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Publication date
2026

Link to publication

Citation for published version (APA):
Reilingh, A. Y. A. M. (2026). *Care for women across critical junctures during the reproductive years: Reproductive choices, pregnancy and menopause*. [Thesis, fully internal, Universiteit van Amsterdam].

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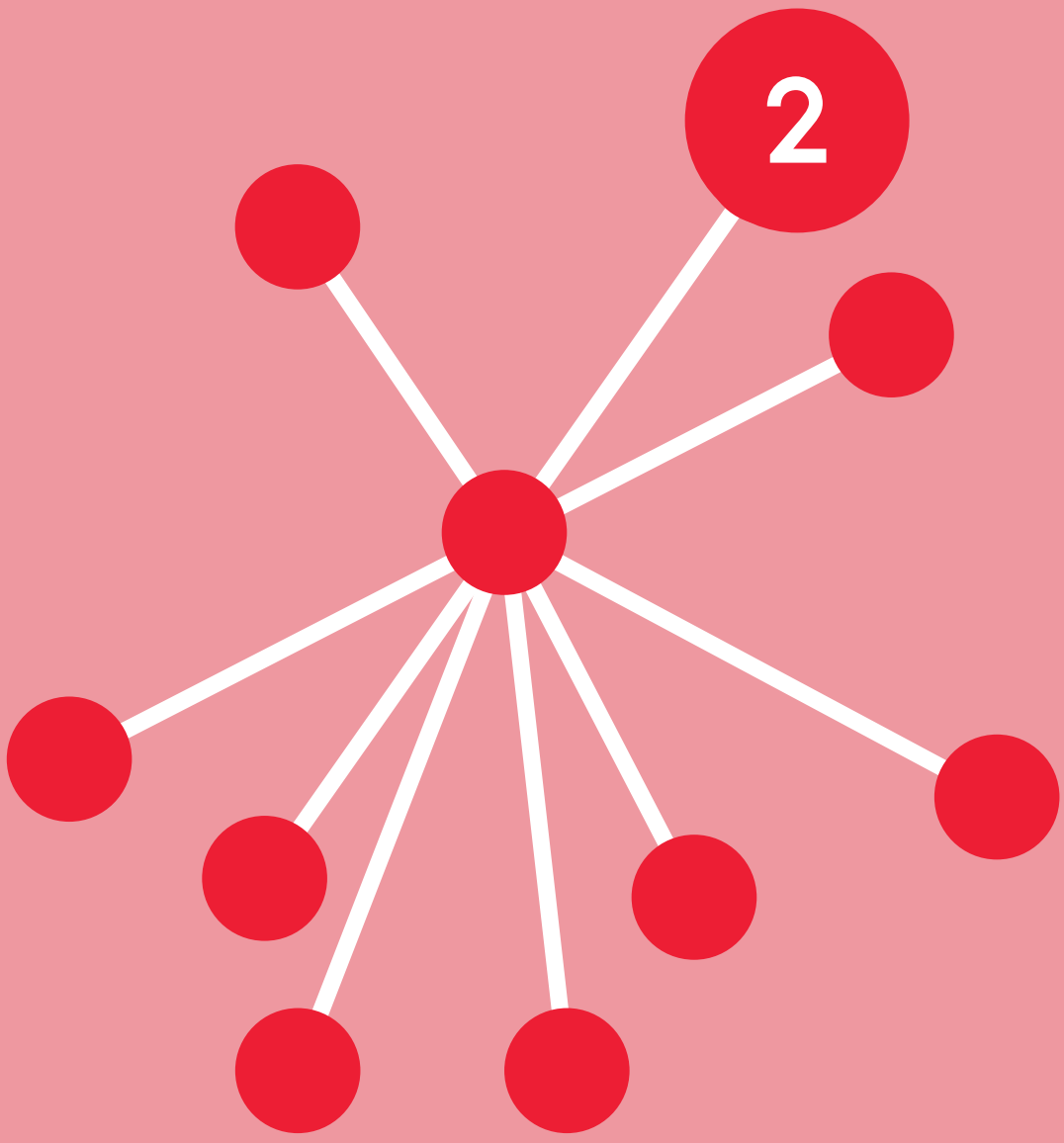
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LIVED EXPERIENCES OF CONTRACEPTIVE USE PRIOR TO UNEXPECTED PREGNANCY: NARRATIVE INSIGHTS FROM THE NETHERLANDS

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SSM - QUALITATIVE RESEARCH IN HEALTH.

2026;9:100749. DOI:10.1016/J.SSMQR.2026.100749

Abstract

Unexpected pregnancies occur everywhere, also in contexts where contraceptive care is accessible. Research has found that contraceptive behavior extends beyond rational decision-making and is shaped by a range of personal, relational, and social factors. So far, little is known about people's lived experiences with contraception prior to an unexpected pregnancy, particularly among adults and men in settings with accessible contraceptive care. This study therefore explores the lived experiences of adult womxn and mxn who recently experienced an unexpected pregnancy, focusing on their contraceptive behaviors before conception in the Netherlands. We analyzed 55 narrative interviews and integrated these findings with open-ended survey responses from the Dutch BluePrInt study (n = 364) to capture the complexity of people's experiences. Participants reported inconsistent contraceptive use in the period preceding the unexpected pregnancy. Four key themes emerged: negative experiences with contraception, perspectives on fertility, confidence in contraception, and communication between partners. In addition, participants' language use pointed to the presence of underlying narrative patterns concerning shame, imbalanced gendered responsibility, sexual pleasure, and decisional inertia. Results underscore the need for personalized contraceptive counselling and follow-up that centers lived experiences, embraces shared decision-making, and adapts to life course changes.

Introduction

Contraception in its broadest sense encompasses any behavior intended to avoid pregnancy. Contraception can involve not only methods like devices, medication or surgical procedures, but also includes practices and behaviors such as withdrawal (1). Contraception is a critical tool that enables people to realize autonomy in decisions about whether, when, and how often to become pregnant (2).

In policy and practice, it is often assumed that people with a desire to avoid pregnancy will use contraception and do so consistently, provided it is accessible and available. However, even if people have a strong desire to avoid pregnancy, they may still use contraception inconsistently or incorrectly (3). Substantial evidence highlights an incongruency between people's desire to avoid pregnancy and their actual contraceptive behavior (4-6). This is also true for contexts where contraception is relatively accessible, counseling services are available, and comprehensive sex education is provided through national programs, such as the Netherlands (7).

As early as the 1970s, researchers sought to understand why individuals do not use contraception despite having a desire to avoid pregnancy. These studies often relied on rational, individual-focused decision-making models that emphasize risk perception and evaluation, like Luker's model of contraceptive risk-taking (8) and the Health Belief Model (9). However, such theoretical models fall short in several ways. Next to rational decision making, more intuitive factors such as priorities, needs, desires, and concerns have been shown to influence how people interact with contraception, both before and after decision-making (2, 10, 11). Further, contraceptive decisions are not only made on an individual level but are also shaped in the context of sexual interactions with others (11, 12). This underscores the need to consider individuals lived experiences to gain a more nuanced understanding of how contraceptive behaviors unfold in real life.

The perspectives of various specific groups of people continue to be understudied, demonstrating important research gaps. First, most studies have focused on contraceptive behavior of adolescents, leaving adults understudied (2). Yet, in countries like the Netherlands, it is adults over 25 who have a higher risk of abortion (13). Second, although many people use contraception inconsistently or ineffectively (3), prior research has primarily examined reasons for non-use of contraception. Third, men's perspectives are understudied in the field of contraception, despite their significant influence on the risk of pregnancy (11, 12).

This study explores the lived experiences of adult womxn and mxn who recently experienced an unexpected pregnancy, focusing on their contraceptive behaviors prior to conception within a context with relatively accessible contraceptive care

(the Netherlands). Their experiences offer critical insights into the circumstances and challenges surrounding contraception that contributed to a pregnancy occurring despite no active desire to conceive. The term “unexpected pregnancy” was chosen in consultation with experience experts because it better reflects the nuances of people´s lived experiences and was perceived as less stigmatizing than terms like unplanned, unintended, or unwanted. By analyzing personal narratives of absent, inconsistent, or failed contraceptive use, alongside quantitative data from a broader sample, this research aims to capture the complexity of lived experiences and assess how widespread these patterns are. Ultimately, the findings seek to inform more patient-centered contraceptive counseling and to support the development of reproductive health programs that address the diverse influences on contraceptive behavior beyond purely rational decision-making.

