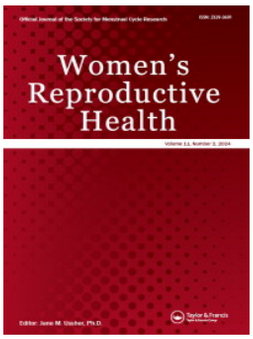

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Understanding the Experiences of Women Seeking Preconception Health Information

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ABSTRACT

Understanding women's information seeking behaviours before conception is important for the development of interventions to enhance preconception health. This project explored barriers, facilitators, and motivators towards engagement with preconception advice in women undergoing assisted reproductive technology, across BMI classifications. Twenty interviews were conducted with women attending the fertility clinic, Repromed, in South Australia. Barriers to behaviour change included challenges finding reputable information, lack of social and health provider support, and desire for secrecy. Women reported a preference for receiving health information from the internet, social media, complementary and allied health professionals. Women living with overweight reported similar behaviours and interactions.

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Pregnancy intention; preconception care; preconception motivators; qualitative research; fertility treatment; overweight obesity

Introduction

Women believe their health before a pregnancy is important (Khan et al., 2019; Lang et al., 2022; Walker et al., 2022); however, they often continue to engage in behaviors known to negatively impact pregnancy outcomes, such as cigarette smoking and alcohol consumption, in the months leading up to conception (Lang et al., 2021). It is well understood that intervening preconception to optimize diet and physical-activity behaviors may reduce the risk of neural tube defects (De-Regil et al., 2015), miscarriage, stillbirth, macrosomia, and preterm birth (Schummers et al., 2015). However, understanding the need for and importance of increased preconception health while planning a pregnancy is often neglected.

Despite some reported high levels of pregnancy planning (Barrett et al., 2015; Sedgh et al., 2014) and substantial motivation to adopt beneficial health behaviors (Stephenson et al., 2014), the awareness of preconception health among women is low

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(Bortolus et al., 2017; Mitchell et al., 2012; Squiers et al., 2013; Stephenson et al., 2014). This is consistent with prior Australian research (Khan et al., 2019; Lang et al.,2020, 2022; Walker et al., 2022) exploring women's information-seeking behaviors, perspectives, and preferences regarding pregnancy planning. Among 15 women who had either never given birth, were pregnant, or postpartum, barriers to the uptake of preconception information included anxiety, stress, and challenges in obtaining reputable information (Khan et al., 2019). In a retrospective cross-sectional survey of 289 pregnant women, 78% of women reported accessing information while trying to conceive, with 74% utilizing health professionals and 66% accessing the internet (Lang et al., 2022). In a group of 31 nonpregnant women, preconception health was viewed as important but personally irrelevant if they were not actively planning a pregnancy (Walker et al., 2022). Among 25 culturally and linguistically diverse women in Australia it was demonstrated that, although they may have had a limited understanding of preconception health information, the women had a desire for increased preconception health involvement (Lang et al., 2020). A 2021 systematic review found that a lack of knowledge on the need for healthy lifestyle behaviors prior to a pregnancy was the most common barrier across all behaviors, along with financial constraints, not having control over buying healthy foods, and not planning their pregnancy (Kandel et al., 2021). However, having knowledge about implementing healthy behaviors was the most common enabler across all lifestyle behaviors (Kandel et al., 2021).

Entering pregnancy with an elevated body mass index (BMI) significantly increases the risk of perinatal complications (Chen et al., 2018). The relative risks of larger body size on pregnancy and birth outcomes have contributed to a narrative of mother blame, whereby women are blamed for any and all complications that arise during pregnancy (Isaacs & Andipatin, 2020). Thus, women with a higher BMI are likely to experience stigma and discrimination due to their body size (McNaughton, 2011), which may uniquely contribute to adverse pregnancy and birth outcomes over and above those attributed to BMI (Hill & Incollingo Rodriguez, 2020). One common setting where stigma is experienced is in health care (Hill & Incollingo Rodriguez, 2020). Patients with a higher BMI often have shorter appointment times when visiting health-care providers (Flint et al., 2021) and are more likely to be treated with disrespect (Aldrich & Hackley, 2010) or receive generic weight-focused advice as opposed to tailored medical support (Ananthakumar et al., 2020). A self-reported survey of 627 women residing in Australia found that women with a BMI over 30 kg/m^2 had more negative experiences with their providers than women with a lower BMI (Mulherin et al., 2013). Negative treatment can lead to trauma (Phelan et al., 2015), weight-bias internalization (Davidsen et al., 2022; Williams & Annandale, 2020), and, in some cases, complete avoidance of encounters with health-care professionals (Kost & Jamie, 2023). Hence, it is unsurprising that weight stigma is also known to reduce uptake of preconception health care, reception to health-care advice, and perceived quality of care (Hill & Incollingo Rodriguez, 2020).

