



EDUCATIONAL TECHNOLOGIES FOR THE PROMOTION OF POSITIVE CHILDBIRTH EXPERIENCES: AN INTEGRATIVE REVIEW

Fernanda Honnef*

Silvana Silveira**

Jacqueline Silveira de Quadros***

Tassiane Ferreira Langendorf****

Cristiane Cardoso de Paula*****

Stela Maris de Mello Padoin*****

ABSTRACT

Objective: To identify the evidence about educational technologies used during pregnancy with women and companions to promote positive childbirth experiences. **Methods:** This is an integrative review conducted in LILACS, Scopus and Web of Science electronic databases in October 2022, where 5,553 productions were found, of which 32 were included in the study for analysis. **Results:** The technologies included educational guidance, prenatal support groups, birth plans, pamphlets, booklets, and individualized guidance that enabled positive experiences, such as spontaneous onset of labor, control in the childbirth process, pain relief, reduction of interventions, active participation of the companion, and births assisted in appropriate places and by skilled professionals. **Conclusion:** The technologies promote positive childbirth experiences, as they present favorable repercussions on the application of non-pharmacological pain relief methods, lower rates of labor induction, higher number of vaginal births, and greater participation of the woman and her companion in decision-making during labor and delivery.

Keywords: Educational technology. Prenatal care. Childbirth. Nursing. Review.

INTRODUCTION

Two decades after the World Health Organization (WHO) published a guideline with recommendations for care in normal birth, it can be emphasized that a qualified health system is able to provide evidence-based interventions⁽¹⁾. In addition, it is possible to see changes in the global landscape, and more women are assisted in health care facilities. However, while in some settings too few interventions are provided too late to women, in other settings women receive excessive and precipitated interventions⁽²⁾.

A suboptimal quality of care impedes attainment of the desired health outcomes and, in the scope of prenatal care, there is a need to overcome the idea that the number of appointments is related to the quality of care⁽³⁾.

One study found that when prenatal care for pregnant women is shared among health professionals, such as physicians and nurses, there is a 41% greater chance of compliance with guidelines compared to assistance carried out exclusively by physicians⁽⁴⁾.

Among the differences evidenced in the aforementioned study, it is possible to point out prenatal support and the quality of guidance regarding childbirth and obstetric practices beneficial to maternal and neonatal health, in an attempt to ensure the possibility of a positive birth⁽⁴⁾. A positive childbirth experience is understood as one that fulfils or exceeds a woman's prior personal and sociocultural beliefs and expectations, including giving birth to a healthy child in a clinically and psychologically safe environment, which requires the support of a

*Nurse. Doctoral candidate at the Nursing Graduate Program – (PPGEnf) of the Federal University of Santa Maria (UFSM). Member of the Research Group of Health Care of People, Families and Society (GP-PEFAS). Santa Maria, RS. Brazil. Email: femandah.honnef@gmail.com. ORCID id: <https://orcid.org/0000-0002-1866-1611>

**Resident Nurse in Obstetrical Nursing at the Franciscan University (UFN). Member of GP-PEFAS. Santa Maria, RS. Brazil. Email: silvanajuh@hotmail.com. ORCID id: <https://orcid.org/0000-0002-8099-0862>

***Nurse. PhD in Nursing – PPGEnf/UFSM. Member of GP-PEFAS. Santa Maria, RS. Brazil. Email: jacqueline_quadros@hotmail.com. ORCID id: 0000-0003-2443-9440.

****Nurse. PhD in Nursing. Professor of Undergraduate and Graduate Nursing at UFSM. Member of GP-PEFAS. Santa Maria, RS. Brazil. Email: tassiane.langendorf@ufsm.br. ORCID id: <https://orcid.org/0000-0002-5902-7449>

*****Nurse. PhD in Nursing. Professor of Undergraduate and Graduate Nursing at UFSM. Leader of GP-PEFAS. Santa Maria, RS. Brazil. Email: cristiane.paula@ufsm.br. ORCID id: <https://orcid.org/0000-0003-4122-5161>

*****Nurse. PhD in Nursing. Professor of Undergraduate and Graduate Nursing at UFSM. Member of GP-PEFAS. Santa Maria, RS. Brazil. Email: stela.padoin@ufsm.br. ORCID id: <https://orcid.org/0000-0003-3272-054x>

companion and technically competent clinical staff. In addition, it means respecting the physiology of labor and delivery for the woman to have a sense of personal achievement and control through involvement in decision-making, even when medical interventions are needed or desired⁽²⁾.

Along these lines, there are now educational technologies (ETs), which are a technical resource used in the teaching-learning process. In clinical practice, they become a health education tool to promote people's autonomy, with the indication of care practices that respect the physiology of labor and delivery⁽⁵⁾. This leads to the development of a critical-reflexive attitude for the pregnant women, with educational actions since prenatal care, such as support groups⁽⁶⁾, aiming at minimizing their unpreparedness for childbirth⁽⁷⁾ and promoting quality of life to the users⁽⁸⁾.

This paper's object of study are ETs and their repercussions on care during labor and delivery, and aims to summarize the evidence on this topic and to identify the types of technologies and impacts. The objective is thus to identify the evidence about educational technologies used during pregnancy with women and their companions to promote a positive birth experience.

METHOD

This is an integrative review of the literature, which consists of systematically gathering evidence of scientific knowledge about a particular topic or issue, providing a more comprehensive understanding of the subject under investigation⁽⁹⁾. The study encompassed five stages, the first of which consisted in formulating the problem based on the PICO acronym: P = Population: pregnant or parturient women and their companions; I = Interest: educational technologies; Co = Context: positive childbirth experience. Therefore, the review question was: What is the available scientific evidence on educational technologies developed for pregnant women and their companions to promote a positive childbirth experience?

