7]. Caring does not

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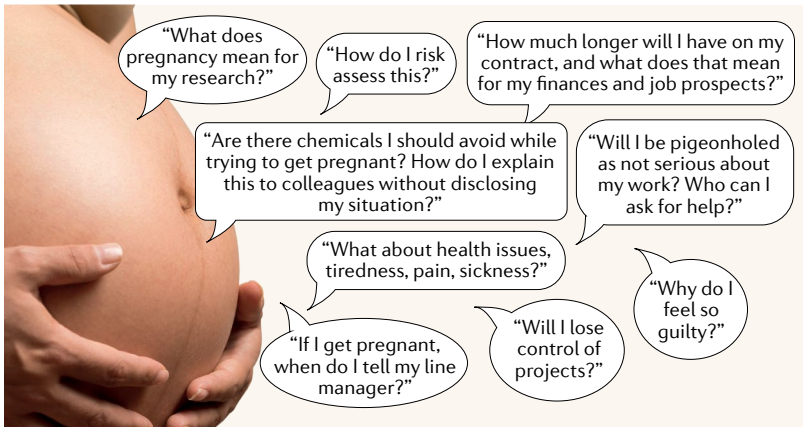

Fig. 1 | **Questions raised during pregnancy.** Planning a pregnancy as a research scientist raises some complex questions. Design and concept: Slater et al.

have to be gendered, though in science, men are more likely to have children than women, particularly as a graduate student or postdoc[8]. Many women articulated to WISC that they felt they had to choose between a career in science and having a family[8]. Perceptions such as this almost certainly contribute to the lack of retention and progression for women in science and the scarcity of women with families in senior roles — and this is likely to worsen due to the impacts of the COVID-19 pandemic[6,9,10].

In this context, community makes the difference. WISC aims to support the retention and progression of women and other underrepresented groups in supramolecular chemistry, through a combination of an area-specific ethos and embedded equality, diversity and inclusion expertise from Jennifer Leigh. One of the first actions of WISC was to create a community support cluster for parents, led by Emily Draper, to create a shared and safer space to understand what the options for support are, to share challenges and solutions, and empower people to seek positive change in their own institutions. We offer this as a blueprint for other research communities to make space for questions and help to normalize pregnancy and family leave as part of a research career.

So, how can we combine pregnancy and parenthood with our lab research and careers? You may find answers via resources (like tips from the UKRSA[3], the Scientist and Parent collection from eLife Sciences or the Royal Society's Parent Carer Scientist) or in seeking out colleagues who have been there before, but the burden must not fall on those taking leave. Institutional culture, line management and funder policies are critical to support pregnant researchers. It is key that the whole research ecosystem work collectively for positive change and a culture where taking time for your family is valued and respected.

Often, we hear: 'There is no good time to get pregnant.' We believe that this advice should be interpreted as: 'At any time, there will always be some challenges, but these challenges are surmountable with support. Therefore, do not wait for circumstances to be right; wait only until you feel ready.' The more of us who talk about our experiences, the easier it will be for those coming after us to navigate; no one should feel as if they are the first person to ask.

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Competing interests
The authors declare no competing interests.