Methods

Design

This mixed-methods study is based on both quantitative data (n = 364) of the longitudinal BluePrInt study, and qualitative data of a small subsample (n = 55) of the same study. The BluePrInt study included both womxn and mxn. The BluePrint study is a population-based cohort study designed to investigate experiences with unexpected pregnancy in the Netherlands, including people who chose either abortion or continuation of their pregnancy. The study examines topics such as contraceptive use, decision-making processes regarding abortion or continuation of the pregnancy, and long-term mental health consequences.

Ethical considerations

All participants gave informed consent prior to participating in the survey through an online consent form. Only people who specifically consented to be contacted for further studies have been invited to partake in the in-depth interviews for which all participants renewed their consent. Before each interview, the study’s purpose and procedures were explained. Participants were assured of confidentiality, anonymous data handling, and their right to withdraw at any time, and informed consent was audio recorded. As part of the consent process, participants were also informed that interview recordings would be transcribed and stored securely in accordance with institutional data management policies and ethical guidelines. The current study was exempt from full medical ethical review in accordance with Dutch regulations. The quantitative protocol received a waiver from the Medical Research Ethics Committee of the Amsterdam Medical Center (reference number W21_407). The qualitative protocol was subjected to a substantive ethical assessment by the same committee (reference number 2023.0570).

Recruitment

Recruitment of survey participants took place between December 2022 and August 2023. People who had an abortion (AB) were recruited at nine abortion clinics across the country, covering diverse geographical and socioeconomic regions. In the Netherlands, more than 90% of abortions are performed in these specialized clinics (13). Recruitment of people who decided to continue their unexpected pregnancy (CT) took place at *83 midwifery clinics* nationwide. People were informed about the study during their visit to the abortion clinic or midwifery practice. They could sign up either during their consultation or by scanning a *QR code* in the waiting room. The QR code was linked to an information letter, video, and an online consent form. Additionally, CT people were recruited through an *online mailing* around 14 weeks of gestation via their midwife, typically used for general pregnancy information. Further, since mxn were not always present in the abortion clinic or during appointments with the midwife, mxn could also participate through their pregnant counterpart: after a womxn signed up, they were contacted by email to see if the mxn *involved in the conception of the pregnancy* was also willing to join the study. Notably, not all participating mxn were in a romantic relationship with their pregnant counterpart.

To avoid any potential decision-making interference, people could only participate after either having an abortion or deciding to continue the pregnancy. People were eligible if they were older than 15 years. Further, CT people were eligible if they scored at least two points on these criteria, as measured on the submission form, confirming that the pregnancy was indeed unexpected: (1) They were *not* trying to conceive before becoming pregnant (1 point); (2) They felt the pregnancy occurred at the *wrong* time (1 point) (3); Their emotional response upon discovering the pregnancy was: (a) *Happy* (0 points), (b) *Mixed feelings* (1 point), (c) *Not happy* (1 point).

Participants and procedure

Survey data were drawn from the second wave of the BluePrInt study. Items related to contraceptive use prior to the unexpected pregnancy were answered only by womxn. Despite investigating mxn's perspectives in the in-depth interviews, we did not ask mxn about contraceptive use in the survey. It was decided to reduce the survey burden to encourage their participation. Further, most participants were in stable relationships with partners who were also participating in the study and thereby already provided information on their contraceptive use. A total of 364 womxn completed the survey (151 AB and 213 CT) (Table 1). The second wave survey was administered approximately one year after the first wave and took 10–15 minutes to complete. People received two 10-euro gift cards for filling in the baseline and follow-up survey.

Table 1. *Descriptives of the BluePrint sample and the interviewed sub-sample.*

	Total sample (n = 364)	Interviewed sub-sample (n = 55)
Role in pregnancy (N, %)		
Womxn, recently pregnant	364 (100,0)	30 (54,5)
Mxn, recently involved in pregnancy		25 (45,5)
Pregnancy outcome (N, %)		
Abortion	151 (41,5)	28 (50,9)
Carry to term	213 (58,5)	27 (49,1)
Relationship status (N, %)		
Single	29 (8,0)	7 (12,7)
In a relation, not cohabiting	89 (24,5)	15 (27,3)
Cohabiting	239 (65,7)	33 (60,0)
Missing	7 (1,9)	
Age (M, SD)	29,6 (6,1)	30,6 (5,4)
Age range (in years)	16 - 47	17 - 43
Theoretically educated	154 (42,3)	31 (56,3)
Born outside the Netherlands	18 (4,9)	1 (1,8)
Religious (N, %)	87 (23,9)	12 (21,8)
Nulliparous (N, %)	205 (56,3)	3s0 (54,4)

Interviews

Participants who completed the second survey and consented to be contacted for an interview were randomly selected from the eligible pool and invited via email in batches of *n* = 10 per group (n=152, 68 womxn and 89 men). Due to low response rates among mxn, all participating mxn were invited for an interview, which was necessary to reach the desired number and to ensure adequate representation. Participants signed up through an online form and were then contacted by email to schedule the interview at a convenient time and location. Of all the people invited, 56 (37%) participated in an interview.

Most interviews were conducted online using Microsoft Teams. For those who preferred an in-person interview, sessions were held at a location of their choice, typically in their homes or at a café. Due to a recording error, one interview could not be transcribed and was therefore not included in the analysis. This resulted in 55 interviews: 30 (54.5%) with womxn and 25 (45.5%) with mxn. People received a 30-euro gift card for participating in an interview.

The duration of the interviews was around one hour. Interviews with womxn were generally longer compared to interviews with mxn. Each interview began with a brief

introduction from the interviewer to help the interviewee feel at ease and ensure they understood that all information shared would remain confidential. It was emphasized that all reasons, thoughts, and feelings they had were valid and accepted. To encourage participants to share their personal experiences, we carefully designed interview questions with clear, non-judgmental framing, particularly around sensitive topics like contraceptive use before an unexpected pregnancy. To ensure the effectiveness of this approach, we conducted several test interviews with two experienced experts, who provided feedback to help refine the wording and tone of the questions.

Interviews were conducted by AR, AvZ, and WB. They received interview training for the purpose of harmonization, and all had previous experience with qualitative interviewing. Further, interviews were recorded for transcription, which enabled peer supervision between the interviewers.

Interview transcription was performed by WB, AR and AvZ and two research interns. We used Microsoft Teams transcription as the initial basis for the verbatim transcripts of the online interviews, while we used Amberscript to transcribe the interviews that were recorded live in person. Subsequently, we listened to the audio recordings to refine the transcripts and fill in any gaps and make corrections. All transcripts were pseudonymized by removing identifying details. We transcribed the spoken text verbatim and annotated notable elements such as pauses and emotional expressions like crying or laughter.

Measures

Interviews (subsample)

A topic list was developed combining a narrative interview method with patient journey mapping. Integrated Patient Journey Mapping was used as a framework to collect data and to organize the findings from thematic analyses (14, 15). At the start of the interview, participants were shown a figure with a timeline illustrating the periods before, during, and after pregnancy, along with the key topics covered (Supplementary 2).

During the interviews, participants were asked to reflect on their life circumstances at the time they (or their partner) became pregnant, their contraceptive use at that time, and what made the pregnancy feel unexpected or less desired from their perspective. Although we mainly focused on the time leading up to the pregnancy, we also discussed reflections on contraceptive behavior after the pregnancy. The guiding questions from the interview guide used for this study are reported in Supplementary 2. The topic list was used by all interviewers and was not changed during the study duration. Specifically related to contraceptive use, the interview guide included the question: *"What were your considerations regarding contraception during that time?"*. This question was discussed in the interview section focusing on the period before the pregnancy. However, participants also frequently reflected on their contraceptive behavior in response to other questions,

such as those concerning the circumstances in which the pregnancy occurred or their initial reaction upon discovering the pregnancy. As such, insights into contraceptive use emerged throughout various parts of the interview, not solely in response to the dedicated question.

Survey

Participating womxn were asked about the contraceptive methods they used around the time they conceived. Multiple choice options included 'I did not use any contraception', and several contraceptive methods such as the oral contraceptive pill, condoms, withdrawal and fertility apps (Table 2 and 3, and Supplementary 1).

