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Women's Perspectives on Vocalization in the First and Second Stages of Labor: A Qualitative Study

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Abstract

Despite growing interest in humanized childbirth practices, there is still little qualitative research exploring women's perspectives on vocalization during labor. The present study aims to analyze women's experiences with the use of vocalization in the first and second stages of labor. A descriptive and exploratory qualitative study was conducted using semi-structured interviews with 16 women in the postpartum period between February and April 2024. Participants were recruited by convenience sampling, and data saturation was achieved when no new themes emerged from the interviews. Thematic analysis was performed using IRaMuTeQ (version 0.8 alpha 7) software. The textual corpus generated allowed classification into five thematic categories: Vocalization as an instinctive expression in natural childbirth; Functionality of vocalization during labor; Medicalized childbirth and natural childbirth; Fears during childbirth and their contributing factors; Typology of vocalization in labor. We conclude that many women reported that vocalization during labor is instinctive and functional, providing pain relief, but also serving as a means of communication, empowering women. Its expression can be strongly influenced by sociocultural, emotional, and contextual factors in each woman's particular sphere. These findings, although limited to a specific population, suggest that healthcare professionals should consider vocalization as an individualized support tool, taking cultural differences into account.

Keywords: natural childbirth; instinct; nonverbal communication; empowerment

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1. Introduction

Natural childbirth, as an instinctive act of the female body [1], can be one of the most intense and transformative experiences in a woman's life, with a profound physical and psychological impact on her body and identity [2,3]. The surrounding environment, support network, and cultural context in which a woman finds herself play an important role in shaping this experience [4,5]. Throughout history, women have given birth at home, in an environment of intimacy, familiarity, and protection, promoting a physiological and socially respected birth [6]. Recognition of women's instinctive manifestations, their rhythms, and needs was present and inherent in the ancestral wisdom of midwives [7].

The medicalization of childbirth, which began in the late 19th century [8], resulted in standardized practices that often discredited ancestral knowledge and reduced women's

autonomy during childbirth [8–10]. However, movements to humanize childbirth gained momentum, advocating for less interventionist and more woman-centered practices [11–13].

Human vocalization consists of the emission of nonverbal sounds, produced irregularly, containing mainly poorly articulated open vowels, such as screams, laughter, crying, moans, and others [14,15]. Vocalization precedes verbal language in humans and is similar in structure and function to non-human vocalization. This reminds us of its primary, instinctive, and natural characteristics [16]. In labor, the use of spontaneous vocalization can be observed in the taxonomic family of great apes, which includes the human species [17]. Vocalization is a form of nonverbal communication with healthcare professionals [18,19], an adaptive and empowering resource [19,20], and promotes active participation by women [21]. On the other hand, it provides relaxation and pain relief [22], leads to a connection between the woman and the fetus [23], and is associated with fewer cases of pelvic injuries during fetal expulsion [24]. However, it is important to bear in mind that free expression through vocalization during labor may be conditioned by the context in which each woman finds herself [17]. The cultural sphere may favor [25] or repress [26] its use.

Despite recognition of the potential benefits of vocalization, current research has significant methodological gaps. Most existing studies focus on clinical outcomes rather than women's experiences, and there is a notable lack of qualitative data exploring women's perspectives on this phenomenon. Furthermore, cultural and contextual factors that may influence vocalization patterns remain underexplored in the literature.

The scarcity of publications on this subject, particularly with regard to women's subjective experiences, creates a significant knowledge gap that this study aims to address. Given the scarcity of available scientific evidence on women's experiences with vocalization during labor, especially from qualitative perspectives, this study seeks to contribute to filling this gap.

The objective of this study is to analyze women's experiences with the use of vocalization in the first and second stages of labor and to answer the following research question: What are women's experiences with the use of vocalization in the first and second stages of labor?

It should be noted that the results of this qualitative study may have limited transferability due to the specific cultural and institutional context, and generalization to broader populations will require further investigation in diverse settings.

2. Results

The results of the research study are presented below.