To date, the knowledge of how women prepare for a pregnancy has predominantly been shaped by women who are of reproductive age, albeit not actively trying to conceive, or by women recounting their experiences from prior pregnancies. There is far less understanding of the barriers, facilitators, and motivators to creating change for women who are actively trying to conceive. Furthermore, women who are actively seeking assisted reproductive technology may be considered highly motivated to make

diet and physical-activity changes to improve their chances of successful pregnancy (Porter & Bhattacharya, 2008; Rossi et al., 2016). However, there is also evidence to suggest that women do not readily change their diet and physical-activity behaviors when undergoing fertility treatment (Gormack et al., 2015). This aligns with women who are planning pregnancy more broadly (Hill et al., 2019). Hence, qualitative exploration of the diet and physical activity–related barriers, facilitators, and motivators, as well as engagement with sources of information and advice, of women undergoing assisted reproductive technology, is required to address this literature gap.

Our research questions were: (1) What are common barriers and facilitators toward engaging with, and the uptake of, preconception nutrition and physical activity in women undergoing fertility treatment? (2) What are common motivators to creating behavioral change prior to fertility treatment? (3) How do these experiences differ in women with overweight or obesity?

Materials and Methods

Study Design

A phenomenological qualitative approach within a constructivist paradigm was used to investigate women's attitudes and experiences regarding preconception health. This approach was selected because it permits an extensive investigation of women's perspectives and experiences, while attempting to avoid any preconceived assumptions or prejudices (Moustakas, 1994). To obtain a comprehensive understanding of the motivators to creating behavior change when pregnancy planning, in addition to the barriers and enablers faced when accessing preconception information, semi-structured interviews were conducted with open-ended questions. The interview guide was developed by the research team in collaboration with two consumers from the Center of Research Excellence Health in Preconception and Pregnancy Consumer Advisory Group.

Participants, Recruitment and Setting

For this qualitative research, women who were planning their pregnancy and requiring fertility treatment were recruited as a convenience sample. This project gained ethical approval as part of a larger study (The University of Adelaide Human Research Ethics Committee; H-2021-095) which recruited women who were at least 18 years old, communicated in English, and were undergoing in vitro fertilization or intracytoplasmic sperm injection insemination with their own gametes at the Repromed fertility clinic (Dulwich, South Australia, Australia). There are no defined BMI restrictions for IVF in Australia, with cutoffs varying across clinics and between clinicians. Women of any BMI were included in this study, and were categorized as healthy, overweight, or obese, dependent on their BMI classification. Women who met the eligibility criteria and provided their consent for the larger study were approached to request their consent to participate in a semi-structured telephone interview with a researcher (K. R. L). All participants were provided with written and verbal information about the study, screened for eligibility, and provided informed consent through the online portal REDCap. Participants were able to request a time and date for the telephone interview. Recruitment and interviews took place between February

2023 and April 2023. Demographic information was collected from each participant including date of birth, country of birth, height and weight, employment status, and education level. A measure of socioeconomic status (SES) was assigned to each participant's postcode using the Australian Bureau of Statistics Socio-Economic Index for Areas (SEIFA) (Australian Bureau of Statistics, 2016). The Index of Relative Socio-Economic Advantage and Disadvantage was used and based on 2021 census data. Deciles 1–3 were classified as higher-level disadvantage, 4–7 as moderate-level disadvantage, and deciles 8–10 as lower-level disadvantage. Rural/remote or urban location was determined using postcode and the Rural and Remote Postcode List (Department of Health, 2024).

