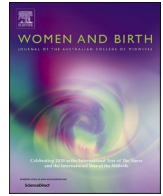




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The role of birth plans for shared decision-making around birth choices of pregnant women in maternity care: A scoping review

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ABSTRACT

Background: Birth plans can be used to facilitate shared decision-making in childbirth. A birth plan is a document reflecting women's preferences for birth, which they discuss with their maternity care provider.

Aim: This scoping review aims to synthesize current findings on the role of birth plans for shared decision-making around birth choices of pregnant women in maternity care.

Methods: We conducted a scoping review using the Joanna Briggs Institute three-step search strategy in multiple databases PubMed, EMBASE, CINAHL, Web of Science, PsycINFO. We synthesized the results using a meta-synthesis approach to identify themes and subthemes.

Results: From the 21 articles included, five themes were identified: *birth plan as a tool for shared decision-making, autonomy, sense of control, professionalism of the care provider, and trust*. Primarily, midwives seemed to use birth plans to explore and facilitate women's choices around birth. Other healthcare providers involved in studies were obstetricians and nurses. The interrelationship between care providers and women, the attitude of care providers and women towards each other and the birth plan, and how providers and women use the birth plan influence shared decision-making.

Discussion and conclusion: Birth plans can facilitate shared decision-making, and women's sense of autonomy and control before, during, and after giving birth. When discussing the birth plan, exploring different scenarios may help women prepare for unforeseen circumstances. This will likely facilitate shared decision-making even if the birth process is not unfolding as hoped for.

Statement of significance

Problem or issue

Despite SDM being the norm in healthcare, practice seems to be lagging behind in maternity care. Birth plans are seen as an important tool in the implementation of SDM in maternity care practice, but their exact role is unclear.

What is already known

SDM is promoted in maternity care and stimulated by using birth plans as a key tool. Birth plans aim to function as a communication tool between women, their partners, and care providers.

What this paper adds

This paper summarizes current findings and gaps in the existing literature on the role of birth plans in SDM in maternity care.

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Introduction

The use of birth plans in childbirth is widely recommended by international agencies and the Dutch Integrated Maternity Care standard [1]. A birth plan is a tool reflecting a woman's preferences, expectations, and feelings about birth. It contributes to good maternity care because it can help to better tailor care to a pregnant woman's personal needs and situation by involving her in the care during pregnancy and birth [2,3]. A birth plan is a written or online document that a woman can fill out (together with her (birth)partner if applicable) and discuss with her care provider during pregnancy and childbirth [2].

Shared decision-making (SDM) is increasingly embraced in health literature and healthcare standards [4]. SDM is a process in which the care provider and the woman jointly consider what care choices suit the woman's situation and preferences best [4]. SDM is also promoted in maternity care, for example, through recommendations to use birth plans in accordance with SDM principles [1,5]. Despite SDM being the norm in healthcare, practice seems to be lagging behind in maternity care [6,7].

The birth plan aims to work as a communication tool between midwives, obstetricians, and pregnant women with their partners [8]. Several studies mention decision-making as a key purpose of birth plans [9]. However, only few studies include some level of discussion between women and their care provider [9]. Both the use of birth plans, as well as SDM in maternity care seem to be implemented insufficiently even in well defined birth choices such as planned cesarean section or induction of labor [6,7,10]. Tools for implementation of SDM have been explored, however there is no strong evidence in favor of acceptance or rejection of the effect of a birth plan on SDM, childbirth experience or women's satisfaction [11].

Whether the use of birth plans actually improves the process of SDM around birth choices in pregnant women is not clear, but potentially relevant. This scoping review aims to synthesize current findings on the role of birth plans for shared decision-making around birth choices of pregnant women in maternity care.

Methods

We used the steps of the framework of Arksey and O'Malley for conducting our scoping review and we performed the search in May 2021: (1) identifying the research question, (2) identifying relevant studies, (3) study selection, (4) charting the data, and (5) summarizing and reporting the results [12]. In addition, the Preferred Reporting Items for Systematic reviews and Meta-analyses extension for Scoping Reviews (PRISMA-ScR) Checklist was utilized for completeness and added in the appendix (Supplement 1). As the aim of this review was to describe the scope of this topic, the methodological quality of the studies was not a focus of the review, and a pooled analysis was not performed.