2.1. Sociodemographic and Obstetric Characterization

Table 1 presents a comprehensive overview of the sample characteristics. The study sample consisted of 16 women aged between 18 and 34 years, with a mean age of 28.94 years (SD = 4.25). The sample was diverse in terms of educational background, with six women having less than compulsory education, four having compulsory education, four having a bachelor's degree, and two having a master's degree. In terms of parity, four were primiparous, nine were in their second pregnancy, and three had three or more children. Most participants (81.3%) were from the Iberian Peninsula, and most (81.3%) identified as Christian. Notably, 56.3% of women had a labor lasting 1 to 5 h, suggesting a relatively rapid progression of labor. Only 43.8% participated in prenatal education programs, and only 18.8% prepared birth plans.

Table 1. Sociodemographic and obstetric characteristics.

Variables	Categories	Frequencies
Academic qualifications	<Compulsory education	6
	Compulsory education	4
	Bachelor's degree	4
	Master's degree	2
Occupation	Unemployed	4
	Unskilled workers	5
	Farmer	1
	Administrative	1
	Specialists in intellectual and scientific activities	5
Geographical origin	Iberian Peninsula	14
	Other Portuguese-speaking countries	2
Religion professed	Christianity	13
	Atheism	3
Gestational age	Full-term delivery	13
	Premature delivery	3
Number of children	1st child	4
	2nd child	9
	≥3rd child	3
Birth companion	Yes	12
	No	4
Duration of the first and second stages of labor	1–5 h	9
	6–10 h	3
	11–15 h	3
	16–20 h	1
Prenatal education program	Yes *	7
	No	9
Birth plan	Yes	3
	No	13

* Approach to vocalisation.

2.2. Semi-Structured Interviews

As the interviews were analyzed, 241 ECUs were created, and the software classified 178 text segments, with a vocabulary richness of 73.86%. Through Descending Hierarchical Classification (DHC), five classes emerged (Figure 1). The processing of the interview data resulted in a textual corpus that was subsequently organized into thematic categories, revealing the representativeness of the content and highlighting the most significant words in each class, which were designated as follows. Table 2 summarizes the thematic categories with their respective frequencies and percentages, providing a systematic overview of the results of the thematic analysis.

The visualization in Figure 1 shows that two broad categories emerged, one giving rise to classes 3 and 4 and the other to class 5, which in turn divided and gave rise to classes 1 and 2. According to the factor analysis, the intersection of classes 3 and 4 is emblematic of the dichotomy between medicalized childbirth and natural childbirth and fears during childbirth and their contributing factors, respectively. The theme of class 5, as well as classes 1 and 2, are more distant, being, respectively, the Typology of vocalization in labor, Vocalization as an instinctive expression in natural childbirth, and the Functionality of vocalization in labor.

Regarding the frequency of themes among participants, 14 of the 16 women (87.5%) reported that vocalization was useful for pain control, while 12 women (75%) described it as instinctive behavior. However, 8 women (50%) also reported feelings of embarrassment or shame associated with vocalization in the hospital setting.