Data Collection

This study was guided by the Standards for Reporting Qualitative Research (O'Brien et al., 2014), to enhance the research validity, rigor, credibility, and generality. Interviews were semi-structured based on the study objectives. Participants described their experiences while planning a pregnancy, what actions they took in the preconception period, how they sourced information they deemed relevant, and how they understood the information they received. The questions asked during the interviews were open ended and were designed to elicit participants' overall views on preconception health and to gain insight into the actions they had taken or were planning to take in preparation for a pregnancy. The telephone interviews were conducted by an accredited practicing dietitian with experience as a fertility dietitian (K. R. L). K. R. L is undertaking a higher degree by research, has undertaken a qualitative methods course, has been further trained by J. A. G and A. T. H, and has no relationship to study participants. K. R. L audio recorded, de-identified, and transcribed verbatim the interviews. Data saturation was not sought, as Braun and Clarke recommend that data collection be carried out until adequate meaning can be produced from the interviews (Braun & Clarke, 2019). The interviews utilized a reflective approach (Barrett et al., 2020) to allow the researcher to either elaborate or clarify certain responses. A single interviewer allowed for continual and simultaneous data collection.

Thematic Analysis

All interview transcripts were thematically analyzed using NVivo 12 Plus (Windows). Inductive, open coding was performed. Using the Braun and Clarke method (Braun & Clarke, 2022), becoming familiar with the transcript is the first step of data analysis. Fourteen initial codes were generated, which were collated to create potential themes. These were reviewed in relation to the study aims and were refined to ensure clarity and acceptability of interpretation, creating a total of four themes. The final themes were appropriately named, and participant extracts were chosen to illustrate the thematic content. To enhance trustworthiness and credibility of the analysis, analyst triangulation was employed (Patton, 1999), with 20% of transcripts randomly selected and analyzed by an independent researcher not involved in data collection, ensuring consistency of interpretation (J. A. G). After discussing the codes, the first author

developed the initial themes, which were reviewed by the senior author and then refined. Themes were agreed upon by all authors.

Results

Twenty women participated in interviews, and their characteristics are reported in Table 1. The median age of women was 34.5 (IQR 32.8, 40.2) years, and their median BMI was 27.3 (IQR 23.7, 31.0) kg/m^2. According to BMI category, seven women were in the "healthy" range, six were classified as overweight, and seven women were classified as obese. No woman was of an underweight BMI. Sixteen women were born in Australia, 18 were employed full-time, and 16 women resided in urban areas. According to SEIFA decile, six women lived in areas considered to have a higher level of disadvantage, while nine women lived in an area of moderate-level disadvantage, and five were living in an area of lower-level disadvantage.

Barriers and enablers to engaging with and the uptake of preconception information, as perceived by women, were primarily related to four themes: (1) personal motivators and goals, (2) information-seeking practices, (3) social connections, and (4) behavioral changes.

Personal Motivators and Goals

> I need to know for my own peace of mind that I've done everything possible to give them the best start and the best outcome.

Table 1. Demographic details and characteristics of $N = 20$ participating women.

Characteristic	$n = 20$
Age (years), median (IQR)	34.5 (32.8, 40.2)
BMI (kg/m^2), median (IQR)	27.3 (23.7, 31.0)
Healthy BMI (18.5–24.9 kg/m^2)	7 (35%)
Overweight BMI (25–29.9 kg/m^2)	6 (30%)
Obese BMI (>30 kg/m^2)	7 (35%)
Country of Birth	
Australia	16 (80%)
Outside Australia	4 (20%)
Education	
School/certificate/diploma	7 (35%)
University	13 (65%)
Employment	
Employed	20 (100%)
Unemployed	0
Area of Residence	
Urban	16 (80%)
Rural/Remote	4 (20%)
SEIFA	
Higher-level of disadvantage	6 (30%)
Moderate-level of disadvantage	9 (45%)
Lower-level of disadvantage	5 (25%)
Annual Household Income (AUD)	
$52,000–77,999	2 (10%)
$78,000–103,999	2 (10%)
$104,000 or more	15 (75%)
Prefer not to answer	1 (5%)

Women were driven to create change and take specific actions while planning a pregnancy, with many women having their own unique motivations for doing so. Several women stated their desire for a healthy child as their motivator for behavioral change while trying to conceive.