Step 1: identifying the research question

In consultation with a librarian specialist from Radboud University Nijmegen in the Netherlands, we developed a broad primary research question because we expected limited sources on this topic: What is known about the role of birth plans for shared decision-making around birth choices of pregnant women in maternity care? The primary research question was based on the PCC (population-concept-context) model of the Joanna Briggs Institute [13]. We included the following sub-questions to guide our analysis of the findings:

1. Which women's characteristics influence the use of birth plans for SDM?
2. Which provider characteristics influence the use of birth plans for facilitating SDM?
3. What influence does the implementation of birth plans have on SDM before, during, and after birth?

4. How can birth plans be used to facilitate SDM in unexpected situations (e.g., transfer between primary and secondary care, or in emergency situations)?

Step 2: identifying relevant studies

Drawing on other scoping reviews in the field of SDM and birth plans in maternity care, we determined the databases and our inclusion criteria. We created relevant searching terms for our literature search in cooperation with the library information specialist, using a Boolean combination of keywords, free words, and Medical Subject Headings. These literature searches were performed in the databases Pubmed, EMBASE, CINAHL, PsycINFO, and Web of Science in May 2021.

A definite search using all identified keywords and index terms was conducted across all included databases. Additionally, we searched the reference list of identified reports and articles for additional sources. No search for gray literature was performed because we wanted to focus primarily on scientific literature. The complete search strategy for all databases is listed in the [supplementary material](#) (Supplement 2).

Step 3: study selection

Inclusion and exclusion criteria outlined in [Table 1](#) were applied to the articles found in step two. Articles were retrieved from the database searches and exported to Endnote to eliminate duplicates. Based on our selection criteria, titles and abstracts were blind screened by two independent reviewers (1st and 2nd author) using the tool Rayyan; conflicts were resolved with the help of the last author. Subsequently, full-text articles were screened by the first and second authors, and the last author was involved in helping reach an agreement on conflicts. The study selection process is demonstrated in [Fig. 1](#).

Step 4: charting the data

Two reviewers independently extracted data after study selection, using a data extraction form illustrated in the [Table of Supplement 3](#). The first and second authors pilot tested the extraction form on three articles to assess if the form identified all subjects relevant to our research question. In this scoping review, relevant information that addressed the research aim was extracted using Atlas.ti8 and marking relevant information for our charting form in each article.

At this stage, a thematic analysis was also performed using Atlas.ti8 to code all included articles and to mark answers to our sub-questions in each article.

Data analysis was performed by the first and second authors, coding sections of included literature that yielded new information. These sections were the methods, results, discussion, and conclusion. We did not develop priori codes before examining the data. We inductively developed codes by immersing ourselves in the text and deriving codes from the data. As coding progressed and the number of aspects grew, they were grouped together into broader key aspects. Similar key aspects were then linked in broader dimensions. As new insights emerged from our data analysis, the coding index was refined. Based on the meaning and how many times a code was mentioned, we discovered five

Table 1
Inclusion and exclusion criteria used for study selection.

| Inclusion criteria | Exclusion criteria |
|--|--|
| All articles presenting primary research, using separate studies of systematic reviews | Articles in other languages than English |
| All research designs (qualitative and quantitative) | Plans or SDM in other contexts than pregnancy or birth |
| Articles describing the role of birth plans on SDM during pregnancy and birth | |
| Participants can be all types of pregnant women | |
| Articles in English | |