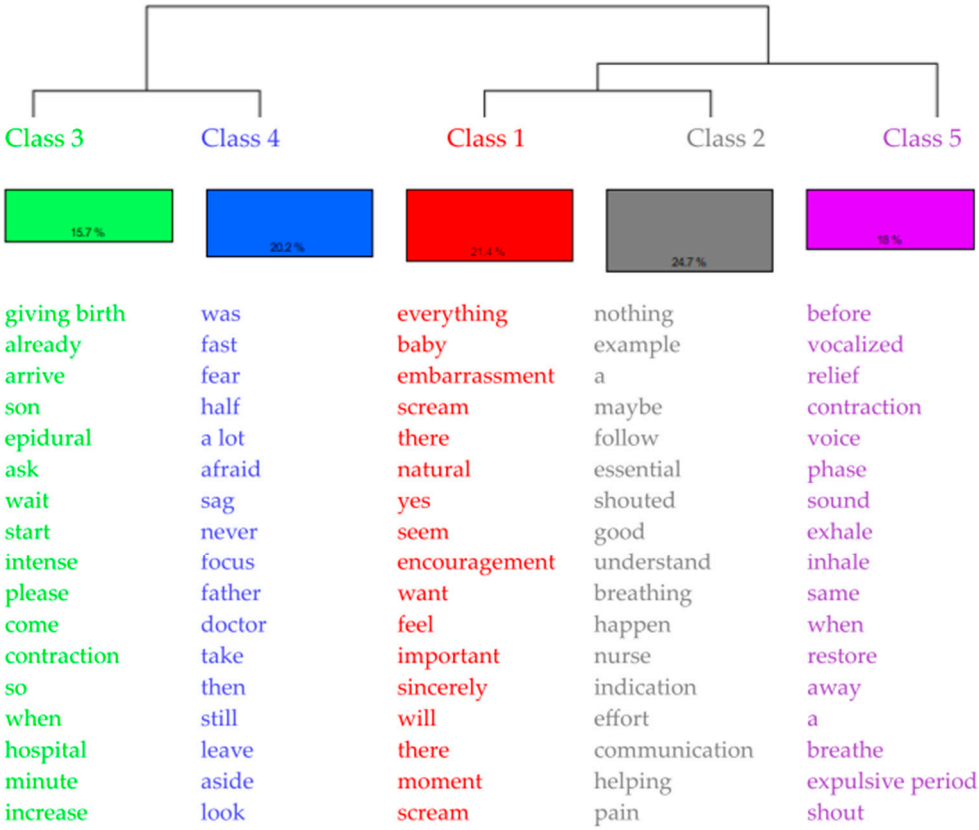

Figure 1. Dendrogram of the descending hierarchical classification of interviews with women.

Table 2. Thematic categories and their distribution.

Class	Theme	ECUs	Percentage (%)
Class 1	Vocalization as instinctive expression in natural childbirth	38	21.35
Class 2	Functionality of vocalization during labor	44	24.72
Class 3	Medicalized childbirth and natural childbirth	28	15.73
Class 4	Fears during childbirth and their contributing factors	36	20.22
Class 5	Typology of vocalization in labor	32	17.98

2.3. Thematic Categories

Based on the analysis of the data, five thematic categories were extracted, represented by classes, which are presented below:

Class 1—Vocalization as an instinctive expression in natural childbirth

Regarding vocalization as an instinctive expression in normal childbirth, analysis of the interviews revealed that, consistently and generally, women considered vocalization to be an instinctive, innate, and biological behavior, in line with the physiological process of natural childbirth.

> "*The sound . . . I think it's innate . . . and going against it is going against your own instinct and the moment of childbirth itself, that more visceral thing, so I think screaming ends up making everything more natural, wilder, and honestly, I can't imagine going through labor without vocalizing*" (int_10)

The altered state of consciousness achieved during the experience of natural childbirth was mentioned by several women, who related its transcendental dimension to vocalization as an intrinsic, also natural, phenomenon that releases inhibitions and facilitates a more instinctive process.

"*. . . the scream was so loud at that moment, we're not here and it doesn't matter who's here, the Pope could be here, and we would scream*" (int_11)

The natural need to vocalize in a moment of altered state of consciousness was reinforced by some women, even when they revealed a prior desire to restrain vocalization, which is impractical in the experience of natural childbirth.

"*Before, I thought: I'm going to do everything, I'm going to be brave, even if I have to scream, I'm not going to scream too much, I'm not going to express myself too much, but at that moment I think you forget everything and all you want is to get rid of that pain, so I can say that at some point I felt a certain embarrassment, but then all I wanted was to get rid of that pain*" (int_13)

Class 2—Functionality of vocalization during labor

The second category that emerged from the analysis of the interviews summarizes the dimensions identified by the women in relation to the role of vocalization during labor.

Several women mentioned the importance of using vocalization during natural childbirth to cope with the pain of contractions, acting as a means of support.

"*I think there's nothing that helps when you're in pain or something like that, you must scream and cry . . . I don't know, I think I cried and screamed when we were in labor, we don't think about anything, I don't know, when you're in pain, don't you scream?*" (int_09)

For other women, in addition to modulating pain, vocalization proved to play an important role in optimizing physical effort.