Table 2. *Reported contraceptive use at time of unexpected conception (survey data; multiple answers were possible)*

	N	% of total (n = 364)
No contraception		
I did not use anything	107	29,4
I did not have PIV ª sex	4	1,1
One contraceptive method		
Condoms	79	21,7
Contraceptive pill	46	12,6
Withdrawal	17	4,7
Fertility app	15	4,1
Copper IUD	12	3,3
Contraceptive implant	4	1,1
NuvaRing	4	1,1
Sterilization self/partner	2	0,5
Hormonal IUD	1	0,3
Contraceptive injection	1	0,3
Contraceptive patch	1	0,3
Diaphragm	1	0,3
Multiple methods		
Condoms + withdrawal	19	5,2
Condoms + the contraceptive pill	17	4,7
Fertility app + withdrawal	7	1,9
Condoms + the contraceptive pill + fertility app	5	1,4
Condoms + fertility app	4	1,1
Condoms + the contraceptive pill + withdrawal	3	0,8
Condoms + copper IUD	2	0,5

	N	% of total (n = 364)
Condoms + NuvaRing	1	0,3
Condoms + contraceptive injection	1	0,3
The contraceptive pill + fertility app	1	0,3
I'd rather not say	16	4,4
Morning after pill	1	0,3

Note. [a] *PIV = Penis In Vagina (sexual intercourse).*

Table 3. *Frequency of method use reported in the survey (solo and combined usage)*

	N	% of total (n = 364)
Condoms	130	35,7
No contraception	111	30,5
The contraceptive pill	72	19,8
Withdrawal	46	12,6
Fertility app	32	8,8
LARC [a]	21	5,8
Other SARC (NuvaRing, contraceptive injection/patch)	8	2,2

Note. [a] *LARC refers here to the copper IUD, hormonal IUD, contraceptive implant, and sterilization.*

No contraception. Those who selected '*I did not use any contraception*' were asked an open-ended question about their motivations, followed by a multiple-choice question to explore additional factors (Table 4 and Supplementary 1). These questions were deliberately phrased in a neutral manner to minimize any sense of judgment from the respondents, in consultation with experts by experience: '*What were your reasons for not using contraception during the period in which you became pregnant? There are no right or wrong answers: every person and situation is different.*'

Table 4. *Reasons for not using contraception, or only 'natural methods'*. Selecting multiple reasons was possible. The most reported reason is mentioned first.*

Reason (categorized)	Frequency (% of survey total)
I did not want to use hormones	60 (40,0)
I did not want to use contraception	33 (22,0)
I experienced (too many) side effects from contraceptive methods	30 (20,0)
I wanted to become pregnant	27 (18,0)
I believed/knew I/my partner was infertile or had reduced fertility	19 (12,7)

I had (almost) no penis-in-vagina sex at that time	16 (10,7)
I was not using contraception due to medical circumstances (including breastfeeding)	14 (9,3)
I had not thought about it yet	7 (4,7)
There were no contraceptive methods I was satisfied with	6 (4,0)
I found contraception too expensive	3 (2,0)
I did not use contraception due to religious beliefs	3 (2,0)
My partner did not want me to use contraception	2 (1,3)

**Full question wording can be found in Supplementary 1.*

Only natural methods. Participants who reported using only natural methods (withdrawal, fertility tracking apps, abstinence) were asked an open-ended question about their motivation ('*What were your reasons for relying solely on methods such as withdrawal or fertility tracking apps, instead of using other contraceptive methods during the period in which you became pregnant? […]*'), followed by a multiple-choice question to identify other influencing factors (Table 4 and Supplementary 1). The term "natural" methods can be misleading and was not used in the survey itself. However, for the purposes of this paper, we use it as an umbrella term for these methods.

Contraceptive failure. Participants who reported using contraception during the time of conception were asked to describe what happened that led to the pregnancy, acknowledging that contraceptive methods can sometimes fail (Supplementary 1).

Analysis

The interview analyses were performed by AR, AvZ and JvD, in consultation with LB, WB and JH. Although a narrative interview structure was used, thematic analysis was conducted to address the research question (16). Coding was performed in MaxQDA 2022 (17). After familiarizing themselves with the data, AR and AvZ each independently coded four interviews. Initial codes were informed by the topic list, while additional codes emerged inductively from the data during analysis, combining a deductive and inductive approach to coding (18). Initial codes were discussed (AR and AvZ) to align conceptual definitions. Once they reached uniformity, they continued coding separately. Weekly meetings were held with WB and JvD to discuss codes, search for themes, and iteratively review and refine them. The meetings were also used to reflect on the research process, including discussions on methodological decisions, interpretation of findings, and the grounding of results in the data. These sessions also provided opportunities for reflexivity and support, as some interviews were emotionally challenging. Additionally, three triangulated peer debriefing sessions were held with LB and JH to further enhance the credibility and consistency of the analysis by searching, reviewing, and redefining themes.

Additionally, field notes were used for each interview, providing impressions of the conversation, atmosphere, and participant's openness. Lastly, a quarter of the interviews were read in full by the principal investigator JvD. This layered approach enabled the inclusion of narrative meta-information: insights that emerged 'between the lines'. For example: How does a participant speak about certain topics? What is left unsaid or possibly avoided? What does their language use suggest?

When no new codes emerged in three consecutive interviews, we discontinued coding. This strategy was applied to each separate group, based on their role in the pregnancy (womxn/mxn) and pregnancy outcome (abortion/continuation). The remaining transcripts were reviewed for confirmation, but no additional codes were found.

The multiple-choice survey data were analyzed using SPSS version 28.0.1.0. The open-ended data were processed and analyzed inductively using MS Excel. The open-ended responses were first examined through open coding, identifying key themes and concepts. Coding was performed separately for each user group identified in the survey: (1) no contraception, (2) only natural methods, and (3) contraceptive failure. Subsequently, axial coding was applied to refine these categories by exploring relationships and patterns among them, enabling a deeper understanding of the data. These analyses were conducted by WB, in consultation with AR and JvD. After providing open responses, survey participants could also select additional reasons for not using contraception or for using only 'natural' methods from a predefined checklist. To offer insight into the frequency of participants' motivations, we systematically coded the initial open-text responses, incorporated the additional selected reasons (filled out by 58 respondents), and counted the combined responses (Table 4).

Progressive insight during analysis regarding categories of consistent, inconsistent and absent contraceptive use

In the analyses, we integrated the findings from both the interviews and the survey, as the themes showed substantial overlap. Insights from both data sources revealed that many participants who reported using contraception in the survey also described instances of non-use or incorrect use. Thus, the qualitative interviews provided new information that the survey alone could not capture. Making a sharp distinction between users and non-users of contraception did not align with our data. Participants often described their intended contraceptive behavior over an extended period, rather than their actual use specifically at the time of conception. There was only a small group of people with recent unexpected pregnancies who self-identified as contraceptive users and who also clearly described highly consistent use during the interview. Further, many narratives were ambiguous or lacked clarity, making it difficult to classify people's contraceptive behavior into distinct categories. This could have been (partly) related to shame around non-use or inconsistent use of contraception, as narratives echoed themes and language rooted

in shame. Lastly, while any behavior aimed at preventing pregnancy can be considered contraception (1), participants did not always classify withdrawal, condom use, or fertility tracking as contraception, especially when these were not based on medical technology. As a result, our main findings mostly apply to inconsistent users who are not a homogeneous group but used contraception inconsistently to varying degrees, from a one-time slip to periods of prolonged inconsistent use.

Reflexivity

Both during the data collection as well as while writing this manuscript, we explicitly reflected on our own views regarding the research questions, which included our academic and professional expertise, as well as personal experiences related to contraception and unexpected pregnancy. The researchers have diverse academic backgrounds, representing disciplines such as social sciences, developmental psychology, midwifery science, and epidemiology, and are trained in a variety of research methods. Although all researchers involved shared the belief that every person facing an unexpected pregnancy should be able to make a free and informed decision, differences in perspective arose due to our diverse professional roles and lived experiences. Previous research involving extensive conversations with individuals experiencing unexpected pregnancies had undoubtedly shaped how we approached the interviews.

As individuals, we also carry personal positions and experiences with the topic, including unexpected pregnancies, parenting, abortion, miscarriage, reduced fertility, and being born from an unexpected pregnancy. By openly discussing these personal and societal positions within the research team and actively reflecting on them, we aimed to make our assumptions and potential biases transparent and minimize potential blind spots.