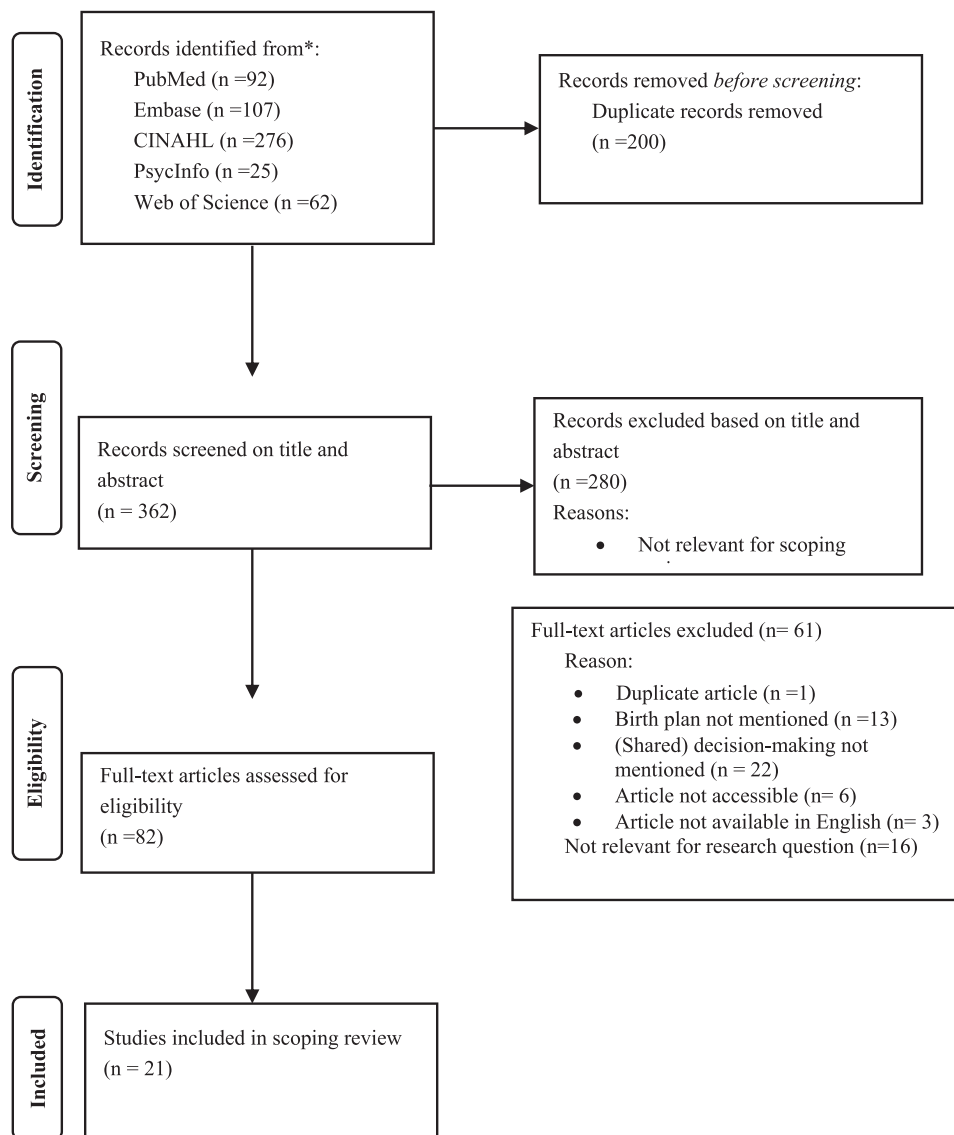


Fig. 1. Flow diagram presenting the literature selection process for the scoping review.

relevant main themes for our research question.

Findings

Selection process

We retrieved 562 relevant articles from the database searches. These articles were exported to EndNote, and 200 duplicates were eliminated. Based on our selection criteria, 362 abstracts were blind screened and 280 excluded. Subsequently, 82 full-text articles were screened, and 61 articles were excluded because they were not available in English, not accessible, did not mention birth plans or (shared) decision-making, or were duplicates. A total of 21 articles were included in the scoping review, as demonstrated in Fig. 1.

Study characteristics

We found thirteen qualitative studies [14–26], five quantitative studies [10,27–30] and three mixed-method studies that used quantitative and qualitative data [31–33]. Characteristics of the studies are presented in Table 2.

Studies were mainly from the United States [16,21,26,27,31], the

United Kingdom [18,19,22,30], the Netherlands [10,15,25], and Australia [20,28,33]. The main participants in the studies were pregnant women or women who had given birth [10,14,15,17–22,24,25,27–30,32,33]. Some studies focused on women who previously experienced traumatic childbirth [19,25]. Most of the studies were conducted in hospitals [10,14,17,20,23,25,27–30,32,33] and four studies were done in midwifery practices [15,16,21,28]. Birth plans were mainly discussed with midwives during antenatal care [14,18–20,22–24]. The care providers involved in creating the birth plans were midwives [14,18–20,22–24], nurses [16,21,26] and obstetricians [14,24].