> I would hate for [my child] to have, um, a particular issue that could be avoided. Participant 15, BMI > 25

> I guess just making sure that we were able to conceive a really healthy baby. So just giving that possible human the best start in life. I guess that's the initial motivator. To make sure that you're creating something that's really healthy and that can thrive. Participant 1, BMI > 25

Women frequently stated that they were mindful of their age coming into a pregnancy, and that this prompted their nutrition and physical-activity changes. The feeling that they had a defined window for conception was common, and the societal pressure associated with falling pregnant was a shared theme among the participants. Interestingly, while nine women reported their age as a motivator for change, only three of these participants were over the age of 35 years, an age where fertility is considered to decline (*Age & Female Fertility*, 2024). Contemplating age and the perceived detrimental effects that age has on fertility was a concern shared by the younger women.

> But I was 33. … I felt like my time was running out, like, I should be pregnant already, and then you hear, like, the longer you leave it, the harder it is to get pregnant. Participant 10, BMI > 25

> I guess, it was my age. If I was 25 and wasn't getting pregnant, I wouldn't panic. I probably would have done a few changes, but I still wouldn't have panicked. Now getting up to the age where I think this could be it and I might not have any other chance, like it really made me go, I have to change now, like I have to do things. Participant 12, BMI > 25

> I mean, I'm older, so I guess the [egg] quality is a lot worse than it was maybe those first few times. I guess it's more disappointing [to not have success] but that could just be an age thing. Participant 17, BMI > 25

While some women described their motivators for change, others portrayed their current nutrition and physical-activity behaviors as not requiring modification. Participants who mentioned a lack of immediate action made reference to their current health status, or changes that had been previously implemented, suggesting that additional changes were not required when beginning their IVF treatment.

> I'm relatively healthy. I didn't change anything … like in my current lifestyle, there's nothing I can change to accelerate it or promote it. So, I feel like perhaps I'm one of the lucky ones where I have this background, I've already implemented these changes to have a healthy diet and lifestyle to a certain extent. Participant 4, BMI > 25

> So, in terms of, like, my personal health … I've looked online and listen to enough podcasts to know that, like, I don't drink, I don't smoke, I'm in a healthy weight range and of all those kind of things. Participant 5, BMI < 25

Information-Seeking Practices

> I guess, in some ways, the internet makes it harder because everything contradicts itself.

The ways in which women accessed information online was often viewed as a barrier to the implementation of behavioral changes. Women indicated that information read online was often unhelpful due to the inconsistency and unreliability of the sources; however, it was also perceived as a quick and easy source of information that they would then fact check across other sources online or with health-care professionals. This meant that, while women were often confused and distrusting of the information they received online, it functioned well as an initial source of information that would lead into further personal research.

> I will probably say Google, but then, you know it, it all comes down to not following everything blindly. I think it's more about use your brain, use multiple sources, probably check with someone who's already been through the journey, and then make a more informed decision rather than just whatever first pops up. Participant 19, BMI > 25

> I guess, in some ways, like, there's a saturation of too much information, but then at the same time, like, what's valid, you know, um, and they're all contradicting, or they all look like they're reputable. Participant 15, BMI > 25

> Unfortunately, Google, that's probably the least helpful one. I think it's just got so much information and conflicting information, because obviously the people that are posting stuff online have written something from their perspective, which isn't relevant to me. Participant 1, BMI > 25

While utilizing search engines was often difficult and unproductive, women reported a preference to popular social media applications where they had access to expert information which they believed to be more trustworthy. Branded phone applications and social media accounts were often preferred to other online resources.

> But I have downloaded a couple of apps … it's got little, like tips each day, and it's saying what to eat and what to cut out. … I'm hoping that app is accurate. Participant 10, BMI > 25

> [Going] back to social media, [I found] a well-known Australian ObGYN who specializes in fertility [on Instagram]—how the heck had I not seen their page before! Participant 11, BMI < 25

> I think fertility information was something I'd looked into when I was really excited about trying to conceive naturally. I think I probably got most of my information through I guess podcasts. … And I think I came into this process a lot more knowledgeable for having listened to those and then done the subsequent Googling and reading after that. Participant 5, BMI < 25

When seeking information from health professionals, some women reported preferring complementary health-care practitioners and allied health professionals as opposed to their primary-care provider. Reference to naturopaths, herbalists, and dietitians were common and favorably discussed.