Findings

Participants

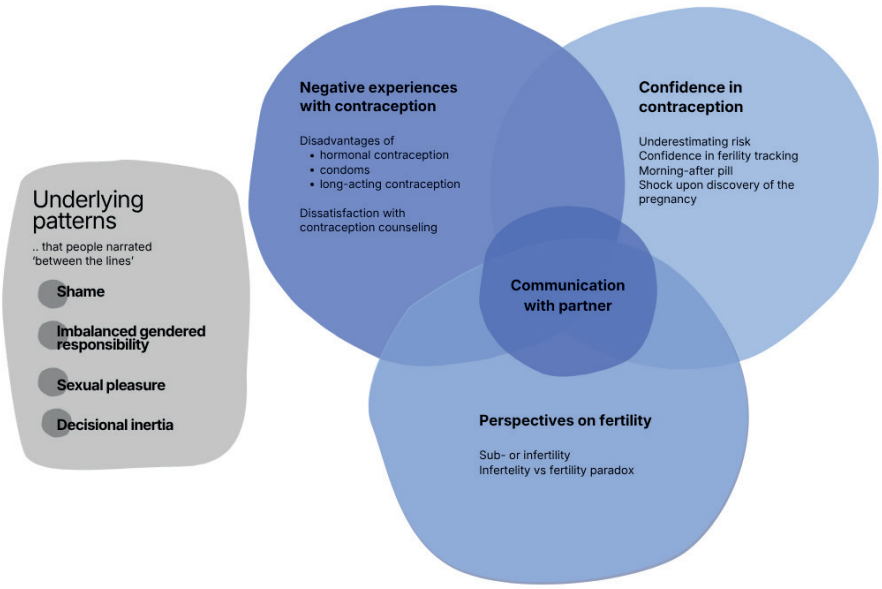
The distribution of key sociodemographic variables in the interview sub-sample closely mirrored that of the survey sample (Table 1). Participants ranged in age from 16 to 47 years. Most reported being in a romantic relationship at the time of conception, and about half had no children prior to the pregnancy. The interviews for womxn took about an hour but were shorter for most interviews with mxn. The majority of participants reported using some form of contraception in the period preceding their unexpected pregnancy, like condoms or the oral contraceptive pill (Table 2 and 3). Some reported combining methods, for example using condoms alongside withdrawal or the oral contraceptive pill. Approximately 30% indicated that they did not use any contraception during that period.

Main themes

In what follows, we present the main themes that emerged from the narratives of participants who reported inconsistent or absent contraceptive use. We present the results from both data sources (survey and interviews) according to the thematic structure that primarily emerged from the qualitative analysis. To evaluate how widespread the themes are within the broader population of people with unexpected pregnancies, we also provide an overview of the most frequently cited reasons for not using contraception or using it inconsistently prior to an unexpected pregnancy (Table 4).

Each theme is discussed separately to clarify its meaning and relevance, although they also substantially overlap. Please note that the final two themes build upon and connect to the earlier ones (Figure 1). Where relevant, we highlight differences in findings between womxn and mxn, between those who had an abortion versus those who continued their pregnancy, and between participants who used no contraception versus those who used it inconsistently.

Figure 1. *Main themes and cross-cutting underlying patterns.*



The key themes among factors that led to the conception of unexpected pregnancies were:

1. Negative experiences with contraception
2. Perspectives on fertility
3. Confidence in contraception
4. Communication between partners

   Furthermore, we also found four underlying patterns, which were not mentioned explicitly by participants but deduced from language use, silences or hesitation, and emphasizing or de-emphasizing, or even minimizing, of certain aspects. These 'between the lines' underlying patterns were cross-cutting the four main themes, and were a) shame, b) imbalanced gendered responsibility, c) sexual pleasure, and d) decisional inertia.

Negative experiences with contraception

Participants described negative experiences when choosing and using contraceptive methods. Both in the interviews and the survey, people described experiences with disadvantages or side effects of contraception or faced challenges regarding ease of use. Approximately 30% of the survey participants reported not using contraception because they experienced (too many) side effects from contraception, and some stated that there were no contraceptive methods they were satisfied with (Table 4).

Disadvantages of hormonal contraception

People were dissatisfied with hormonal contraception for various reasons, particularly regarding the oral contraceptive pill. Experiencing side effects (such as mood swings, concentration issues and skin problems) was a key motivation for discontinuing hormonal contraception. In this, negative stories from others and broader perceptions also played a role. These stories reinforced an underlying feeling that using hormones was harmful.

> *"At a certain point I thought, partly because of the stories you hear but also the scientific studies that have been done, I thought, well, you know what, I think it's just time to stop taking the pill. Because it just didn't feel right anymore [...]." ~ Womxn, abortion, interview*

The benefits of hormonal contraception were not mentioned. The language used by participants in both the interviews and the survey results implied that "hormones are bad for you". In the quote above, it is assumed that research has clearly shown that using the oral contraceptive pill is unhealthy. Further, people expressed specific concerns about the long-term use of hormones (especially effects on future fertility), with a perception that recovery was needed after stopping. Hormonal contraception was perceived as suppressing a natural process, i.e., the menstrual cycle.

"Well, I don't think there were really any side effects, but it just didn't feel right in my body. Because I had this feeling of not really knowing my own cycle. I didn't know when, yeah, what was really mine or what wasn't, because I was on the pill, you know, so you take it every day. And then you can easily control when you want to have your period and when not, so it felt a bit artificial." ~ Womxn, abortion, interview

Within the survey data, the most frequently reported reason for not using contraception, cited by 40% of survey participants, was a desire to avoid hormones (Table 4).

Disadvantages of condoms

In both the interviews and the survey data, condoms were not always perceived as user-friendly. Specifically, people experienced sex with condoms as less pleasurable. Consequently, condom users often reported inconsistent use: they often mentioned that they 'forgot' to use a condom 'in the heat of the moment'. Unlike mxn, womxn themselves did not mention barriers to using condoms, except for an occasional latex allergy.

"[my wife] finds it very unpleasant to be on the pill, so we always use condoms. [...] at the time, I always found it pleasant to try without [a condom] for a little while [during sex]." ~ Mxn, abortion, interview

Disadvantages of long-acting contraception

Participants had negative experiences themselves or held negative expectations about long-acting contraceptive methods, which led them to avoid these options. For example, womxn with heavy menstrual bleeding preferred not to use a copper IUD, as it can intensify menstruation. In some cases, IUDs were no longer correctly positioned or caused prolonged discomfort. Womxn also feared the pain of insertion and cited this as a reason not to choose an IUD. Further, related to vasectomy, some mxn explained that they found it too drastic, considered themselves too young (especially in light of future fertility desires), or were deterred by the cost.

"She's on the pill, so let's hope it works. I'm not, I'm not going to get snipped [vasectomy] or whatever it's called. I'm not doing that." ~ Mxn, carried to term, interview

Dissatisfaction with contraception counseling

Interviews revealed that negative perceptions of (hormonal) contraception were often reinforced by unsatisfactory experiences with healthcare providers (HCPs). A recurring theme was the sense of not being taken seriously by HCPs, particularly regarding reported side effects. When concerns about (hormonal) contraception were inadequately addressed by HCPs, this created additional barriers to finding appropriate contraception. For some, a lack of trust in HCPs ultimately discouraged them from seeking further

guidance. In contrast, those who felt genuinely listened to during counseling described this as a deeply positive experience that supported their decision-making.

Womxn who wanted to avoid hormones due to side effects specifically, had little confidence in receiving good guidance from HCPs. They expressed feelings of indignation and unwanted direction from HCPs, describing interactions where HCP's preferences seemed to override their own. They also felt that HCPs lacked knowledge about the effects of hormones on womxn's bodies and available non-hormonal methods.

"It was very much like: maybe you should get an IUD or one of those things under your arm [Implanon]. Totally not taking into account what my stance is about hormones and so on. That's why I didn't feel heard at all, while looking for something that suited me. [...]. I did not feel heard in what I find important as values and that I don't want chemical hormones and things like that. To get that as advice? I thought then yes, that was simply not appropriate." ~ Womxn, abortion, interview

These challenges in contraceptive counseling were present before the unexpected pregnancy and persisted afterward. Womxn with low expectations of HCPs had their dissatisfaction reaffirmed in post-pregnancy counseling. After the pregnancy, challenges of finding a suitable method often remained. Some switched to another (sometimes more effective) method, but many continued using the same method.

"I've heard these stories about what contraceptives exist quite often. I know what's out there. I know how it works. I know what we use and why we use it, why we use specific contraceptives. [...] You're not going to solve this by telling me how an IUD works. You know what I mean?" ~ Mxn, abortion, interview

Perspectives on fertility

Sub- or infertility

In both the interviews and survey, participating mxn and womxn described perceiving themselves or their (sexual) partner as less fertile or even infertile, which led them to believe they were not at risk of pregnancy. As a result, they reported using contraception less consistently or not at all. Approximately 13% of survey participants indicated that their reason for not using contraception was the belief that they, or their partner, were infertile or had reduced fertility (Table 4).