Birth plans were, in most studies, described as a written document that included preferences, wishes, and specifications for management of labor, birth, or care for women and the baby after childbirth [10,14,15,19–22,24,26–31,33]. Five studies described birth plans as a communication tool for all involved in childbirth [16–18,22,32]. In most studies, birth plans contained information about pain management [14,20,24,27,29], place of birth [19,20,24], breast-feeding [26,33] and mode of birth [19,24,31].

Meta-analysis

Five themes emerged from the extracted data: *birth plan as a tool for*

SDM, autonomy, sense of control, professionalism of the care provider, and trust. Findings on the subquestions were integrated in these themes.

Theme 1: birth plan as a tool for SDM?

Birth plans were mentioned in many articles as tools for education or communication [16–18,20–23,27,29,31]. Based on these two terms, we created two subthemes. The first subtheme was education, which focused on the role of birth plans for the personal education of women in relation to preparation for and expectations of labor and birth. The second subtheme was communication, which relates to birth plans being used as a tool for communication between a pregnant woman, partner, and care provider.

Subtheme: education

One study described creating a birth plan as an educational process for women [29]. For women, creating and discussing the birth plan with their partner and care provider seemed to contribute to more realistic expectations [23]. The knowledge gained through creating a birth plan was described in several papers as beneficial for women, allowing them to consider their options prior to birth, to become aware of hospital policies, and to address areas of concern [16,23,29,33]. One woman in the study of Aragon et al. mentioned: "...being prepared and educated increased success in everything we did. It should especially be encouraged and supported in pregnancy and delivery. Having knowledge is empowering and enabling" [29]. Knowledge of pregnant women and their partners about different options and possibilities during and after birth seemed necessary for enhancing informed decision-making as mentioned by Aragon et al. [29]. Birth plans could therefore help women to be aware of these options by using decision aids and information resources when creating a birth plan, to enhance decision-making.

Subtheme: communication

Birth plans were described as a beneficial tool for women to communicate their preferences to their care providers [16–18,21,22,27,29,31,33]. Aragon et al. explored that the use birth plans could potentially have an essential role in conveying women's preferences effectively and thereby facilitate informed decision-making, which could lead to a better experience for women and their care providers [29].

The birth plan was also studied by de Loiola et al. as a tool for effective communication between professionals, such as nurses and obstetricians, because women express their wishes in the birth plan and the birth plan enables the integration between pregnant woman and healthcare providers, sharing all decisions in the delivery process [17]. Creating a birth plan promoted the communication between the couple and healthcare providers and the decision-making according to de Campos Silva et al., because couples explain what they want and ask questions and the doctor and nurses ask their opinions [23].

Women in the study of Moore et al. recommended the birth plan to other women because they found the birth plan helpful because it encouraged them to ask questions to their healthcare provider before making decisions for birth [33]. Doherty et al. also mentioned that a birth plan can be a preparatory tool for the relationship between healthcare providers and pregnant women: The healthcare providers are in the position to foster client participation in decision-making with regard to a birth plan through interaction at prenatal visits [16].

Some studies illustrated that birth plans were commonly used as a means for discussion [22,23,25,28,29,31]. A birth plan could help women have the support and the right birth experience for them [22]. One study mentioned that women who used a birth plan had a better experience with SDM than those who did not use a birth plan [30].

Labor is not the time to be making decisions as mentioned by Divall et al., and for women it is incredibly difficult to make an informed choice when they are giving birth. A birth plan is a way of communicating

things to midwives and of making informed decisions ahead of time which leaves pregnant women alone to concentrate solely on giving birth [22]. The effect of birth plans on decision-making under stress was also explored by Brown et al. [28]. Several women in their study mentioned that when confronted with decision-making under stress it was easier to make the appropriate choices because they had evaluated all the options in their birth plan with their care providers prior to labor [28].

The implementation of a birth plan consultation before birth in which the birth plan was discussed, was recommended as a routine in maternity care by de Campos Silva et al. A birth plan consultation enabled the couple to negotiate with their care providers and to get informed about different possibilities during and after birth [23].

Theme 2: autonomy

This theme described the influence of birth plans on women's autonomy during pregnancy and labor. Multiple studies described birth plans as a critical instrument for the empowerment and autonomy of women, sharing all decisions in the birth process [17,21–23,27,29,31]. The amount of autonomy women had during pregnancy and birth influenced how women experienced their birth. Women with more autonomy during pregnancy and birth seemed to have a better birth experience.