The second stage comprised the literature search strategy and data collection. At this stage, eligibility criteria were defined regarding the population: studies with pregnant women,

parturients, puerperae and/or companions; there were no restrictions for the type of technology; the context of positive birth experience was considered independently of the type of delivery; primary studies published since the best practice guidelines⁽¹⁾ (from 1996 to 2022) in Portuguese, English or Spanish were included. Studies that did not evaluate the impact of the technology and the outcome of positive birth experience were excluded.

Moreover, the search strategy was defined based on the PICO components and tested in databases that contemplate health sciences, and terms combined using Boolean operators (AND and OR) were included. In LILACS (Latin American and Caribbean Center on Health Sciences Information) database, through the Virtual Health Library (VHL), the search strategy was: "*Parto*", "*Nascimento*", "*Parturição*", "*Parto Humanizado*", "*Humanização de Assistência ao Parto*", "*Parto Natural*", "*Parto Normal*" AND "*Tecnologia Educacional*", "*Educação em Saúde*", "*Tecnologia*", "*Jogos e Brinquedos*", "*Plano de parto*", "*Materiais de ensino*", "*Cartilhas*", "*Recursos Audiovisuais*" AND "*Saúde materna*", "*Acompanhantes Formais em Exames Físicos*", "*Parteira*", "*Gestantes*" e "*Parturientes*". In SCOPUS and Web of Science, MeSH terms and synonyms were combined: "medical chaperones", "maternal health", "pregnant women", "educational technology", "technology", "birth plan", "teaching materials", "audiovisual aids", "childbirth preparation", "parturition", "births" "childbirth", "humanized birth", "natural childbirth".

The search was conducted in each database in October 2022, totaling 5,553 documents that were exported into the Mendeley reference manager, where duplicates (132) were removed, and titles and abstracts were assessed for relevance. The 32 included articles were exported into Excel for analysis and extraction of information (Figure 1). In order to minimize possible bias, the selection was carried out by two independent reviewers, and the results were then compared. Where there was disagreement, a third reviewer screened the text, after which final consensus was reached.

In the third stage, the included studies were assessed. For the extraction of evidence, a form was used to characterize the studies containing

the following variables: authors and year of publication, study objective, educational technologies identified, target audience, and the factors that promote positive birth experiences.

The fourth stage comprised the critical appraisal of studies, which were ranked based on Melnyk and Fineout-Overholt's levels of evidence⁽¹¹⁾. In order to classify the retrieved

study, the first step is to identify the type of question, which may be: treatment/intervention and diagnosis; prognosis or health etiology; meaning or experience. The next step is to place the study in the pyramid depending on the level of scientific evidence⁽¹⁰⁻¹¹⁾.

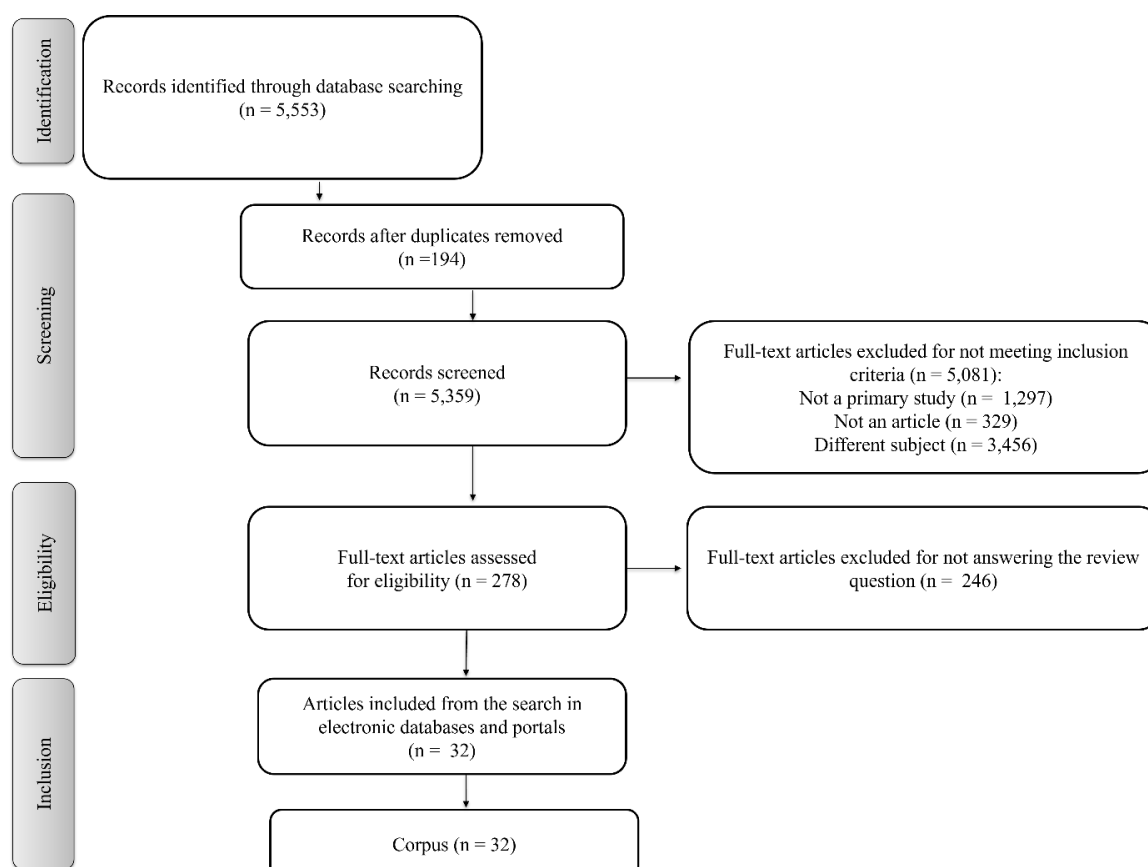


Figure 1. Flow diagram of the selection process for the integrative review, 2022.