These perceptions of subfertility or infertility were shaped either by direct experiences (such as previous difficulties conceiving) or indirectly through stories shared by others. Moreover, some participants described that they were told by HCPs that they were potentially less fertile. Consequently, when these participants wanted to have children

in the future, they often prepared for a long pathway to conceiving. In other cases, there were medical circumstances why people expected to be less fertile, including PCOS.

"The first pregnancy she had was a miscarriage. That one was pretty quick though. Then, a fallopian tube was removed. For that second one, it took a very long time before she was pregnant. So, we were like well, it will be the same this time then." ~ Mxn, carried to term, interview

Infertility vs fertility paradox

Paradoxically, both in the interviews and in the survey, participants spoke about fertility as something desirable, even when they did not want to become pregnant. Some participants were curious about their fertility. Others spoke with a sense of pride about a swift conception and emphasized the immediacy of it.

"We did not use a condom that one time and then [the pregnancy] just happened quite quickly." ~ Womxn, carried to term, survey

Infertility was also something that people feared, especially when participants spoke about people in their environment who had trouble conceiving. Moreover, womxn also mentioned they feared that having a history of long-term hormonal contraceptive use (e.g., the oral contraceptive pill and the hormonal IUD) may have affected their fertility. In some cases, this led to avoidance of hormonal contraception.

"Because I thought, I've been on the pill for 10 years now. I actually have no idea about my fertility status. And another friend of mine, who really wanted a child, also had fertility problems and was already in an IVF process. And well, I was very shocked by that, so those two things happened simultaneously. Then I thought, maybe I should stop taking the pill too. Not because I wanted children, but because I wanted to understand my status and whether I should be worried. So, I stopped taking the pill..." ~ Womxn, carried to term, interview

Moreover, perceptions of fertility seemed connected to identity and ideas about masculinity and femininity. Womxn found the absence of their cycle unpleasant and associated it with losing connection with a part of themselves. They commented on losing a part of themselves due to hormonal influences, using words of 'being a different person' or 'not themselves.'

"I don't want [an unexpected pregnancy] again. So that was the reason for my decision, but I wasn't fully behind [the IUD] either. I've had [the IUD] removed again now because,

well, like I said; I just don't want something in my body [...] and when my relationship ended, I had it taken out pretty quickly too." ~ Womxn, abortion, interview

In the survey, it was striking how many participants talked about their preference for 'nature' and 'cleansing' their bodies from hormonal contraception, mentioning their perceived long-term impact on their identity and fertility. This finding is supported by 40% of survey participants who did not use contraception to avoid hormones (Table 4).

"I had been using contraception for over 11 years and decided to stop in [year]. I wanted to cleanse my body and restore a regular menstrual cycle." ~ Womxn, carried to term, survey

"I don't want to take hormones; I want to treat my body as naturally as possible and be mindful about what I put into it." ~ Womxn, abortion, survey

Interestingly, mxn also made this connection between their identity and fertility, struggling with similar feelings of impaired masculine identity when thinking about the option to have a vasectomy.

"Look, I find [vasectomy] very difficult, because yes, it is a certain feeling. That you lose a part of yourself as it were." ~ Mxn, carried to term, interview

Confidence in contraception

In contrast to the theme 'perspectives on fertility', this theme focuses on participants perceived likelihood of pregnancy occurring when using contraception, and their confidence in preventing it, rather than assessing their fertility without contraception.

Underestimating risk

Participants mentioned that 'in the heat of the moment' during sexual interaction, awareness of pregnancy risk faded. Some acknowledged knowing the risk but still believed it would not happen to them, often reinforced by previous unprotected sex without resulting in pregnancy. Some participants, aware of their fertility because of past pregnancies, did not choose more effective contraception, underestimating the risk of it happening again. Others were consciously aware of the risks they were taking but took it anyway.

"We did use [a condom], but it wasn't always a success, obviously. Because you're so used to not using it [previously being on the pill]. Yes, it was just a moment without. Which is actually quite a conscious risk. [...] Now, I really wouldn't take that risk anymore." ~ Mxn, carried to term, interview

Confidence in fertility tracking

Participants tracked their fertile days in different ways such as calendar methods, predicting fertile windows using apps, devices with algorithms, or sympto-thermal methods. Participants using forms of fertility tracking often spoke confidently about it and appeared unaware of known reliability differences between methods (20). This stood out both in the interviews and the survey. Trust in calendar methods was based on past success ('it worked for a long time' or 'it was always accurate'). Those using algorithm-based methods often had overly high expectations of their efficacy and compared it to structured sympto-thermal methods such as Sensiplan® (the Dutch version of Natural Family Planning). Participants did not distinguish between ‹method effectiveness› under optimal use and ‹actual effectiveness› in daily life. They often defended methods as ‹very safe,› with failures attributed to their own errors rather than method flaws.

"When we heard about [fertility tracking app] there was actually indeed the promise that, if you stick to the predictions properly and are disciplined, then in principle you should be pretty safe. Because yes, if you don't have sex around your ovulation, then the chances of pregnancy are essentially pretty low." ~ Mxn, abortion, interview

Both in the interview and the survey, participants described that they thought they were less fertile during certain days of the menstrual cycle. People clearly spoke of days that were dichotomously 'fertile' or 'infertile', often referred to respectively as 'red' or 'green' days. In reality, fertility fluctuates throughout the cycle (19). Many participants assumed that the fertile window indicated by apps included a safety margin, leading them to occasionally take (perceived as low) risks at the start of the 'red' days. However, fertile windows have been shown to often be broader than apps suggest (20), as most apps tend to underestimate the length of the fertile window (21). People placed trust in predictions that were made by fertility tracking apps, especially those who rely on basal body temperature or involve tracking devices. Remarkably, participants often felt protected by the simplified fertile window and defended the method, attributing any failure to personal misjudgment.

"We had unprotected sex at that time with the understanding that, according to the app, she should not be fertile in any way at that moment. So that was the contraception at that time because she cannot tolerate contraceptive pills well due to the hormones. Well, the usual complaints because of that, so we either used a condom or only when the app indicated that there was really no possibility of pregnancy at that moment." ~ Mxn, carried to term, interview

When conception had not occurred in previously tracked cycles, participants felt strengthened in their perceptions that the method was effective or that they could afford to be less strict.

> *"... but [sex] still happened on one of those red days. And then it went well for a month and you think: 'oh that first day... It is the day furthest from ovulation and without ejaculation...' but [the pregnancy] still occurred." ~ Womxn, abortion, interview*

Morning-after pill

Participants who realized they had taken a risk sometimes took an extra step to avoid a pregnancy by using a morning-after pill. Generally, participants used the morning-after pill as an extra safety net or 'just in case'. They were not aware that the most common morning-after pill is only effective before ovulation but not after ovulation, and that an emergency IUD can be provided by a HCP.

> *"If afterwards you start reading up on how something like [the morning after pill] works, then you actually would have known in advance that it probably wouldn't have worked or at least that the chance would be very small. But at that time, you often don't think about that either. You know that everything doesn't always work but you actually always assume that it works." ~ Mxn, carried to term, interview*

Shock upon discovering the pregnancy

Some participants reported that it was unclear to them how conception occurred despite consistent contraceptive use, as they did not notice any failures prior to learning of the pregnancy. In the interviews, these participants speculated that conception may have been caused by (unverified) condom tears or leakage, disease and vomiting for failure of oral contraceptives, and displacement of IUDs. Potentially, this reflects the failure rate of contraception. What stood out in these interviews were the presence of uncertainty about what led to the pregnancy and the experienced shock or surprise upon discovering the pregnancy. These interview findings were reflected in the survey findings.

> *"I really didn't understand how it could happen, because I always take the pill. I wake up at night if I've forgotten to take it, so I can still take it on time. [...] It was just a kind of astonishment, that I couldn't understand how this could have happened." ~ Womxn, abortion, interview*

Additionally, all survey participants who had a copper IUD during the period of conception did not know why it failed (n = 14). Others reported that their IUD was misplaced or had shifted without their knowledge.

Communication between partners

When partners did not discuss their desire for children and their considerations regarding contraception, they sometimes made incorrect assumptions about their contraceptive use. A lack of open communication meant that issues related to fertility perceptions, contraceptive preferences and disadvantages, and ambiguous desires for children remained implicit.