"*I'm a person who, for example, when I'm playing sports or doing certain things, I vocalize naturally, so it's obvious that if I'm in a situation of physical effort and a lot of pain, I'm going to vocalize.*" (int_11)

In the second stage, in particular, vocalization as an expression of strength played a fundamental role in childbirth, for some women.

"*If it weren't for the screams, I don't think I would have had the strength to push him out, yes, the loud screams, yes, the loud screams were constant until he came out, it was an 'a' with my lungs open until his head came out*" (int_01)

Finally, vocalization was described by few women as a tool for nonverbal communication with healthcare professionals, fundamental for professional-user interaction and for providing more respectful care.

"*Because I established good communication with the nurse who attended the birth, I think that was essential, and I think the fact that I was able to vocalize made it easier for her to understand, which helped because she was also giving me instructions*" (int_05)

Class 3—Medicalized childbirth and natural childbirth

Class 3 arises from the dichotomy between the reality of natural childbirth and the expectation of epidural analgesia. None of the women included in this study underwent epidural analgesia; however, in this class, the reason for this was mainly due to a rapid progression of labor, despite the women expressed desire to undergo analgesia. It should be noted that the pharmacological pain relief offered at the maternity ward where the study was conducted is limited to epidural analgesia, although intravenous analgesic medication is also available.

"*At first, I didn't ask for it because I thought I could tolerate the pain, and when the pain started to get worse, labor progressed very quickly and there was no time for epidural analgesia*" (int_02)

"*When I asked the nurse if I could have the epidural because I was already having some contractions . . . she told me to wait, that there was still a long way to go. She said to wait, that it was still a little early to do that, and when I asked again . . . I was already fully dilated when the anesthesiologist arrived, it wasn't worth it, and I ended up giving birth on the stool.*" (int_10)

Even women who felt empowered and confident in the physiology of childbirth sought pharmacological relief in moments of extreme pain.

"*This is my third normal delivery, and I am very much in favor of natural childbirth, although I ended up asking for an epidural when the pain came, but I wanted to conduct my delivery as I know how to give birth naturally, in an animalistic way . . . I am not in favor of interventions in my body . . . I know what I am doing, I know how to give birth, my body knows how to give birth, I am on my third child*" (int_06)

"*As it is my last child, I wanted to feel the pain, but then I regretted it, it was too much*" (int_03)

Class 4—Fears during childbirth and their contributing factors

The Class Fears during childbirth and their contributing factors, which is like those of the previous class, bring to light some of the fears and apprehensions women have in the context of natural childbirth.

The reasons for not having epidural analgesia in this class were related, by some women, to fear. Fear of invasive procedures, overcoming the need for pain relief.

"*Fear . . . I'm not a big fan of injections, as I didn't have an epidural during my first delivery . . . I wanted it to be very quick, the quicker the better, but it took a while*" (int_12)

For other women, the fear of not having the opportunity to have a full and participatory experience in their labor, negatively affected by epidural analgesia that limits mobility.

"*So I thought that since I was tolerating the pain and the dilation was so advanced, it didn't make sense to do it, and also because I was very afraid that it would be poorly administered and that it wouldn't be an outpatient epidural, and I really wanted to participate in the birth . . . and for it to be as quick as possible*" (int_05)

Or even, for other women, the fear of the pain of natural childbirth, since epidural analgesia was not even considered as a solution.

"*This time, I was always afraid, imagining that I was going to feel a lot of pain, that I was going to scream, cry, moan.*" (int_09)

The fear of the partner's reaction to the woman's behavior during natural childbirth also emerged as a theme in this class, by few women.

"*In the end, in this second birth, I knew that the father would be present, and I wondered what he would think*" (int_11)

Class 5—Typology of vocalization during labor

In the Typology of vocalization during labor, many women described their perception of the sounds emitted during labor. Most women mentioned the use of open vowels, such as the letter "a," in the first stage, and screams in the second stage.

"*In the active phase, it was more 'a,' and in the expulsive period, it was a real scream of panic, of thinking that I wasn't going to make it or that it was hurting a lot, a lot, a lot*" (int_11)

Some women reported using closed vowels, such as "u," or other vocalizations, such as moans, during the first stage. Screaming in the second stage continued to be the sound most used by the interviewees.