Finally, the fifth stage comprised the analysis and synthesis of evidence, in which the results of each study were described regarding the topic of interest, the conclusions and limitations found.

RESULTS

A total of 32 studies were found, which were mostly quantitative (n = 21). For the analysis of

the level of evidence (LE), the research questions were highlighted in the original articles and identified according to the categories of intervention/treatment (I), prognosis (P) and meaning (M), described in table 1. The results indicate a prevalence of intervention/treatment studies, which are considered the best research designs.

Table 1. Characterization of the studies included in the integrative review, 2022.

Code/Year	LE	Educational Technology	Method/Type of study/ Population
A1/ 2017 ⁽¹²⁾	2/M	Verbal educational guidance.	Qualitative; Descriptive exploratory; N: 20; P: puerperae
A2/ 2010 ⁽¹³⁾	2/M	Educational procedures in	Qualitative; Descriptive exploratory; N: 9; P: pregnant women,

		households.	parturients and puerperae
A3/ 2019 ⁽¹⁴⁾	6/I	Guidance and information on non-pharmacological methods.	Quantitative; Cross-sectional; N: 586; P: puerperae
A4/ 2019 ⁽¹⁵⁾	2/M	Birth plan; Verbal information during labor and delivery.	Qualitative; Descriptive; N: 249; P: pregnant women and puerperae
A5/ 2017 ⁽¹⁶⁾	2/M	Prenatal classes. Childbirth stories.	Qualitative; Exploratory; N:17; P: pregnant women and puerperae
A6/ 2010 ⁽¹⁷⁾	2/I	CG: Pamphlet; IG1: booklet + audio; IG2: booklet.	Quantitative; RCT; CG: 201; IG1 e IG2: 395; N: 596 P: pregnant women
A7/ 2017 ⁽¹⁸⁾	2/I	IG: Short, time-intensive, 2.5-day course.	Quantitative; RCT; IG:15; CG:14; N: 29; P: pregnant women
A8/ 2013 ⁽¹⁹⁾	3/I	IG: Birth plan.	Quantitative; Cluster randomized trial; IG:404; CG: 501; N: 905; P: pregnant women and puerperae
A9/ 2015 ⁽²⁰⁾	3/I	IG: Maternal and child health handbook; CG: cards.	Quantitative; Controlled trial; IG: 320 CG: 320 P: women who have given birth 1 year earlier
A10/ 2010 ⁽²¹⁾	2/I	Birth plan.	Quantitative; RCT; IG: 155; CG: 141; P: pregnant women and puerperae
A11/ 2018 ⁽²²⁾	6/I	Childbirth preparation program.	Qualitative; Action research; N: 36; P: primigravid women
A12/ 2017 ⁽²³⁾	4/I	Prenatal support group.	Quantitative; Cohort; N: 183; P: pregnant women and puerperae
A13/ 2007 ⁽²⁴⁾	2/M	Birth plan program.	Qualitative; Exploratory; N: 9; P: pregnant women and puerperae
A14/ 2017 ⁽²⁵⁾	4/I	Birth plan.	Quantitative; Cohort; N: 81; P: pregnant women and puerperae
A15/ 2019 ⁽²⁶⁾	2/I	IG: Childbirth preparation course; CG: Standard care.	Quantitative; RCT; IG:64; CG:64; N: 128; P: pregnant women/puerperae
A16/ 2013 ⁽²⁷⁾	4/I	Individualized advice.	Quantitative; Cohort; N: 294; P: pregnant women
A17/ 2019 ⁽²⁸⁾	4/I	Text messages.	Quantitative; Cluster randomized trial; N: 157; P: women
A18/ 2019 ⁽²⁹⁾	2/I	IG: Education program; IG2: Book; CG: Treatment as usual.	Quantitative; RCT; N:137; P: primigravid women
A19/ 2017 ⁽³⁰⁾	2/I	CG: Planned childbirth educational program.	Quantitative; RCT; CG: 60; IG: 49; P: nulliparous pregnant women
A20/ 2017 ⁽³¹⁾	2/I	Sending text messages to study participants at different stages in their pregnancy.	Quantitative; Experimental RCT; IG: 260; CG: 248; P: pregnant women
A21/ 2020 ⁽³²⁾	2/M	Interdisciplinary group activity.	Qualitative; Descriptive exploratory; N: 96; P: pregnant women
A22/ 2021 ⁽³³⁾	2/P	Birth plan.	Quantitative; Case-control; IG: 178; CG: 279; P: women
A23/ 2020 ⁽³⁴⁾	3/I	IG: Sessions of companion-integrated childbirth preparation.	Quantitative; Quasi-experimental; IG: 35; CG: 35; P: primigravid women and companions
A24/ 2020 ⁽³⁵⁾	2/I	Short text messages via mobile phone.	Quantitative; Cluster randomized trial; IG1: 73; IG2: 62; CG: 51; P: partners
A25/ 2022 ⁽³⁶⁾	2/M	Birth plan.	Qualitative; Phenomenological; N: 7; P: pregnant women
A26/ 2022 ⁽³⁷⁾	2/I	Birth plan.	Quantitative; Cluster randomized parallel controlled trial; N: 461; IG: 214; CG: 247; P: women
A27/ 2021 ⁽³⁸⁾	4/P	Birth plan.	Quantitative; Descriptive; N: 422; P: pregnant women
A28/ 2021 ⁽³⁹⁾	2/I	Handbook "Preparing to accompany childbirth: what is important to know?"	Quantitative; RCT; IG: 35; CG: 38; P: companions
A29/ 2019 ⁽⁴⁰⁾	6/I	Prenatal guidance for pregnant women and companions	Quantitative; Cross-sectional; N: 3,500; P: puerperae
A38/ 2020 ⁽⁴¹⁾	2/I	IG1: Educational booklet; IG2: Educational software.	Quantitative; RCT; N: 153; IG1:50; IG2: 51; CG: 52; P: pregnant women
A39/ 2021 ⁽⁴²⁾	6/I	Senses of Birth: holograms, videos, role-playing, and other interactive techniques.	Mixed-methods; Descriptive; N: 555; P: pregnant women
A40/ 2021 ⁽⁴³⁾	6/I	Childbirth preparation classes.	Quantitative; Descriptive; IG: 100; CG: 100; P: pregnant women

Key: RCT: Randomized Controlled Trial; N: Number of participants; P: Population; IG: Intervention Group; CG: Control Group.