Generally, mxn were less involved in the contraceptive methods used. Mxn often assumed their partner managed contraception well, sometimes based on the belief that their partner was generally conscientious.

"...she was on the pill [...]She has always been very strict about that, and at some point, I started to trust her because that's how it was." ~Mxn, abortion, interview

Mxn believed their partner knew when they were fertile and when protection was needed. This unspoken, gendered pattern persisted, with trust not always being consciously or explicitly given to the womxn.

"But anyway, yes, I'm a man, so I don't concern myself with [contraception] that much. Let me put it this way, women are always a bit more determinative in that regard."~Mxn, carried to term, interview

In some cases, the reverse was true, with womxn leaving the checking of condoms for leaks after sex up to mxn. The combination of high trust and low communication stood out.

Furthermore, he extent to which people's desire for children was explicitly discussed with their partner seemed to affect contraceptive use behavior. Some indicated they were not actively thinking about their desire for children, and consequently, preventing pregnancy was not a concern on the top of their minds. Contraception was then not discussed. Participants also expressed uncertainty about their partners' desire for children.

"I had a very strong desire to have children, always. She a bit too, but it wasn't something that fit into her life for a very long time, I think. When she met me, it only started to come to life a bit, I think. Then, there was also a bit more calm in her life. That desire has always been with me, and with her, it came with the years. We never talked about planning it." ~ Mxn, carried to term, interview

Moreover, some people mentioned that they had not yet considered using contraception in the period prior to their unexpected pregnancy, which was also mentioned in the survey (Table 4).

Nevertheless, not all people live in circumstances in which they are able and safe to have these kinds of conversations about contraception with their partner. In the survey, two participants indicated that their reason for not using contraception was that their partner was opposed to it (Table 4).

"Partner was emotionally abusive, so it was impossible to address any issues [related to contraception] without escalation." ~ Womxn, abortion, survey

Between the lines: Underlying patterns

Especially in the interviews, but also in the open-ended survey answers, there were several underlying patterns in people's narratives about their contraceptive use during the period preceding their unexpected pregnancy.

Shame

It was striking how there was a sense of 'confessing a mistake' in participants' narratives when something went wrong with contraception. For instance, unprotected sex was often framed as a mistake, especially among womxn, potentially because for womxn inattentiveness is more socially acceptable than deliberate risky behavior (22). Womxn and mxn expressed feeling foolish or stupid, often with a hint of shame in their words. They seemed to have forgotten the accumulation of barriers leading up to this point. Participants found it difficult at times to talk about their unexpected pregnancy and were reluctant to share their experiences with others.

"No, [I did not share it] actually. Not with friends either. Despite being very open with them, I felt this was just a little too private. I didn't feel the need to discuss it with others besides my partner. [...] I can't explain why because I discuss quite a lot of private things with my girlfriends. With this, I was like 'no, not this'. Maybe also a kind of shame. You always have girlfriends around you who want to get pregnant, or it doesn't work out or they had a hard time getting pregnant, that it eventually did work out but that it became very difficult. Also, maybe a kind of shame that I was not careful enough, that it could have happened." ~ Womxn, abortion, interview

Such feelings of shame could be intensified by the approach of HCPs, especially when these HCPs seemed to assume a lack of knowledge or ignorance. Participants who experienced these situations with HCPs spoke about them with indignation. They

seemed to suggest that a lack of knowledge was not the issue and perceived additional explanations about conception and contraception as insulting.

"It was just really odd because I came [after an abortion, at the family doctor], I think for my birth control pill, and then you kind of feel like, yeah, 'you didn't do it right' or something. Yeah, you should have arranged it better." ~ Womxn, abortion, interview

The shame associated with contraception prior to an unexpected pregnancy may also be reflected in the survey data, as approximately 5% of the participants chose not to disclose their contraceptive use (Table 2).

Imbalanced gendered responsibility

Contraceptive responsibility was predominantly seen as a womxn's task rather than a shared responsibility. Few mxn spoke about contraception as something 'we chose'; it was usually 'she' who did it, often accompanied by gestures indicating they were distancing themselves from the responsibility, for instance by nodding toward some distant point.

"But well, I'm a man, so I don't deal with [contraception] so much." ~ Mxn, carried to term, interview

Some mxn expressed a desire to share contraceptive responsibility and in hindsight wished they had been more involved. Their language revealed conflicting norms: on the one hand, they wanted to share the burden of contraception, and on the other hand, they respected the womxn's autonomy over her own body. Supporting the partner in making a choice and receiving contraceptive care was less often central, but some mxn found ways to support the womxn.

"Ultimately, [choosing contraception] is her choice. I left that with her. Well, eventually we did go to her doctor and got information. Turns out there's an IUD these days with one hormone instead of two hormones. I was also fully present with all the information, even with placing the IUD, because she liked that." ~ Mxn, abortion, interview

Womxn shared expressions of unfairness about this unequal distribution. This was in some cases a reason to transfer the responsibility to the mxn, by suggesting vasectomy or to involve the mxn in fertility tracking.

"I still sometimes think it's unfair that it just works that way that [responsibility] is always on the woman." ~ Womxn, abortion, interview

Sexual pleasure

When participants did not use condoms, had sex on a 'red day,' or took a deliberate risk, they often used vague terms like 'forgot,' 'just this once,' or 'in the heat of the moment.' Sexual pleasure, while rarely mentioned explicitly, may also have influenced contraceptive decisions. Even though the non-use of condoms was not explicitly linked to lower perceived pleasure during condom-protected sex, remarks were made about other people commenting on their non-use of condoms as an indicator of high sex drive and low self-control. These comments were experienced as judgmental.

" I've received the particular reaction of 'well, you're REALLY enjoying it' [emphasis in original] or 'hasn't anyone ever told you how children are made' or 'don't you think it's a bit fast, [having children] so close together' [...] 'have you had biology lessons', that kind of comments." ~ Mxn, carried to term, interview

Although sexual pleasure and enjoyment were rarely explicitly mentioned, it likely played a role in not using contraception, especially around using condoms, as discussed before. This issue was also rarely discussed among partners, and other contraceptive methods were not adopted.

Decisional inertia

Both in the interviews and the survey, participants described a prolonged search for a suitable contraceptive method, during which they tried several options but failed to find one that met their needs due to the above-mentioned negative experiences and perceptions. This sometimes resulted in a (temporary) break from contraception. For several reasons, decision-making and implementing this was postponed, leading to some sort of in-between state which we describe as decisional inertia.

In participants' stories, we saw a pattern in which a combination of these factors ultimately led to a pregnancy. For example, when no ideal method was found due to experienced side effects or negative expectations, this was followed by a period in which people (temporarily) reverted to using condoms and/or tracking fertile days. Then, something went wrong in applying these methods or their use was inconsistent. The quotes below illustrate how each method had its limitations, and how eventually they were discontinued altogether.

"The problem now is that I react quite poorly to contraception. [...] When I used the pill, back then, in my early twenties, I tried a lot of different types of contraception: all kinds of pills, [mentions brands], had an IUD as well, but the result was that I was bleeding every day instead of developing a regular cycle. So I stopped using all of it." ~ Womxn, carried to term, interview

"I stopped using [contraception] at some point, because the pill wasn't good for me in terms of hormones and mood swings and things like that. So yes, after having my children, I didn't use any contraception anymore, except for the withdrawal method. That can easily go wrong. It's not very reliable, of course. And that's how it went wrong." ~ Womxn, abortion, interview

Some participants mentioned that they were not using contraception because they usually had no penis-in-vagina sex (approximately 11% of the survey participants; Table 4).

"Had been in a long-term relationship with a woman. I was about to get an IUD, but it was too late. I got pregnant from the first sex I had with a man." ~ Womxn, abortion, survey

Participants also mentioned that they were still deciding on a contraceptive method when they became pregnant, or that they already had specific plans to use contraception in the near future but had not yet implemented them.

"One thing led to another, I wanted to start the pill again, but I got pregnant the first time." ~ Womxn, abortion, survey

Some participants explicitly mentioned structural barriers that contributed to their stance of inertia. For instance, participants described initial reluctance to get an IUD without pain management medication but chose to have one placed during the abortion procedure which provided anesthesia. Another participant described that they experienced financial barriers that prevented her and her partner from having a vasectomy right away.