> Go to a naturopath. Go to a dietitian, go to, um, you know, a physical education person. Talk to your friends and family. Jump on places like Reddit. It's what surprised me was the wealth of information from people and places that I wouldn't traditionally have gone. Participant 11, BMI < 25

> [There was information that] I hadn't really understood. And so, the dietitian was a big part of [helping with] that. She was fantastic. I was really lucky to have access to such a great dietitian. Participant 5, BMI < 25

Women reported to source information from complementary health practitioners and allied health professionals, but there was a lack of trust for their GP, who they perceived to have a lack of knowledge, and some women were displeased with their level of preconception health checks. Women strongly encouraged others to advocate for their health and their pregnancy, and not to wait when seeking assistance.

> But I guess, in some ways, even when you're accessing, like your GP … you know, they are a generalist, and they have knowledge. [You're] at the mercy of how much they decide to share with you. … There are some bits [of information] that you find out down the track, and you're like, well, that would have been nice to know early on, or maybe we would have done this. Participant 15, BMI > 25

> Lots of research is done on your own, not much information is given to you at the appointment, because [the GPs] don't even know. Participant 3, BMI < 25

There seemed to be a discordance in the discussion about women's relationships with their GP among women with a higher BMI compared to women with a lower BMI. For example, the women with BMI classified in the obesity range were happy to receive advice from their GP, and this often revolved around their weight. In contrast, other women across all BMI ranges reported receiving unhelpful advice.

> Obviously I received weight loss advice from my GP, but it wasn't unwarranted or unnecessary. It was something that I also wanted to do rather than being told to do it. Participant 20, BMI > 25

> I would say not to Google too much, because that can become very quickly overwhelming, … but I would say stick to the general advice that you're given through a GP. I could trust her advice and the resources she would give me. Participant 6, BMI > 25

> My GP said to me, "Oh, go on a holiday for six weeks and you'll fall pregnant. There's nothing wrong [with you]." It's like, that isn't realistic. That can't happen for us. So, you know, I think it's a lack of education. Participant 16, BMI < 25, Healthy

Social Connections

> There are so many people out there who are going through the same [IVF] journey as you, but you don't know about it until you talk to them.

One of the enablers to the uptake of preconception information was the abundance of peer support. Women reported enjoying interacting with other women who were in similar situations and life stages; however, finding online support groups was difficult and required self-sourcing. The quality of information found within these groups was questioned, with some women preferring groups with moderators or health professionals present. Many women wished that difficulty conceiving was a more openly discussed topic, to feel less alone and isolated.

> That group of people [also undergoing IVF], it's bigger than you think, but finding them is hard. Participant 11, BMI < 25

> And I guess, yeah, you're just trying to find someone who's in a similar or having a similar experience. And you can go, oh, wow. There's actually hope, because they had the same thing happen, and they've had a baby. Participant 12, BMI > 25

> This sounds silly, but having other people who have reached out [through online support groups] … I'm able to read the responses to their questions. That just makes it that easier for me. And I guess that's what they're there for. Participant 17, BMI > 25

While women described the desire for community and open discussion around difficulty conceiving, the wish to keep conception plans a secret often hindered their behavior change capabilities. Not wanting to share personal and often painful details was a thought many women shared; however, having the opportunity to interact anonymously through online groups and forums was beneficial in overcoming this.

> But I kind of felt like I didn't want everyone to know what I was going through, so for me I guess it, was easier doing it online where people don't know me. … It was probably easier being anonymous. Participant 12, BMI > 25

> We were pretty open with our friends … but being open, it still doesn't make that question less hard. Like, painful. Because just because we're okay with saying that we're trying, doesn't mean that getting here hasn't been difficult. Participant 14, BMI > 25

> So, there's a privacy aspect of it as well, you know. I don't really wanna share that with people. Participant 1, BMI > 25

Interactions with spouses was described as both a barrier and enabler for women when trying to create change in the preconception period. While some women experienced clear partner support, others described feelings of isolation when modifying diet and physical-activity behaviors at home. This presents a clear burden for women who often believe that they must solely take action when trying to conceive as they are the carrier of their future child.