However, Rodrigues et al. noted that the birth plan does not generate actual autonomy for women, but could improve women's control over the birth process, as the tool can reduce women's fears and create an environment and philosophy that favor individualized obstetric care, ensuring respect for women's choices for qualified obstetric care since prenatal care. [17] To actually generate autonomy for women, a change in women's and providers' attitudes towards decision-making during labor and birth seemed necessary [17].

Theme 3: sense of control

Several studies mentioned that the amount of control women had during pregnancy and birth influenced their birth experience [21,23,27]. Women who felt they had more control during their birth had a better birth experience.

Cook et al. mentioned the effect on women of losing control during birth. Women who felt a loss of control during the birth process were not well supported in renegotiating their birth plan due to a stricken healthcare protocol that was not in the woman's control [24]. This finding highlights a possible connection between women's control over birth plan changes and their overall view of the birth process [24]. Women studied by Aragon et al. also acknowledged that a birth plan might promote a false sense of control or disappointment if not fully implemented [29].

Moreover, multiple studies emphasized the importance for women to be flexible in making requests because the course of a birth could not be predicted, and a birth plan might not be implemented as desired [21,22,29]. Two studies found that the more specific the birth plan was, the less flexible women were in terms of changes to their birth plan [23,24].

Some disadvantages of birth plans were found concerning flexibility when situations change during the birth process. According to providers and women, birth plans could lead to inflexibility and rigidity, potentially leading to poor outcomes [21,29]. Drastic changes to a woman's birth plan that allowed little or no control for the women had a great impact on their satisfaction [24].

Theme 4: professionalism of the care provider

This theme addressed care providers' attitude toward women and the birth plan.

Subtheme: attitude of care providers toward women

Women seemed to prefer care providers who respected women's values, integrity and dignity, and who involved them in decision-making [14]. The importance of women being involved in decision-making was described in several studies [14,20,21,29]. Women expected their care providers to make decisions together in a shared role, and women relied on the experience of midwives for advice and decisional support [20].

A difference in the attitude of care providers in primary and secondary care towards women was suggested by Petit-Steeghs et al. According to most women in this study, primary care midwives showed an interest in them, and were attentive when providing care [15]. In the hospital, many clients experienced a focus on the medical aspects of birth care and less attention to personal contact and emotional support [15].

The importance of care providers reading and respecting women's preferences in their birth plan was mentioned in three studies [15,28,31]. Care providers who did not read the birth plan or did not follow the wishes outlined in the birth plan gave the women the feeling of unpreparedness for birth and disappointed them.

Freedom of choice and wishes for medical management were also included in birth plans in several studies [15,31]. Various cases were stated by Cortezzo et al. in which women's freedom of choice was undermined when it did not correspond to the care protocol, such as the need for inducing labor [29]. Birth plans were, however, in this study created as a result of traumatic first childbirth.

Subtheme: attitude of care providers toward birth plans

The use of birth plans for SDM required flexibility from the care providers. Providers in the paper of Hollander et al. were advised to have a flexible approach in discussing the birth plan using the concept of SDM [25]. Aragon et al. advised care providers to include an acknowledgment of the unpredictable nature of childbirth in the birth plan and that women's preferences should be open to change to facilitate communication, increase women's satisfaction and promote decision-making [29].

How women and care providers deal with changes in original birth plans could determine women's birth experience as explored by Cook et al. When women experience limited changes in their birth plan and maintain some control over the decision-making around these changes to their plan, the changes did not seem to negatively impact their overall birth experience [24]. It was, therefore, recommended for care providers and women to review the birth plan together if they could no longer adhere to follow the original one, to make sure that women had control over the changes in their initial birth plan to improve their birth experience [18,24].

Theme 5: trust

This theme described the importance of trust between women and their care providers. The term *cohesiveness* of a team of community midwives was mentioned by Petit-Steeghs et al. [15]. In this study, women appreciated that they had met all midwives beforehand and were familiar with the midwife who attended the birth. Although often several midwives were involved in caring for a woman, all of them were aware of the woman's birth plan and medical file. Participants in one of the focus groups, who had a multidisciplinary first antenatal visit with primary and secondary/tertiary maternity care professionals, spoke about it in very favorable terms. Professionals were better informed and more easily accessible, creating the woman's trust [15].