"Yes, we actually already decided to have my husband get a vasectomy. The only thing was, it really costs 700 to 800 euros and you can only adjust your health insurance at the end of the year." ~ Womxn, abortion, interview

Similar patterns were observed when participants reported that they usually used contraception, but normal routines were interrupted. This could create a vacuum due to changes in relationship status, pregnancy, adjustment to new parenthood, or shifting contraceptive responsibility (e.g., in preparation for a vasectomy).

"She does take birth control only of course at the time she had [...] a different kind of pill that you take just after pregnancy, if you're breastfeeding, that breastfeeding pill. [...] So she had resolved to switch to that other pill and then first detox from that first pill for two months. Well, you can feel it coming...maybe we were not quite careful enough during that period" ~ Mxn, carried to term, interview

Differences between survey and interview reasons

Most reasons for not using or inconsistently using contraception reported in the survey also appeared in the interview data, though some were absent and thus not included in the main qualitative findings. Therefore we highlight them here. Ample survey participants, mainly those who ultimately chose to continue their pregnancy, indicated that their reason for not using contraception was due to their latent desire to become pregnant (Table 4). These survey participants also often chose less reliable methods and seemed less concerned about the risk of pregnancy.

"I felt like if it happens, then it was meant to be." ~ Womxn, carried to term, survey

This theme did not emerge in the interview data. Many survey participants indicated a desire to conceive, sometimes within a relatively short time frame (e.g., within two years), even though their pregnancies were unexpected. In contrast, most interviewees clearly stated that they did not wish to conceive. This difference between the survey sample and the smaller interview subsample, may be due to the selection process. Although the interviewees were randomly selected from the base of consenting survey participants, the interview invitation specifically mentioned a focus on unexpected pregnancy experiences. Terms such as unexpected, unplanned and unwanted pregnancy are easily conflated. As a result, some invitees with positive feelings about their pregnancy may have concluded they were ineligible to participate in the interviews. This potentially led to an overrepresentation of those with higher unexpectedness of the pregnancy within the interview subset.

Other reasons that were mentioned in the survey, but were not present in the interviews, were related to religious, financial or medical reasons to not use contraception.

Discussion

The current study investigated contraceptive experiences of both womxn and mxn prior to their recently experienced unexpected pregnancy, in a context where contraceptive care is relatively accessible (i.e., the Netherlands). We analyzed data from in-depth interviews and open-ended survey questions to capture the complexity of people's lived experiences. Within our sample of people who recently experienced an unexpected pregnancy, many reported inconsistent contraceptive use in the period leading to the pregnancy, while others did not use any form of contraception in this period, which aligns with previous findings (3, 23). Among those who did use contraception, condoms and the oral contraceptive pill emerged as the most commonly reported methods, followed by 'natural' methods such as withdrawal and fertility tracking apps.

We identified five key themes that contributed to inconsistent, failed, or non-use of contraception, that were present in both the interview and survey data. First, participants shared elaborately about their negative experiences with contraception (such as side effects from hormonal methods and user barriers for condoms). Second, participants' perceptions of fertility contributed to inconsistent and non-use of contraception, including beliefs about being infertile and wanting to conceive in the future. Third, trust in the effectiveness of contraceptive methods and in their partners' correct usage influenced contraceptive behavior. Fourth, a lack of communication between partners regarding fertility, family planning desires, and contraceptive preferences often led to misalignment. Finally, underlying patterns such as implicit gender norms placed the responsibility for contraception predominantly on womxn, shaping both expectations and behaviors. In people's narratives on contraceptive use prior to an unexpected pregnancy, patterns of shame and taboo were highly prevalent.

Discussion in the context of other literature

Although many people wish to avoid pregnancy, they often struggle to find suitable contraception (24). Participants had often tried several contraceptive methods but described that nothing worked for them. Previous studies found that people who experienced an unexpected pregnancy were prescribed significantly more different contraceptive methods compared to those without such pregnancies (25). From our data, a pattern became clear in which participants reported discontinuing a contraceptive method due to negative experiences, then postponing decisions about alternatives. During this 'vacuum' period, they often used no contraception or relied on methods like condoms, fertility tracking, or withdrawal. After this, no clear choice was made, contraception was not discussed, and no appointments with HCP's were scheduled to explore options. This pattern resembles common health-related avoidance behaviors, where people delay action despite intentions, often due to psychological factors like cognitive dissonance and perceived barriers such as effort, cost, or lack of support (26, 27).

Our results show that the struggle to find suitable contraception is often linked to dissatisfaction with available options, which aligns with previous findings (3, 11, 28, 29). Among participants with recent unexpected pregnancies, many reported negative experiences with hormonal contraception and preferred to avoid these methods. Additionally, some viewed hormonal methods as unnatural and disruptive to their bodily processes. In these descriptions, fertility was closely tied to identity: womxn expressed unease about losing their menstrual cycle and associated it with a diminished sense of self, a theme echoed in earlier research (30). Interestingly, mxn also linked natural fertility to masculinity and expressed ambivalence about vasectomy in our study and in others (31). Concerns around hormonal contraception are often dismissed as ignorance or misinformation (32). Media, including social media and peer narratives, may indeed

reinforce existing concerns and may include misinformation (33). However, our data show that concerns related to hormonal contraception are not only based on media and narratives but are primarily grounded in people's earlier negative experiences. Dismissing people as being misinformed, without addressing their lived experiences, is cutting them short and may eventually erode trust in HCPs (34).

Indeed, in the current study participants expressed that they felt they were not listened to by HCPs during contraceptive counseling. They described a mismatch between their needs and the care provided. Similar mismatches were reported in a Dutch study comparing contraceptive perspectives of HCPs and womxn experiencing unexpected pregnancies (28). One example is how side effects are discussed: HCPs often frame them in terms of measurable medical risks, while users describe them as vague but powerful feelings, such as not feeling like themselves or experiencing clarity after stopping hormonal contraception (35). Negative views on hormones were reinforced when HCPs did not address these feelings. This can lead to mistrust and a wider gap between HCPs and womxn (35). Many of our participants, particularly womxn, questioned whether science and healthcare truly prioritized their interests. Instead, they believed professionals lacked knowledge about the (perceived negative) effects of hormones on womxn's bodies and about non-hormonal alternatives. Dutch research also shows that providers themselves report knowledge gaps when counseling womxn considering fertility awareness methods (36).

Implications

Our results highlight an urgent need to improve contraceptive counseling. HCPs can be supported in applying more shared decision-making, particularly with people who may have different perspectives when it comes to accepting risks versus side effects. This includes training HCPs to adopt an open attitude while clearly explaining the pros and cons of various contraceptive methods. Further, contraceptive care should be viewed as an ongoing process that requires recurrent discussion from the start of people's reproductive lives (37), since contraceptive needs often evolve with changing circumstances. People who experienced an unexpected pregnancy were often in a period characterized by doubt about which method to use, or in a period of transition, like transitions in (sexual) relationships or postpartum periods. These periods may provide valuable opportunities to engage individuals in contraceptive counseling. Nevertheless, further research is needed to identify the best strategies for tailoring contraceptive counseling to individual needs at these critical moments.

At the same time, it is important to improve structural access to contraceptive care. Despite relatively accessible contraceptive care in the Netherlands, people still face barriers (such as unacceptable side effects and costs). To address this, practical obstacles must be reduced, including making contraceptive options equally available

across different HCPs, updating guidelines across disciplines, and advocating for and improving financial coverage via health insurance.

In addition, mxn should be more involved in contraceptive counseling and education. Our results show that gender imbalances persist, with womxn being primarily responsible for contraception. HCPs should more actively include mxn in contraceptive consultations. Moreover, a societal shift, such as changing gendered norms, is needed to promote mxn's responsibility in contraception. A pleasure-focused approach to contraception suitable for mxn may aid this (38), though further research into this matter is needed. Future studies should also examine mxn's role in contraceptive negotiation, addressing the paradox between their desire to share responsibility and respect for womxn's bodily autonomy.

Strengths and limitations

A key strength of this study lies in the integration of both interview and survey data, which allowed us to explore people's lived experiences with contraception prior to an unexpected pregnancy, while also assessing how common these experiences were across a broader population. We applied a narrative approach that centered on people's lived experiences, contributing to an in-depth understanding of what shaped their contraceptive behavior preceding an unexpected pregnancy. Rather than confining participants to rigid categories of contraceptive users and non-users, we acknowledged the complexity of contraceptive behavior, including inconsistent use. Further, in addition to womxn's perspectives on contraception, we also included perspectives of mxn, which remained largely unstudied in research on contraception to date (11, 12). Nevertheless, the interview data revealed that many participants used contraception inconsistently in the period prior to unexpected pregnancy. However, the design of the survey was based on a clear categorization between contraceptive users and non-users. Consequently, the interpretation of our survey data is complicated, as there were a lot of participants with inconsistent use and therefore overlap in both groups. This issue could also be relevant for future surveys on contraceptive use, such as national monitoring studies.