> And he thinks he's got this brilliant diet, cause he's, like, he doesn't put on weight. He's very blessed. But he has lots of alcohol and lots of energy drinks. Like one a day. And it's like, man, is that affecting your sperm? Participant 10, BMI > 25

> It's actually quite isolating. Like, even though there are big communities out there, it's still very isolating, even from, like, my partner, because obviously I'm going through it, not him. So, like, there's a lot that I have to do that he doesn't really have to do, and stuff that he doesn't have to think about. Participant 14, BMI > 25

> He'll say "but I just really felt like a beer when I caught up with [a friend]." I'm going, but what if that had an impact and we have to live with that? What if [something happens] that could have been avoided, and they could have had different outcomes or a different future, potentially? Participant 15, BMI > 25

Behavioral Changes

> First of all, go and have a good check with your GP.

Women felt that they had the ability to change simple behaviors and had the confidence to do so. Supplementation and reducing alcohol were two common themes

among the participants, while mention of diet, exercise, or specific behavioral changes were rarely revealed. Supplementation appeared to be the most common action taken when preparing for a pregnancy; however, the sources of information used when choosing a supplement or beginning a supplement regime were not always clear. Some women reported visiting a health-care provider prior to beginning a pregnancy supplement.

> Like, as far as vitamins I took, was just the prenatal, which most people do when they're planning. Participant 20, BMI > 25

> I would get some specific advice from a dietitian. I think there's so much advice on the internet, [but it's not helpful]. I would like advice around saying, "take this supplement," or "this particular food item is really good for fertility." Participant 1, BMI > 25

Reducing intake of alcohol was a common behavior change when trying to conceive. While responses were mixed, some women reported difficulty when reducing their weekly alcohol intake due to the social norms associated with drinking or disappointment when they found out their pregnancy status. To some, alcohol was perceived as a coping mechanism when another menstrual cycle began. However, other women reported no difficulty in removing alcohol from their weekly routine, especially if they rarely consumed alcohol to begin with.

> I would say that I [would] drink … when I get home from work with my partner, I would just have one or two and then maybe we might go to drinking on the weekend. Yeah, so maybe that was the reason why I was not able to conceive for so long. [So, I tried to cut it out] but then I'd get my period one day, and I'll start drinking again. I'll be like, no, it hasn't worked. So, I'll have a drink. Participant 10, BMI > 25

> Um, obviously you cut out alcohol, but when you only drink one or two drinks a week, it's like, eh whatever. It's not super tricky to cut that one out. Participant 11, BMI < 25

> Not drinking? I've worked in hospitality my whole life, so alcohol has been a big part of my life. Even the thought that you can't even have one drink, it's hard. I would get home, and I have a wine or a beer, and it would just, you know, destress from the day. So, then all of a sudden, it's like, no, you can't do that. Participant 2, BMI < 25

Discussion

To our knowledge, this is the first study to explore the barriers, facilitators, and motivators toward the engagement with and uptake of preconception nutrition and physical-activity advice in women who are undergoing fertility treatment, and to understand whether these are different among women living with or without overweight or obesity. In our sample of 20 women undergoing IVF to achieve a pregnancy, barriers and enablers to engaging with and the uptake of preconception information, as perceived by women, were primarily related to four themes: (1) personal motivators and goals, (2) information-seeking practices, (3) social connections, and (4) behavioral changes. There was a clear preference for sourcing preconception health information from health providers, such as gynecologists, with social media platforms, and with other women who have experience with infertility. For some, the perceived lack of knowledge of their GP, lack of reliability of online information, and inadequate spousal

support were notable challenges faced during the preconception period. Women participating in our study were highly educated and motivated to conceive; however, many still reported confusion when searching for information online.

Participants in our study often reported utilizing online resources as a prompt to take action prior to conception. Online resources such as forums, groups, and social media were important for women. Many women expressed a desire for secrecy about their difficulty conceiving, and online forums enabled women to have open discussion anonymously. Trust in experience-based information as opposed to expertise-based information has risen globally (Song et al., 2016), and was reflected in our study findings. The volume of information made available through online communities is a strength of these channels; however, it also brings the challenge of identifying reliable, accurate, and current information. The presence of inconsistent information online and anecdotal evidence is a challenge to the optimization of nutrition and physical-activity behaviors for women underdoing IVF treatment. This is an indication of the need for evidence-based nutrition and physical-activity guidelines.