Source: elaborated by the authors.

It was possible to identify that ETs have positive obstetric outcomes, such as vaginal delivery, spontaneous onset of labor, control of the labor process, pain relief, perceived reduction of labor, reduction of interventions, active participation of the companion, births assisted in appropriate places and by skilled professionals, and more attention to postpartum care. The integrative review identified four types of ETs: childbirth preparation courses/classes^(16,18,22,23,26,29,30,34;42-43); teaching aids^(17,20,26,28,31,35;39;41); birth plan^(15,19,21,24,25;36-38); and verbal and individualized educational guidance^(12-15,27;40).

DISCUSSION

It is important to note that the four types of ETs identified in the literature are included in the WHO best practice recommendations on intrapartum care⁽¹⁾. Moreover, 2017 was the year with the highest number of published articles, 11 years after the recommendations were issued.

The ETs with the higher number of studies were courses, classes and programs for childbirth preparation^(16,18,22,23,26,29,30,34). The pregnant women's previous experiences were important, as they consisted of breathing exercises, familiarization with the physical and cognitive aspects of labor, and the development of a birth plan, fostering the action of choice⁽¹⁶⁾.

The support groups for pregnant women and pregnant couples provided moments to clear up any questions, contributing to the woman feeling safe during childbirth and expanding the couple's perspective about the process⁽³²⁾. Some studies utilized educational groups during prenatal care to assess childbirth self-efficacy. In a Randomized Controlled Trial (RCT) in the USA, items related to fear and pain of childbirth were addressed, showing an increase in spontaneous vaginal births and body awareness⁽¹⁸⁾. In a study conducted in New Zealand, educational actions aimed at first time mothers showed an increase in childbirth self-efficacy⁽²⁹⁾.

When the educational groups are associated with audiovisual resources, there is evidence of increase in spontaneous births, a reduction in complications and a sense of control over the childbirth process⁽²²⁾. The Planned Childbirth Educational Program (PCEP) provided

information related to the process of childbirth and preparation of pregnant women for childbirth. The program was implemented three times and was effective in reducing pregnancy-specific anxiety, as well as increased vaginal deliveries. In addition, the intervention showed reduction of labor induction and prolonged labor, improved weeks of gestation and 12% increase in birth weights in the intervention group⁽³⁰⁾.

An educational program developed in Malawi for primigravid women and their birth companions during late pregnancy showed reduction of childbirth fear and increased birth companion social support⁽³⁴⁾. In Iran, childbirth preparation classes for primigravid women promoted improvement in childbirth self-efficacy and reduced their worry about childbirth⁽⁴³⁾. A study conducted in Ghana, which developed group prenatal care addressing topics such as self-care and prevention of problems and danger signs during pregnancy, childbirth and puerperium, demonstrated increased birth preparedness and complication readiness⁽²³⁾.

A Brazilian study aimed to understand the use of intrapartum Evidence-Based Practices (EBP) by women who participated in an educational intervention to foster EBP and reduce unnecessary cesarean sections. The intervention promoted practices such as creation and use of a birth plan, presence of a companion throughout childbirth, midwife care, freedom of mobility throughout labor, choice of position at delivery, and use of non-pharmacological pain relief methods. Women who participated in the intervention described a sense of control over their bodies and self-efficacy to advocate for their chosen practices⁽⁴²⁾.

Other technologies identified were teaching aids such as handbooks, pamphlets, booklets, and text messages^(17,20,26,28,31,35). The RCT conducted in Australia compared the use of pamphlet/booklet and booklet plus audio guide containing information on pharmacological and non-pharmacological pain relief methods during labor and delivery, showing that approximately half of the women who participated in the study experienced a spontaneous labor. The majority of women had a vaginal delivery, and twenty per cent of them had an instrumental delivery. In addition, the study showed that non-pharmacological analgesics were used most

frequently⁽¹⁷⁾.

In a study in the rural area of Cambodia, utilizing maternal and child health handbooks (in the intervention group) along with card type home-based records, there was an increase in knowledge of danger signs during pregnancy and delivery, as well as in the likelihood of delivery with skilled birth attendants and at health facilities⁽²⁰⁾. Moreover, a study about an ET to guide companions of parturients showed that this technology promoted more physical and emotional support actions to women during labor and delivery⁽³⁹⁾.

In Jordan, ETs had positive results when used during prenatal care over a three-week period. The sessions combined information from pamphlets and video recordings, which were disseminated via a mobile application (WhatsApp). The results showed that the proportion of spontaneous onset of labor in the intervention group was significantly higher, and there was a significant difference in the mean cervical dilation in centimeters on admission between the control group and the intervention group⁽²⁶⁾.

Sending short text messages (SMS) regarding obstetric danger signs, immunization, and intermittent preventive therapy for malaria in pregnancy helped in birth preparedness. In 99% of the cases, it influenced the decision to deliver in a health facility⁽³¹⁾. The benefits of SMS were also related to positive outcomes by providing women with prior knowledge about interventions and thus preparing them for childbirth, having a protective effect against obstetric interventions performed during labor⁽²⁸⁾. Additionally, this technology promoted the participation of partners in prenatal appointments, as well as their presence at the time of childbirth as a companion⁽³⁵⁾.