> "*I screamed and we always moaned and took deep breaths and blew . . . the 'u' . . . I didn't think about it much because, at that moment, I couldn't even think. . . . during the expulsion period was when I used my voice the most . . . screaming seemed to make me feel better and I was able to push harder*" (int_07)

> "*I used moans at the end of labor and then screams during the expulsion period. The main benefit of screaming loudly was the relief from what I was feeling. The pain is extremely excruciating, and it was a way to try to deal with the pain.*" (int_02)

Many women attributed a fundamental role to vocalizing screams in the second stage, with a benefit when compared to breathing exercises.

> "*When you breathe correctly, it helps relieve the pain, but when it came time to expel, when the pain was much more intense, I really used my voice and screamed because I realized that just breathing would not be enough, so I really screamed.*" (int_13)

> "*At the end of labor and then screaming during the expulsion period, screaming loudly the main benefit was relief from what I was feeling, the pain is extremely excruciating, and it was a way of trying to resolve the pain*" (int_02)

Some women attributed the vocalization of screaming in the second stage to a fundamental role, with a benefit when compared to breathing exercises.

> "*When you breathe properly, it helps to relieve the pain, but when it was time to expel when the pain was much more intense, I really used my voice and shouted because I realized that just breathing wouldn't be enough, so I really shouted*" (int_13)

3. Discussion

Qualitative analysis revealed diverse perspectives among women regarding vocalization during labor.

It is important to note that these women used vocalization in the context of natural childbirth, without the use of analgesia, something that the literature describes as a natural, intense, and wild experience [2], where fears and apprehensions may arise [27]. Thus, considering the phenomenon in question—the use of vocalization by women in the first and second stages of labor—the analysis of the interviews reveals a strong relationship between vocalization and the physical and emotional experience of childbirth. Perhaps an intense experience of a lived body, as recognized in other studies [18,28].

Although many women described positive experiences, it is important to recognize that cultural perceptions varied significantly among participants. Some women, particularly those from more conservative backgrounds, reported more negative feelings toward vocalization, including shame and embarrassment in the hospital setting.

The discussion is structured based on the five themes that emerged as categories from the qualitative analysis, highlighting the predominant words in each of them, based on the scientific literature that best supports them.

It is essential to emphasize that, given the small sample size and the specific cultural context of this study, these results cannot be generalized to all women in labor. The experiences reported here reflect the perspectives of Portuguese women who gave birth in a public health context without epidural analgesia, which represents a specific subset of the population in labor.

Class 1—Vocalization as instinctive expression in natural childbirth

The vocalization of women whose labor was not pharmacologically manipulated suggests that this is spontaneous behavior. The vocal repertoire during labor is varied. Women's vocalizations differ in tone, intensity, and repetitiveness [29]. Vocalization emitted by humans can be defined as an important form of nonverbal communication, which can

include various sounds, such as laughter, crying, moaning, or screaming [15,30]. Exclusive to our species, verbal vocalization was preceded, in evolutionary terms, by nonverbal vocalization [16], which is innate [31], homologous to nonhuman vocalization, and, as such, does not depend on will, desire, or social learning [16]. Human vocalization thus appears as an entirely natural act, clearly connected to the rest of the mammalian class and its vocal production [32].

In natural childbirth, the use of spontaneous vocalization is characteristic of great apes, including humans [17], according to a study involving the entire Hominidae superfamily. It is there, in the realm of natural childbirth, that the adoption of instinctive behaviors, including vocalization, can be understood in light of the altered state of consciousness achieved by women [32,33], as expressed by many women in this study. The physiological nature of natural childbirth encourages women to vocalize as a form of communication [19] and as an expression of the feelings involved in labor, given the affective characteristics inherent in vocalization itself [32]. The communication conveyed by vocalization during labor is also pointed out by a study investigating the mother-baby connection from pregnancy to the postpartum period [34]. However, despite the instinctive and natural nature of vocalization during labor, some women expressed feelings of shame in the postpartum period, and one woman said she remained silent during the first stage. The embarrassment of using vocalization seems to manifest itself in the form of shame, a feeling of weakness, or the need to follow behavior that seems acceptable [17,25,26], shaped by cultural [17] and social issues of a negative view of the female body and sexuality transmitted by years of oppression by a dominant patriarchal society [35]. It is noteworthy that the woman who did not vocalize in the first phase belongs to a Roma community, where women are often subordinate to men, economically dependent, and have a stereotypical role to play [36–38].