While online support was ultimately positive, the lack of support from spouses was noticed. Women felt they carried the burden of responsibility for behavioral change during preconception and pregnancy, while their partner may exhibit less responsibility throughout the process. This finding was echoed by Khan et al., where it was noted that while spouses may be supportive during the preconception period, they made little to no behavioral changes themselves (Khan et al., 2019). Furthermore, following a survey of U.S. men and women, Mello et al. noted that respondents viewed men as having a secondary role in reproduction, suggesting that society holds women more accountable for improved preconception health (Mello et al., 2020). Relegating men to a socially acceptable, lesser role manifests as a barrier to creating diet and physical-activity change at home, which could be detrimental to some women and warrants improved awareness, support, and resources for couples planning a pregnancy. Indeed, it is not widely known by male partners that their preconception health impacts the health of gametes at conception, as well as later pregnancy and offspring outcomes (Fleming et al., 2018). Furthermore, evidence suggests that couples demonstrate concordance of health behaviors such that improvement in one partner's diet or physical-activity behaviors has a positive impact on the other partner's behaviors and health (Carr et al., 2021; Figueroa et al., 2020). Ways to engage partners in preconception health and care need further exploration but may include couple-based interventions or approaches that target the couple as a unit, rather than individually; these show promise for improving short- and longer-term health outcomes (USAid, 2021).

The primary motivator for taking action while trying to conceive was the desire for a healthy child; however, the belief that an advanced age negatively affected fertility was also prevalent, with women exploring nutrition and physical-activity changes as a way to mitigate the effect of age on fertility. It was age that motivated behavior changes in nine women, three of whom were over the age of 35. Women in this study were of similar age to the average age of women in Australia and New Zealand (35.8 years) undertaking assisted reproductive technology treatment in 2018 (Newman et al., 2020) and may therefore reflect similar reactions to preconception health and behaviors.

Reducing alcohol intake, increasing supplementation, and focusing on a healthy dietary pattern were actions consistent with findings of a prior qualitative study

(Hammarberg et al., 2016), which explored fertility-related knowledge. Hammarberg et al. reported that awareness of the impact of adverse health behaviors, such as smoking, alcohol consumption, and poor diet, on fertility was high amongst a group of 74 men and women of reproductive age (Hammarberg et al., 2016). However, contrary to this study, Chivers et al. reported that 85.3% of active pregnancy planners had consumed alcohol within the last 3 months (Chivers et al., 2020). While our study identified alcohol reduction as an actionable change in the preconception period, this may be an indication of the behavioral practices of women undergoing assisted reproductive technology treatment, where it is understood that alcohol consumption can decrease the success rate of artificial reproductive technologies.

The women in our study signaled their pregnancy intention with their GP prior to a referral to fertility treatment. However, many were displeased with the resulting information they received or the lack of information they had access to through their GP. In a study of 110 GPs, 84% reported that they should be the main providers of preconception care; however, only 53% were aware of any preconception guidelines (Kizirian et al., 2019). Kizirian et al. reported that GPs felt as though a lack of knowledge and resources were barriers to the delivery of preconception care (Kizirian et al., 2019), which ultimately was felt by women in our study. The uptake of information from complementary health-care providers or allied health professionals was consistent with findings of another Australian qualitative study of 17 women who described attending alternative health practitioners for preconception advice (Mazza & Chapman, 2010). Currently, there are no nationally recognized preconception health-care guidelines in Australia.