A study that compared the use of an educational booklet, an educational software and routine prenatal care showed that both the educational software and educational booklet were effective in reducing anxiety during labor. Also, in the group that used the educational software, anxiety was significantly lower⁽⁴¹⁾.

Regarding birth plans^(15,19,21,24,25) in the perception of women, there was promotion of a respectful assistance that converged with their choices, as they received information about the procedures⁽¹⁵⁾. Information about feeding and the

presence of a companion influenced the feeling of safety^(15,34) and their active participation⁽¹²⁾, significantly decreasing fear and increasing childbirth self-efficacy⁽³⁴⁾. The birth plan qualifies and improves communication between the actors involved in this scenario and enhances the childbirth experience. This enabled a greater control over the birth process, associating it to feelings of relaxation, safety, anxiety control, fulfillment, and knowledge⁽²¹⁾, as well as a greater use of non-pharmacological pain relief methods⁽³⁸⁾ and early breastfeeding⁽³⁷⁾. As less invasive obstetric practices were used, vaginal delivery was encouraged^(15,24,25).

Women expressed indifference about performing episiotomy in the birth plan, but most have not undergone this procedure⁽²⁴⁾. When verbal guidance about episiotomy is associated with the use of oxytocin, the promotion of women's choice is assured, and a birth without intervention is achieved⁽¹⁵⁾.

Verbal guidance is an important role of the nursing team as responsible for health education, including when the companion is informed that his presence is important in the childbirth process⁽¹²⁾, as well as in promoting relaxation and pain control with the offer and use of non-pharmacological methods. These actions helped in the active participation of the women, which generated a sense of autonomy and ability to proceed with the birth, and also helped to ensure that their preferences were respected⁽¹⁵⁾.

In addition to positive childbirth experiences, postpartum outcomes were evaluated in a quantitative study conducted in Hawaii regarding birth plans. The study showed that only 6% of patients experienced postpartum hemorrhage, and only 1% required curettage⁽²⁵⁾.

In Tanzania, 31% of women seek postnatal care within 48h of delivering, and only 50% of women deliver under the care of skilled providers. The effectiveness of birth plans was assessed through a cluster randomized trial. In this study, 905 women at 24 weeks gestation or more were evaluated and followed up to at least 1 month after delivery. The results showed that more women in the intervention group had a birth plan, attended postnatal care within the first 48 hours, and sought postnatal care within one week, whereas in the control group, the delay was approximately 3 weeks. In addition, the study

showed that women in the intervention group were more likely to deliver in a health unit⁽¹⁹⁾.

In another study about birth plans, 74% of pregnant women knew about at least one danger sign of pregnancy and childbirth. In addition, after individualized obstetric risk advice, 71% of the women identified as being at high risk of a complicated delivery altered their birth plans and delivered in a hospital. Birth plans were also related to less intervention, a more natural process of birth and better outcomes for mothers and newborns⁽³³⁾.

Therefore, it can be observed that strategies used in different contexts of obstetric care have the potential to inform women, promote positive experiences and a childbirth based on best care practices. The educational technologies that had significant prevalence in the primary studies were verbal educational guidance and individualized advice offered to women during pregnancy or labor, in households, hospitals, birthing centers, and other health care services^(12-15,27). Furthermore, verbal guidance contributed to the protagonism of women in the childbirth process⁽¹²⁻¹⁵⁾.

Women who received guidance during prenatal care with the presence of a companion had greater freedom of position at delivery⁽⁴⁰⁾ and were more likely to breastfeed in the first hour after birth, which shows the importance of the presence of the companion since prenatal care.

Brazilian qualitative studies evidenced the potential of the nursing team to promote positive childbirth experiences, since the nurse-midwives respected the women's wishes and the child's time to be born⁽¹²⁾. Such experiences can be observed at the time of labor and delivery when verbal guidance encourage the use of non-pharmacological pain relief methods⁽¹⁴⁾. Verbal

advice about non-pharmacological pain relief methods influences women's perceptions of reduced labor time and comfort⁽¹²⁾. These methods were also chosen for faster dilation, faster labor and delivery, and relaxation⁽¹⁴⁾.

In settings with high rates of maternal mortality and home deliveries due to lack of health resources and skilled professionals, individualized obstetric advice during prenatal care for women identified as being at high risk of a complicated delivery influenced their decision to access health facilities for childbirth⁽²⁷⁾.

This study is limited by the complexity of analyzing articles with different methodological approaches in different childbirth care settings, which point to the singularities of the childbirth process and its social and political relations in each place.

FINAL CONSIDERATIONS

Regarding the implications for nursing, we understand that the educational technologies predominant in the studies, especially the international ones, are considered a factor for promoting positive childbirth experiences, since they show favorable repercussions for the application of non-pharmacological pain relief methods, reduction in labor induction rates, increase in the number of vaginal deliveries, and increase in the participation of the woman and her companion in decision-making during labor and delivery. Therefore, there is a need for greater investment in research and evaluation of the use of different educational technologies in prenatal and postnatal care, as well as the involvement of interdisciplinary teams working in health education.