Class 2—Functionality of vocalization during labor

Despite its natural character, many women in this study recognized several functions of vocalization during labor. Vocalization seems to play an essential role, especially during the second stage of labor, as a way to help women adapt and cope with the situation [18–20,28,29]. Pain relief during labor, perceived and expressed by many women as a function of vocalization, may be related to physiological processes such as vibration, sound emission, and breathing, which are inherent to the act of vocalizing [22,39,40]. Two studies indicate the use of body vibration as a therapy with good results in pain relief [41,42]. The vocalization of sounds, particularly low-pitched vocal sounds such as moans, grunts, or roars used by women in this study, is accompanied by vibration and consequent body resonance, which, in turn, promotes stimulation of the subcortical centers, hormonal release, and activation of the parasympathetic nervous system [22]. On the other hand, screams and open vowel sounds, such as "ow," also mentioned by some women, have been studied as an involuntary response to pain and considered analgesic, as they allow for greater pain tolerance when used as opposed to silence [43]. The prolonged exhalation of sound that accompanies some types of vocalization, as a respiratory act, promotes deeper and more continuous breathing cycles, which, in turn, contribute once again to reducing anxiety, activating the parasympathetic nervous system, and consequently improving the ability to cope with pain [39,44].

Particularly in the second stage of labor, that is, during expulsive efforts, vocalization can lead women to a more natural and instinctive experience [45–47]. The similarity between the expulsive efforts made by few women in the second stage of labor and extreme sports efforts [48] points to the use of vocalization as a performance enhancer in terms of strength, concentration, and muscle recruitment, as concluded by a study on the performance of athletes at these levels [49–51].

As a communicative function, the vocalization used by women in labor conveys information on both an emotional and physical level, which provides accurate indications to the health professionals present, namely nurse midwives [19,21,28,29]. The information conveyed by a woman's vocalization, particularly in the second stage of labor, is an expression of pain [18], behavioral states of adaptation to labor [28,29], and feelings of release or fear [21].

Class 3—Medicalized childbirth and natural childbirth

The pain associated with contractions that begin when labor starts is described by almost all women as one of the most intense and severe, corroborating studies on the subject of pain during childbirth [52]. Epidural analgesia is one of the most effective and widely used pharmacological pain relief techniques when a child is born in hospital [52–54]. A woman's decision to use epidural analgesia can be complex and multifactorial [55]. Several factors can influence or determine the non-use of epidural analgesia, such as the desire for a natural birth [56,57], concern about side effects [58], lack of health literacy [56], medical contraindications, lack of medical resources, rapidly progressing labor [59], or arrival at the maternity ward with cervical dilation greater than 4 cm [60]. For most women in this study, labor lasted less than 5 h, below the average number of hours for both nulliparous and primiparous women [61–63], which may have been a determining factor in not using epidural analgesia, in line with the factors described above. Thus, for these women who go through labor without epidural analgesia, despite requesting and desiring it, pain control can become quite challenging and overwhelming [64]. In this context, women often resort to non-pharmacological methods of pain relief, such as breathing techniques, freedom of movement, hydrotherapy, among others, associated with the continuous support of caregivers [65]. Once again, the reported sounds and instinctive and primitive behaviors [17,32], as well as the altered state of consciousness [33], point to the use of vocalization during labor. Vocalization arises in moments of pain/contraction, leading women to non-pharmacological pain relief, which is liberating and positive [19] and, consequently, empowering [66], with high levels of relaxation and relief through the vibration achieved [22], in prolonged phonatory exhalation [44], activating the parasympathetic nervous system [39].