Women face a greater burden related to their weight (Andreyeva et al., 2008), and often experience worse physical and mental health outcomes than thinner women or men of any size (Martin-Wagar et al., 2023). Interestingly, the women who reported GP advice as helpful were women who were classified by BMI status as overweight or obese. With emerging evidence suggesting that pregnant individuals are vulnerable to experiencing substantial, repeated weight stigma in health care (Hill & Incollingo Rodriguez, 2020; Incollingo Rodriguez et al., 2020; Nippert et al., 2021), it is interesting to note this lack of perceived stigmatization. Weight stigma in health care is widespread, and indications of this include decreased reproductive health-care quality (Fikkan & Rothblum, 2012; McIntyre et al., 2012), mental health symptoms, poorer health behaviors (Faucher & Mirabito, 2020; Incollingo Rodriguez et al., 2019; Parker & Pausé, 2019), and adverse pregnancy outcomes (Brown et al., 2017; DeJoy & Bittner, 2015). Exposure to weight stigma increases the risk for weight-bias internalization (Davidsen et al., 2022; Williams & Annandale, 2020), where the individual accepts and self directs negative stereotypes toward themselves (Pearl et al., 2017). Despite the proliferation of weight-based stigmatization and discrimination, the stigma associated with being a woman living with overweight or obesity receives little attention as a feminist issue (Fikkan & Rothblum, 2012). Decades ago, Susie Orbach declared that fat is indeed a feminist issue, as societal norms allow for less deviation from the ideal body for women than it does for men (Orbach, 1978). Author Susan Bordo asserts that, from a young age, women are socialized to regulate their weight, with weight loss frequently idealized by both individuals and the media, thereby perpetuating this preoccupation across generations (Bordo, 2023). The view that body size is controllable and the responsibility of the individual has been linked to pervasive blame and

prejudice (Fikkan & Rothblum, 2012; Pearl & Lebowitz, 2014), further worsening health-related outcomes for women. In her feminist text, Samantha Murray suggested that, under the medical gaze, weight is a signifier of pathology and is deemed to be problematic, despite otherwise good health, preserving the authority of personal bias in health-care settings (Murray, 2008). The lack of apparent stigmatization and bias felt by women presenting with overweight and obesity in this study may be an indication of weight-bias internalization, in which advice regarding weight change was viewed positively. Alternatively, advice on weight change in the context of IVF may be welcomed by women, given the potential for weight change to impact fertility treatment outcomes. Further exploration into how women perceive their body size as a contributor to their infertility or fertility care is warranted.

Strengths and Limitations

Exploring the barriers and facilitators to the engagement with and uptake of preconception information in a population of women actively trying to conceive using IVF is a novel undertaking. Our interview schedule, developed with consumers from the Center of Research Excellence Health in Preconception and Pregnancy Consumer Advisory Group, allowed for women to discuss topics they viewed as most relevant throughout their pregnancy planning, without leading their answers. The participants in this study are representative of a typical assisted reproduction-technology cohort in terms of age and socioeconomic status, with socioeconomically advantaged women often having the financial capacity to fund fertility treatments (Harris et al., 2016). While our study cohort consisted of women beginning an IVF cycle, we were unaware how many previous cycles had been undertaken. Multiple previous IVF cycles could shape attitudes and behaviors in the preconception period. The high SES and education level of our cohort may limit the generalizability of the study to other populations. Likewise, our study only included English-speaking women and was not ethnically diverse. Finally, women accessing assisted reproduction technologies are a unique group as they are more likely to undertake preconception health behaviors given the investment they are making, and findings may not be generalizable to all women actively planning a pregnancy.

Conclusions

Women undergoing assisted reproductive technologies engage in multifaceted interactions while planning a pregnancy, with a preference to experiential information, complementary health providers, and allied health professionals. Peer support was beneficial, and the desire for online communities was strong. Women living with overweight reported similar experiences to women of a healthy weight, including challenges finding reputable information and feelings of isolation when implementing behavior change at home. However, women living with overweight more often reported receiving helpful advice from their GP when initially seeking information. This highlights the need for primary care physicians to deliver more comprehensive preconception health information to all women planning a pregnancy. Future research would benefit from extension into other populations of women actively trying to conceive, in addition to seeking an understanding of how men approach the preconception period.

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Author Contributions

J. A. G. conceived and designed the study. K. R. L. designed and implemented the study and performed the data collection with support from L. P. K. R. L. conducted analysis and interpretation under the supervision of J. A. G. B. H., and J. A. B. contributed to conception and design, and all authors contributed to the interpretation of data. K. R. L. fully drafted and prepared the original manuscript with revisions from all authors. A. T. H., L. P., B. H., J. A. B., and J. A. G. critically reviewed and approved the final version of the manuscript.

Disclosure Statement

No potential conflict of interest was reported by the author(s).

Ethical Statement

Ethics approval for this study was granted on the February 7, 2023 (H-2021-095) by the University of Adelaide Human Research Ethics Committees.

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Data Availability Statement

Data not available due to ethical restrictions.

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