TECNOLOGIAS EDUCACIONAIS PARA PROMOÇÃO DE EXPERIÊNCIA DE PARTO POSITIVA: REVISÃO INTEGRATIVA

RESUMO

Objetivo: Identificar as evidências acerca das tecnologias educacionais utilizadas durante a gestação com mulheres e acompanhantes para promoção de experiência de parto positiva. **Métodos:** Trata-se de uma revisão integrativa, realizada nas bases de dados eletrônicas LILACS, Scopus e Web of Science em outubro de 2022, em que foram localizadas 5.553 produções, das quais 32 foram incluídas no estudo para análise. **Resultados:** As tecnologias incluíram orientações educacionais, grupos de pré-natal, planos de parto, panfletos, livretos e orientações individualizadas que possibilitaram experiências positivas, como início do trabalho de parto espontâneo, controle no processo de parto, alívio da dor, redução de intervenções, participação ativa do acompanhante, partos assistidos em locais e por profissionais qualificados. **Conclusão:** As tecnologias são um fator promotor de experiências de parto positivas, pois apresentam repercussões favoráveis à aplicação de

métodos não farmacológicos para alívio da dor, redução da taxa de indução do parto, aumento do número de partos vaginais e ampliação da participação da mulher e seu acompanhante na tomada de decisões no processo de parto e no nascimento do bebê.

Palavras-chave: Tecnologia educacional. Cuidado pré-natal. Parto. Enfermagem. Revisão.

TECNOLOGÍAS EDUCATIVAS PARA PROMOVER LA EXPERIENCIA POSITIVA DEL PARTO: REVISIÓN INTEGRADORA

RESUMEN

Objetivo: identificar las evidencias acerca de las tecnologías educativas utilizadas durante la gestación con mujeres y acompañantes para la promoción de experiencia de parto positiva. **Método:** se trata de una revisión integradora, realizada en las bases de datos electrónicas LILACS, Scopus y Web of Science en octubre de 2022, en las que fueron localizadas 5.553 producciones, de las cuales 32 fueron incluidas en el estudio para el análisis. **Resultados:** las tecnologías incluyeron orientaciones educativas, grupos de prenatal, planificaciones de parto, prospectos, folletos y orientaciones individualizadas que posibilitaron experiencias positivas, como inicio del trabajo de parto espontáneo, control en el proceso de parto, alivio del dolor, reducción de intervenciones, participación activa del acompañante, partos asistidos en locales y por profesionales calificados. **Conclusión:** las tecnologías son un factor promotor de experiencias de parto positivas, pues presentan repercusiones favorables a la aplicación de métodos no farmacológicos para alivio del dolor, reducción de la tasa de inducción del parto, aumento del número de partos vaginales y ampliación de la participación de la mujer y su acompañante en la toma de decisiones en el proceso de parto y en el nacimiento del bebé.

Palabras clave: Tecnología educacional. Atención prenatal. Parto. Enfermería. Revisión.

REFERENCES

1. Organização Mundial de Saúde. Assistência ao parto normal: um guia prático. Saúde materna e neonatal. Unidade de maternidade segura. Saúde reprodutiva e da família [Internet]. Genebra; 1996 [acesso em 28 abr. 2021]. Disponível em: <https://www.yumpu.com/pt/document/view/42116270/maternidade-segura-abenfo-nacional>
2. World Health Organization. WHO recommendations: intrapartum care for a positive childbirth experience [Internet]. Geneva: World Health Organization; 2018 [acesso em 28 abr. 2021]. Disponível em: <https://www.who.int/publications/i/item/9789241550215>
3. Leal MC, Esteves-Pereira AP, Viellas EF, Domingues RMSM, Gama, SGN. Prenatal care in the Brazilian public health services. *Revista de Saúde Pública*. 2020; 54(8). DOI: <https://doi.org/10.11606/s1518-8787.2020054001458>
4. Marques BL, Tomasi YT, Saraiva SS, Boing AF, Geremia DS. Guidelines to pregnant women: the importance of the shared care in primary health care. *Esc Anna Nery Rev Enferm*. 2021; 25(1). DOI: <https://doi.org/10.1590/2177-9465-EAN-2020-0098>
5. Leal MS, Moreira RCR, Barros KCC, Servo MLS, Bispo TCF. Humanization practices in the parturitive course from the perspective of puerperae and nurse-midwives. *Rev bras enferm*. 2021; 74(Suppl 4):e20190743. DOI: <http://dx.doi.org/10.1590/0034-7167-2019-0743>
6. Ferreira GI, Bussadori JCC, Guilhem DB, Fabbro MRC. Participation of women in support groups: contributions to the experience of childbirth. *Cienc Cuid Saude*. 2018; 17(4): e45138. DOI: <https://doi.org/10.4025/ciencucidsaude.v17i4.45138>
7. Gonçalves MF, Teixeira EMB, Silva MAS, Corsi NM, Ferrari RAP, Pelloso SM, et al. Prenatal care: preparation for childbirth in primary health care in the south of Brazil. *Rev gaúcha enferm*. 2017; 38(3): e2016-0063. DOI: <https://doi.org/10.1590/1983-1447.2017.03.2016-0063>
8. Teixeira E, Martins TDR, Miranda PO, Cabral BG, Silva BAC, Rodrigues LSS. Tecnologia educacional sobre cuidados no pós-parto: construção e validação. *Rev. baiana enferm*. [Internet]. 2016 [acesso em 28 abr 2021]; 30(2):1-10. Disponível em: https://periodicos.ufba.br/index.php/enfermagem/article/view/15358/pdf_53
9. Whittemore R, Knafl K. The integrative review: updated methodology. *J Adv Nurs*. 2005;52(5):546-53. DOI: [10.1111/j.1365-2648.2005.03621.x/pdf](https://doi.org/10.1111/j.1365-2648.2005.03621.x/pdf)
10. Paula CC, Padoin SMM, Galvão CM. Revisão integrativa como ferramenta para tomada de decisão na prática. In: Lacerda MR, Costenaro RGS. (Org). *Metodologias da pesquisa para enfermagem e saúde: da teoria à prática*. 1ed. Porto Alegre: Moriá, 2016.
11. Melnyk BM, Finout-Overholt E. Evidence-based practice in nursing & healthcare: a guide to best practice. *Crit Care Nurse*. 2014;34(3):174-178.
12. Soares YKC, Melo SSS, Guimarães TMM, Feitosa VC, Gouveia MTO. Satisfaction of puerperal women attended in a normal birth center. *Rev enferm UFPE on line*. 2017; 11(Supl. 11):4563-73. DOI: [10.5205/revol.11138-99362-1-SM.1111sup201704](https://doi.org/10.5205/revol.11138-99362-1-SM.1111sup201704)
13. Darós DZ, Hess PT, Sulzbach P, Zampieri MFM, Daniel HS. Socialização de conhecimentos e experiências sobre o processo de nascimento e tecnologias. *Rev eletrônica enferm*. 2010;12(2): 308-14. DOI: <http://dx.doi.org/10.5216/ree.v12i2.10355>
14. Mielke KC, Gouveia HG, Gonçalves AC. A prática de métodos não farmacológicos para o alívio da dor de parto em um hospital universitário no Brasil. *Av enferm*. 2019; 37(1): 47-55. DOI: <https://doi.org/10.15446/av.enferm.v37n1.72045>
15. Santos FSR, Souza PA, Lansky S, Oliveira BJ, Matozinhos FP, Abreu ALN, Souza KV, Pena ED. Os significados e sentidos do plano de parto para as mulheres que participaram da Exposição Sentidos do Nascer. *Cad. Saúde Pública*. 2019; 35(6): e00143718. DOI: <https://doi.org/10.1590/0102-311X00143718>
16. Klomp T, Witteveen AB, Jonge A, Hutton EK, Janssen ALML. A qualitative interview study into experiences of management of labor pain among women in midwife-led care in the Netherlands. *Journal of Psychosomatic Obstetrics & Gynecology*. 2017; 38(2): 94-102. DOI: <https://doi.org/10.1080/0167482X.2017.1291623>
17. Raynes-Greenow CH, Nassar N, Torvaldsen S, Trevena L, Roberts CL. Research article Assisting informed decision making for labour analgesia: a randomised controlled trial of a decision aid for labour analgesia versus a pamphlet. *BMC*