Rodrigues de Loiola et al. described that the elaboration of the birth plan provided actions to strengthen the bond between pregnant women, their families, and health professionals. Strengthening the bond was also facilitated by giving information about best practices in childbirth and women's rights, such as the presence of a companion [17]. Westergren

et al. described that women mentioned the wish to be involved in decision-making in their birth plan [14]. The fact that women felt the need to state this wish in their birth plans explicitly might tell us something about the birth culture women expect to encounter [14].

The process of writing and discussing a birth plan in accordance with the principles of shared decision-making, can help strengthen the bond between women and their maternity care provider [17]. The birth plan could, as mentioned by Rodrigues de Loiola et al., establish a bond between mothers and health professionals, such as midwives, guaranteeing the quality of the women's information and strengthening the relationship of trust at the moment of birth [17]. Midwives with a caring and empathic attitude, involving women and their partners in creating their birth plan and decision-making, and communicating every step of the birth process to women was essential in facilitating SDM, as mentioned by Westergren et al. [14]. Lack of transparency in care providers about the birth progress seemed to negatively influence the expectations and experience for women [15].

Discussion

This scoping review summarizes current findings on the role of birth plans for SDM in maternity care. To our knowledge, this review is the first that focuses on the role of birth plans for SDM in maternity care. We found 21 articles mostly from high-income countries, mainly with a qualitative design.

Birth plans were mainly mentioned in studies as a means or tool to facilitate discussion and to educate women [16–18,20–23,25,27–29,31]. Women become aware of their concerns and wishes by developing a birth plan because they write and think about their preferences and wishes. When women become aware of their concerns, wishes, and preferences, they can have a better conversation with their care providers because they know what is important to them. This can lead to making better choices with their care providers through a SDM process. This indicates that women's knowledge about themselves and childbirth are crucial elements for ensuring that birth plans are successful in facilitating SDM.

In most maternity healthcare systems, women have more than one healthcare provider. For example, in the Netherlands, 91% of pregnant women start maternity care with community midwives, and 66% of them were transferred to obstetrician-led care during pregnancy or birth [34]. Almost all women see multiple care providers during the perinatal period, not only in the Netherlands but also in other countries [15,22,35]. It is not unlikely that a woman clarifies her values or preferences with one professional and gives birth assisted by another [35]. In this context, practicing SDM and ensuring continuity of care is challenging, both within and between professions. Implementation of interprofessional SDM (IP-SDM) requires specific attention, as it inevitably brings together professionals from different backgrounds, who must coordinate well to offer women the best possible care [36]. Implementation research is needed to identify key barriers and facilitators and turn ideals into everyday practice.

In the study of Hollander et al., many women attributed the cause of their traumatic birth experience primarily to lack and/or loss of control and issues of communication and practical/emotional support. Many women believed that their trauma could have been reduced or prevented by better communication and support of their care provider or if they themselves had asked for more or fewer interventions [37]. In the WHO recommendations for intrapartum care for a positive childbirth experience, findings also showed that many women wish to be in control of their birth process and like to be involved in decision-making around the use of interventions [38]. These findings highlight the importance of women discussing and creating the birth plan with their care providers about relevant scenarios and possible options associated with those scenarios during and after childbirth, so women stay in control as much as possible.

Women need to be involved in every step, especially if emergencies

arise during labor and birth, and recommended care goes against preferences women have voiced in their birth plans [15]. Involving women in these unpredictable situations and mentioning the changes in the wishes in women's birth plans are essential to maintaining a sense of control and autonomy. Moreover, it is essential that care providers who are anticipating changes in the women's birth process and their birth plans are sensitive to recognizing women's sense of control and autonomy, both in the pre-labor and pre-birth phase. If SDM can be maintained using birth plans, birth plans could, if appropriately used by providers and women, ultimately improve maternal outcomes such as the women's satisfaction after childbirth, measured by tools such as a Patient-reported Experience Measure (PREM) [39].

SDM is considered a moral imperative that should be implemented in all fields of healthcare, resulting in better-tailored care that positively impacts patient's health and well-being [1]. In the Netherlands, birth plans are recommended in the national care standard, and this standard states that pregnant women and their coordinating provider should compose a birth plan following SDM principles. However, the implementation could be better [1]. Something to consider is that part of SDM can also be that care providers know what women do or do not want and then discuss it. Moreover, it also helps to know how women view childbirth and what frame of reference, norms, and values they have. If women can share this information with their care provider, women could be able to communicate better with their care provider about their birth plan according to the SDM principles, which could lessen the risk of not discussing specific situations.