Class 4—Fears during childbirth and their contributing factors

The fears of women undergoing natural childbirth can vary and are influenced not only by personal factors, but also by the environment, such as social and cultural factors [27,67]. Fear of the pain of natural childbirth seems to be one of the most common concerns among women in labor [68] and may lead some women to prefer surgical delivery by cesarean section performed by a doctor [69]. On the other hand, for some women, the fear of not actively participating in labor due to the loss of control and decreased mobility that epidural analgesia can cause can also be a fear that causes a lot of anxiety [70]. The fear of needles, known as belonephobia, can lead women to rule out the possibility of epidural analgesia [71]. Complications in childbirth and prolonged labor are also significant fears that can occur when the desire is for a quick and natural delivery [72–74].

The fear of losing control in some women who feel they have no control over the labor process [75] can be equally impactful or even frightening [2,76]. This is where vocalization emerges as a nonverbal form of communication [32,33]. The fear of not being able to maintain socially appropriate behavior during labor in a hospital setting, in the presence of health professionals and their companions, such as the baby's father [21], triggers feelings of culturally and socially ingrained shame [28] in some women, which, in turn, can inevitably silence them [21]. The study results are consistent with the scientific evidence found, since there are explicit manifestations in most of the women's interviews regarding the expression of fears, guilt, and shame, as well as implicit manifestations in the silence maintained by one

woman. The most prevalent characteristics shared by the women studied who vocalized, as opposed to those who did not, may raise questions about the empowerment in childbirth that the former may have achieved in relation to the latter. A combination of aspects, such as economic stability and higher levels of education [77], access to quality health services and health education [78], social and emotional support [79], personal confidence [80], and belonging to a culture that respects gender equality [81] seem to be associated with greater female empowerment in childbirth. Negative childbirth experiences, involving shame or embarrassment, often have significant psychological consequences, such as feelings of guilt or inadequacy in the postpartum period [82].

Class 5—Typology of vocalization in labor

The multiplicity of sounds vocalized by humans includes a variety of tones, composed mainly of poorly articulated vowels, such as the letter "a," including laughter, crying, moaning, screaming, among others [14,15]. Most of the women in this study recognize these and other sounds when contractions cause them to use their voices during the first and second stages of labor. A study on pain communication through vocalization concludes that even less experienced nurses can easily distinguish, by listening to the vocalization emitted by the woman, what stage of labor she is in [18]. The differences in the type of vocalization mentioned by many women between the first and second stages of labor are consistent with existing scientific evidence. While moaning was the dominant sound during the first stage of labor, screaming was the most used sound during the second stage of labor.

Despite the scarcity of scientific literature on the use of vocalization by women in labor, it is mainly in the second stage that the subject has been explored. A study that categorizes spontaneous vocalization in the second stage of labor defines five behavioral states and the respective sounds emitted by women. Two adaptive states that occur during effective expulsive efforts, or in the search for relief, comfort, and restoration of strength, associated with grunting and sighing or moaning sounds, respectively. Two non-adaptive states associated with lack of control or childish behavior with high-pitched sounds, such as screaming or crying, respectively, and finally, a state after epidural analgesia without vocalization, but with calm and quiet verbalization [28]. The acoustic classification of these same sounds was described in another study that quantifies and distinguishes their properties [29]. Both studies recognize the importance of interpreting the different sounds emitted through the woman's vocalization by the health professionals present during the second stage of labor as a way of recognizing the woman's needs and serving as a guide for their practice [28,29].

The results also point to the influence of the approach prior to vocalization, particularly during pregnancy in Prenatal Education Programs, on the use of certain types of sounds. For these women, vocalizing the vowel "a" in the first stage and screaming in the second stage surpassed any other sound, while moans and screams, grunts, and roars were used by the other women. Studies point to advantages in terms of autonomy, empowerment, and body awareness in the use of vocal techniques with exhalation exercises accompanied by the sound of an open vowel, either through vocal toning [22] or prenatal singing [23] previously worked on during pregnancy. Other studies, on the other hand, find advantages in the spontaneous use of vocalization, such as moans, screams, roars, or grunts, which occur in women with theatrical vocal training, as opposed to vocalization learned in prenatal education programs, as they do not limit bodily expression [20,21].