- pregnancy childbirth. 2010; 10:15. DOI: <https://doi.org/10.1186/1471-2393-10-15>
18. Duncan LG, Cohn MA, Chao MT, Cook JG, Riccobono J, Bardacke N. Benefits of preparing for childbirth with mindfulness training: a randomized controlled trial with active comparison. *BMC pregnancy childbirth*. 2017; 17(140):1-11. DOI: <https://doi.org/10.1186/s12884-017-1319-3>
 19. Magoma M, Requejo J, Campbell O, Cousens S, Merialdi M, Filippi V. The effectiveness of birth plans in increasing use of skilled care at delivery and postnatal care in rural Tanzania: a cluster randomized trial. *Tropical Medicine and International Health*. 2013; 18(4):435-43. DOI: <https://doi.org/10.1111/tmi.12069>
 20. Yanagisawa S, Soyano A, Igarashi H, Ura M, Nakamura Y. Effect of a maternal and child health handbook on maternal knowledge and behaviour: a community-based controlled trial in rural Cambodia. *Health policy plan*. 2015; 30(9):1184-92. DOI: <https://doi.org/10.1093/heapol/czu133>
 21. Su-Chen K, Kuan-Chia L, Chi-Ho H, Cherng-Chia Y, Min-Yu C, Chien-Ming T, et al. Evaluation of the effects of a birth plan on Taiwanese women's childbirth experiences, control and expectations fulfilment: a randomised controlled trial. *Nurs Stud [Internet]*. 2010 [acesso em 28 jan 2021]; 47(7): 806-14. Disponível em: <http://irlib.ntunhs.edu.tw/bitstream/987654321/4959/2/1-s2.0-S002074890900368X-main.pdf>
 22. Khresheh R, Almalik M, Owies A, Barclay L. Implementation of a childbirth preparation program in the maternal and child health centres in Jordan. *Midwifery*. 2018; 61:1-7. DOI: <https://doi.org/10.1016/j.midw.2018.02.010>
 23. Lori RJ, Ofosu-Darkwah H, Boyd CJ, Banerjee T, Adanu RMK. Improving health literacy through group antenatal care: a prospective cohort study. *BMC pregnancy childbirth*. 2017;17(228): 1-9. DOI: <https://doi.org/10.1186/s12884-017-1414-5>
 24. Yam EA, Grossman AA, Goldman LA, García SG. Introducing Birth Plans in Mexico: An Exploratory Study in a Hospital Serving Low-Income Mexicans. *Birth*. 2007; 34(1):42-48. DOI: <https://doi.org/10.1111/j.1523-536X.2006.00124.x>
 25. Anderson CM, Monardo R, Soon R, Lum J, Tschann M, Kaneshiro B. Patient Communication, Satisfaction, and Trust Before and After Use of a Standardized Birth Plan. *Hawaii J Med Public Health [Internet]*. 2017 [acesso em 30 jan 2021]; 76(11): 305-9. Disponível em: https://hawaiijournalhealth.org/past_issues/hjmph7611_0305.pdf
 26. Hatamleh R, Abuilban S, AbuAbed ASAM, Abuhamad S. The effects of a childbirth preparation course on birth outcomes among nulliparous Jordanian women. *Midwifery*; 2019; 72:23-9. DOI: <https://doi.org/10.1016/j.midw.2019.02.002>
 27. Ballard K, Gari L, Mosisa H, Wright J. Provision of individualised obstetric risk advice to increase health facility usage by women at risk of a complicated delivery: a cohort study of women in the rural highlands of West Ethiopia. *BJOG An International Journal of Obstetrics and Gynaecology*. 2013; 120(8): 971-72. DOI: <https://doi.org/10.1111/1471-0528.12190>
 28. Franzon ACA, Oliveira-Ciabati L, Bonifácio LP, Vieira EM, Andrade MS, Sanchez JAC, et al. Estratégia de comunicação e informação em saúde e a percepção de sentir-se preparada para o parto: ensaio aleatorizado por conglomerados (PRENACEL). *Cad. saúde pública*. 2019; 35(10): DOI: <https://dx.doi.org/10.1590/0102-311X00111218>
 29. Howarth AM, Swain NR. Skills-based childbirth preparation increases childbirth self-efficacy for first time mothers. *Midwifery*. 2019; 70: 100-105. DOI: <https://doi.org/10.1016/j.midw.2018.12.017>
 30. Madhavanprabhakaran GK, D'Souza MS, Nairy KS. Effectiveness of Childbirth Education on Nulliparous Women's Knowledge of Childbirth Preparation, Pregnancy Anxiety and Pregnancy Outcomes. *Nurs Midwifery Stud*. 2017; 6(1):e32526. DOI: 10.5812/nmsjournal.32526.