Additional limitations include the limited generalizability of our sample, which likely overrepresents Netherlands-born, highly educated participants. This may have resulted in not being able to capture themes that may play a role participants with lower socioeconomic position or other ethnic backgrounds. These groups may face distinct structural, cultural, or access-related factors influencing decision-making that are not fully reflected in our findings. Future research should purposefully include more socioeconomically and ethnically diverse populations. Furthermore, the interviews were conducted by white, highly educated womxn in the fertile age. This may have influenced our ability to fully recognize certain concerns, non-verbal cues, or cultural practices, given the social contexts in which we live and work. Moreover, we are aware of the

power dynamics inherent to qualitative research. Interviewers were trained to ask about contraceptive behavior openly and without judgment. While participants reported feeling comfortable, their perceptions of the interviewer may still have influenced what they chose to share.

Conclusion

Despite available sex education and abortion care in the Netherlands, many people still struggle to find suitable contraception. This struggle is often due to negative experiences and dissatisfaction with available contraceptive options, which can lead to a pattern of discontinuing contraception, using it inconsistently, or using less effective methods. Concerns about hormonal contraception were common and mainly based on earlier negative experiences. Participants felt dismissed during contraceptive counseling and cited a mismatch between their needs and the care provided. Our results highlight the need to enhance contraceptive counseling by implementing shared decision-making, tailoring care to people's life stage and context, removing barriers to more costly contraceptive methods, and increasing the involvement of mxn. Centering people's lived experiences is essential for effective contraceptive counseling; this begins with actively listening and responding openly to their experiences and considerations.

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Supplementary 1: Elaborate information on the BluePrint survey

In the survey, female participants were asked about the contraceptive methods they used during the time they conceived:

1. *Which contraceptive method(s) did you use during the period in which you became pregnant? Multiple answers are possible.*

- *I did not use contraception*
- *The pill*
- *Condoms*
- *The contraceptive injection*
- *The contraceptive patch*
- *The contraceptive ring (NuvaRing®)*
- *The contraceptive implant (Implanon®)*
- *A copper intrauterine device (IUD)*
- *A hormonal intrauterine device (IUD)*
- *A fertility tracking app*
- *I was sterilized*
- *My (sexual) partner was sterilized*
- *I did not have penis-in-vagina sex*
- *Withdrawal method (avoiding ejaculation inside the vagina)*
- *Other, namely: […]*
- *I don't know*
- *I prefer not to say*

No contraception

Participants who indicated that they had not used any contraception during the period in which the unintended pregnancy occurred (i.e., those who selected '*I did not use any contraception*' in the question above) were presented with this open-ended question:

1. *What were your reasons for not using contraception during the period in which you became pregnant? There are no right or wrong answers; every person and situation is different.*

To further explore their responses, they were then presented with a multiple-choice question, allowing for multiple answers:

2. *What other reasons, if any, influenced your decision not to use (other) contraception during the period in which you became pregnant?*

- *I had not thought about it yet*
- *I had (almost) no penis-in-vagina sex at that time*
- *I did not want to use contraceptive methods*
- *I wanted to become pregnant*
- *I believed/knew my partner was infertile or had reduced fertility*
- *I experienced (too many) side effects from contraceptive methods*
- *There were no contraceptive methods I was satisfied with*
- *My partner did not want me to use any contraceptive methods*
- *I found contraception too expensive*
- *I did not use contraception due to religious beliefs*
- *Other, namely: [...]*
- *I don't know*
- *I prefer not to say*

Only natural methods

Participants who reported using only a fertility tracking app, abstinence, or withdrawal were asked this open-ended question:

1. *What were your reasons for relying solely on methods such as withdrawal or fertility tracking apps, instead of using other contraceptive methods during the period in which you became pregnant? There are no right or wrong answers; every person and situation is different.*

To further explore their responses, they were then presented with the following multiple-choice question, allowing for multiple answers:

2. *What other reasons, if any, influenced you to use no other contraceptive methods during the period in which you became pregnant? Multiple answers are possible.'*

a. *I had not thought about it yet*

b. *I had (almost) no penis-in-vagina sex at that time*

c. *I did not want to use other contraceptive methods*

d. *I wanted to become pregnant*

e. *I believed/knew my partner was infertile or had reduced fertility*

f. *I experienced (too many) side effects from other contraceptive methods*

g. *There were no other contraceptive methods I was satisfied with*

h. *My partner did not want me to use any other contraceptive methods*

i. *I found other contraceptive methods too expensive*

j. *I did not use any other contraceptive methods due to religious beliefs*

k. *Other, namely: [...]*

l. *I don't know*

m. *I prefer not to say*

Contraceptive failure

Participants who reported using contraception during the period in which the unintended pregnancy occurred (i.e., those who did not select '*I did not use any contraception*' in the first question above) were asked:

1. *Sometimes, contraceptive methods fail. You indicated that you used contraception during the period in which you became pregnant. What happened that led to the pregnancy? There are no right or wrong answers; every person and situation is different.*

Supplementary 2 – Topic list with timeline

After informed consent was obtained, the interview started with showing the participant a schematic figure of a timeline divided before the pregnancy, during the pregnancy and after the pregnancy (Figure 1). Along the timeline, the main interview topics were indicated. The timeline served as a reminder of the topics for the interviewer and as a way of explaining the structure of the interview to the participants.

Data on contraceptive use before and after pregnancy was used for the current study. The specific interview questions are specified below. The complete interview contained other topics as well, such as healthcare experiences. This topic list served as a guideline; the interviews were semi-structured and narrative in nature. Interviewers were allowed to diverge from the topic list in response to the participants' answers.

At the start of the interview, participants were asked about their preference regarding the choice of words. In this study, we talk about unexpected pregnancy. Depending on what suited the participants' experience best, they chose either unexpected, unintended or unplanned pregnancy as a preferred term. Interviewers used the word of choice consistently during interviews.

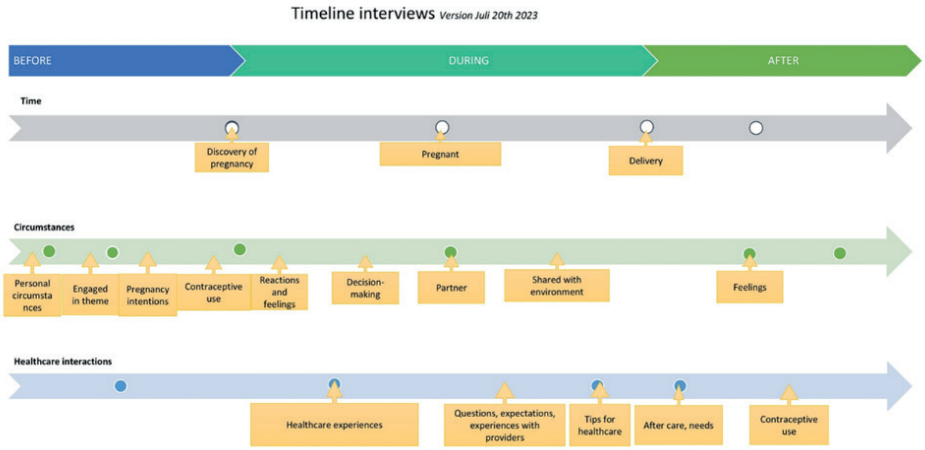

Figure 1: *Timeline interviews*

Topics that explicitly included contraception

During the pregnancy

Can you tell us about the moment you found out you were unexpectedly pregnant (for partners: when you found out you had made someone unexpectedly pregnant)?

Were you using contraception at the time? What were your considerations regarding contraception during that time?

- To what extent were you engaged with the theme of pregnancy and children at that time
    - Did you share this with the person who got (you) pregnant?
    - Did you discuss it with your partner, and if so, how?
    - How did your partner react? Did that reaction change over time?

After the pregnancy

Earlier you mentioned that [X] were your considerations/experiences regarding contraception before your (partners) pregnancy. How was that after your (partners) pregnancy?

Possible probes:

- Did you talk to a healthcare provider about contraception after your (partners) unexpected pregnancy?
- How would you like to receive information about contraception?