Although SDM is widely accepted as ideal on moral grounds, its implementation in routine maternity care seems to be lagging behind [10,37]. It is important to investigate why SDM is not implemented well in maternity care, despite tools such as a birth plan. Many barriers for implementing the birth plans and their influence on SDM mentioned by care providers in multiple studies are, for instance, insufficient time for information and deliberation and lack of competencies to give tailored information to patients with different backgrounds and education levels [40]. Women indicate similar barriers. They experience a lack of being listened to and of continuity in care. These barriers influence birth experiences and women's well-being during and after pregnancy and birth negatively [25]. Implementing SDM in maternity care could improve quality, as care will be better tailored to women's needs and values [1]. However, implementing SDM in maternity care could only improve the quality of maternity care if the barriers of the interprofessional context are overcome, and all stakeholders become committed to actively involving women in SDM.

Strengths and limitations

This scoping review is strengthened by following the criteria of the PRISMA guidelines for scoping reviews. We only included articles written in English or translated in English, so some papers may have been missed if they were not written in English. Furthermore, some of the studies that were included were quite old such as Moore et al. [33], Doherty et al. [16] and Brown and Lumley [28], which may limit the benefit of the findings in some practice contexts.

We aimed to find articles about the role of birth plans on SDM in women. However, in some articles, the term 'shared decision-making' was not mentioned and other words were used, such as 'making decisions together' or 'decision-making'. In all studies, however, there was at least some information about birth plans' role in making decisions, indicating that our research terms and technique suited our research question.

Recommendations for future research

The ultimate goal of birth plans is to improve women's birth experience. Patient Reported Experience Measures (PREMs), and SDM is one of the approaches used for this. Research to evaluate the use of birth

plans and their effect on PREMs and SDM is valuable.

Since multiple studies mentioned the importance of the provider's characteristics and their attitude towards birth plans, future research should focus on specific characteristics of providers that improve SDM and the use of birth plans. Furthermore, it is essential to examine how we can train future care providers to improve certain traits in case providers lack these traits, such as their attitude towards birth plans, to improve the use of birth plans and SDM.

The use of birth plans remains the subject of debate according to multiple studies we found, which raises the question whether the use of birth plans is the most effective way to demonstrate and facilitate SDM, which could be an interesting subject for further research.

Another aspect worth further exploration is whether certain models of maternity care are more than others facilitating the use of birth plans and/or shared decision-making.

Finally, further research is needed to examine the role of birth plans on interprofessional-SDM because multiple healthcare providers with different backgrounds are involved during labor and pregnancy.

Conclusion

In this scoping review, we set out to map existing findings on the role of birth plans for SDM around birth choices of pregnant women in maternity care from around the world. We gained insight that the use of birth plans stimulates communication with care providers, as well as autonomy and control for women and facilitates SDM. However, a supportive role of care providers seems an important requirement for facilitating SDM when using birth plans. The birth plan itself does not necessarily facilitate SDM; this depends on the way women and providers use the birth plan. When a birth plan is constructed, discussed, and acted upon following the principles of SDM, it potentially may contribute to women's involvement in maternity care and positively affect women's birthing experience. Future research on birth plans and their role on SDM in interprofessional maternity care is necessary.

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Author agreement

We, the undersigned, declare that this manuscript is original, has not been published before, and is not currently being considered for publication elsewhere.

Ethical approval

This scoping review was guided by ethical conduct referencing sources and respecting authorship.

CRediT authorship contribution statement

NSH, NSC, MN, MV, JD: The conception and design of the study, acquisition of data, analysis and interpretation of data. NSH, NSC, MN, CS, MV, JD: Drafting the article or revising it critically for important intellectual content. NSH, NSC, MN, CS, MV, JD: Final approval of the version to be submitted.

Declaration of Competing Interest

Not declared.

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performing the literature search for this scoping review.

Appendix A. Supplementary material

Supplementary data associated with this article can be found in the online version at [doi:10.1016/j.wombi.2022.11.008](https://doi.org/10.1016/j.wombi.2022.11.008).

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