 31. Omole O, Ijadunola MY, Olotu E, Omotoso O, Bello B, Awoniran O, et al. The effect of mobile phone short message service on maternal health in south-west Nigeria. *The International Journal of Health Planning and Management*. 2017; 33(1). DOI: <https://doi.org/10.1002/hpm.2404>
 32. Lima MM, Dutra S, Estácio JR, Costa R, Roque ATF, Maia C do C. Contribuições de um grupo de gestantes e casais grávidos para seus participantes. *Cogitare enferm*. 2020;25. DOI: <http://dx.doi.org/10.5380/ce.v25i0.66280>
 33. Hidalgo-Lopezosa P, Cubero-Luna AM, Jiménez-Ruz A, Hidalgo-Maestre M, Rodríguez-Borrego MA, López-Soto PJ. Association between birth plan use and maternal and neonatal outcomes in southern Spain: A case-control study. *International Journal of Environmental Research and Public Health*. 2021;18(456);1-8. DOI: <https://doi.org/10.3390/ijerph18020456>
 34. Munkhondya, BMJ, Munkhondya TE, Chirwa E, Wang H. Efficacy of companion-integrated childbirth preparation for childbirth fear, self-efficacy, and maternal support in primigravid women in Malawi. *BMC pregnancy childbirth*. 2020; 20 (1). DOI: <https://doi.org/10.1186/s12884-019-2717-5>
 35. Bonifacio LP, Franzon ACA, Zaratini FS, Vicentine FB, Barbosa-Jr F, Braga GC, et al. PRENACEL partner use of short message service (SMS) to encourage male involvement in prenatal care: a cluster randomized trial. *Reprod health*. 2020; 17(1):45. DOI: <https://doi.org/10.1186/s12978-020-0859-6>
 36. Alba-Rodríguez R, Coronado-Carvajal MP, Hidalgo-Lopezosa P. The Birth Plan Experience: A Pilot Qualitative Study in Southern Spain. *Healthcare*. 2022;10(1): 95; DOI: <https://doi.org/10.3390/healthcare10010095>
 37. López-Gimeno E, Seguranyes G, Vicente-Hernández M, Cubero LB, Garreta GV, Falguera-Puig G. Effectiveness of birth plan counselling based on shared decision making: A cluster randomized controlled trial (APLANT). *PLoS ONE*. 2022; 17(1):9. DOI: <https://doi.org/10.1371/journal.pone.0274240>
 38. López-Gimeno E, Falguera-Puig G, Vicente-Hernández MM, Angele M, Garreta GV, Seguranyes G. Birth plan presentation to hospitals and its relation to obstetric outcomes and selected pain relief methods during childbirth. *BMC Pregnancy Childbirth*. 2021; 21(274). DOI: <https://doi.org/10.1186/s12884-021-03739-z>
 39. Silva LR, Vasconcelos CTM, Nicolau AIO, Teles LMR, Ribeiro GL, Damasceno AKC. The effect of educational technology use to guide parturient women's companions: a randomized controlled study. *Rev Esc Enferm USP*. 2021;55:e03666. DOI: <https://doi.org/10.1590/S1980-220X2019022903666>
 40. Tomasi YT, Saraiva SS, Boing AC, Delziovo CR, Wagner KJP, Boing AF. From prenatal care to childbirth: a cross-sectional study on the influence of a companion on good obstetric practices in the Brazilian National Health System in Santa Catarina State, 2019. *Epidemiol. Serv. Saude*. 2021; 30(1):e2020383; DOI: <https://doi.org/10.1590/S1679-49742021000100014>
 41. Abbasi, P., Mohammad-Alizadeh Charandabi, S., & Mirghafourvand, M. Comparison of the effect of educational software and booklet on anxiety and pain during labour: a randomised controlled clinical trial. *Journal of Obstetrics and Gynaecology*. 2020;1(8). DOI: 10.1080/01443615.2020.1736017
 42. Fernandes LMM, Lansky S, Passos HR, Bozlak CT, Shaw BA. Brazilian women's use of evidence-based practices in childbirth after participating in the Senses of Birth intervention: A mixed-methods study. *PLoS One*. 2021;16(4):e0248740. DOI: <https://doi.org/10.1371/journal.pone.0248740>
 43. Shirvani MA, Tayebi T. Importance of Childbirth

Preparation Classes in Improving Childbirth Self-Efficacy and Reducing Worry in Primigravidas. *Perinatology*. 2021 [acesso em 11 nov 2022];22(1). Disponível em:

<https://www.perinatology.in/importance-of-childbirth-preparation-classes-in-improving-childbirth-self-efficacy>

Corresponding author: Stela Maris de Mello Padoin. Av Roraima, 1000. Bairro Camobi. Santa Maria – RS. CEP: 97105-900. E-mail: stela.padoin@ufsm.br

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