The use of inhalation and exhalation breathing techniques, although more favorable than the Valsalva maneuver [83,84], does not surpass the benefits achieved through the use of vocalization through the most diverse sounds emitted when the woman is in the second stage of labor, such as empowerment, adaptation, and active participation [19,20,28,29], pain relief [22], anxiety reduction [39,44], urinary incontinence prevention [85], or perineal injury reduction [24].

The similarity of the results obtained for women who attended prenatal education programs and those with higher levels of education, who were employed, and had a better socioeconomic status is corroborated by two studies that conclude that women who most frequently attend childbirth preparation programs are also those with higher levels of education and, consequently, greater economic stability [86,87].

4. Materials and Methods

4.1. Study Design

This is a descriptive and exploratory study with a qualitative approach. The qualitative approach was chosen because it allows us to clarify or understand how certain people experience and interpret their personal experiences. It is, therefore, the method that best integrates the answers to the research question posed [88].

4.2. Participant Recruitment

The sample consisted of female users of a public hospital in the Alto Alentejo Local Health Unit in Portugal. Data collection took place in the postpartum ward while the women were in the postpartum period.

The convenience sample reached 16 women, determined a posteriori when data saturation was achieved [89,90]. Data saturation was assessed systematically and considered achieved when three consecutive interviews did not produce new themes or concepts, and there was significant repetition of concepts between interviews, suggesting adequate sampling depth for the research objectives [91]. The sample of 16 women was determined based on the principle of data saturation in qualitative research, in which recruitment continues until no new information or themes emerge in additional interviews [89–92].

The selection of participants was guided by potentially rich cases [89,90] that were well-suited to the purpose and objective of the study. The inclusion criteria were: women of Portuguese nationality, aged $\geq$ 18 years and in the active phase of the first stage of labor, without epidural analgesia or oxytocin administration and progressing to physiological delivery, whose cervicometry was $\geq$5 cm. Exclusion criteria included: women progressing to dystocic delivery were excluded, as were women with high-risk pregnancies. Women with dual nationality, where the first was not Portuguese, were also excluded, as were those with voice or verbal/oral expression dysfunction. Other exclusion criteria included surgical deliveries and complicated deliveries. All signed an informed consent form upon entering the delivery room. The interview was consensually scheduled for the day after delivery.

The possibility of selection bias should be acknowledged, as women who agreed to participate may have been more open to reflecting on their childbirth experiences or may have had more positive experiences with vocalization compared to those who refused to participate.

4.3. Data Collection and Analysis

Data collection took place between February and April 2024.

Sociodemographic variables and obstetric history were collected, including detailed information on age, educational level, occupation, geographic origin, religious beliefs, gestational age, parity, duration of labor, presence of a companion during labor, participation in prenatal education programs, preparation of a birth plan, and any previous exposure to vocalization techniques.

The variables were recorded in their individual computer file (SClínico) and analyzed using SPSS Statistics 29.0 for Windows with descriptive statistics [93].

The interview technique [94] was semi-structured and guided by a script based on Ramona Mercer's model [95]. The interviews took place the day after delivery, with an

average duration of 20 min with each participant. The interviews were conducted in the postpartum ward, considering the proximity to the women, in appropriate environmental conditions and ensuring their confidentiality.

After collecting the qualitative data through the interviews, they were fully transcribed using the "Transcribe" function in Microsoft 365 Office. To increase analytical rigor and credibility, two of the project researchers independently validated the content, simultaneously checking the audio recording and the transcript. In addition, a third researcher conducted a peer review of the emerging themes to ensure analytical consistency. The text was organized according to the requirements of the IRaMuTeQ (Interface de R pour les Analyses Multidimensionnelles de Textes et de Questionnaires) software analysis protocol, version 0.8 alpha 7, resulting in the creation of the corpus. The interviews were coded (int_01 to int_16), together with the variables (age, profession, academic qualifications, geographical origin, religion, gestational age, number of children, duration of labor, companion during labor, prenatal education program, approach to vocalization in the prenatal education program, birth plan). The analysis corpus consisted of 16 Initial Context Units (ICUs), with each interview corresponding to one ICU. Each ICU began with a specific command line: **** *int_01 *age_1 *prof_1 *eduq_1 *geo_1 *relg_1 *gesta_1 *nchild_1 *drlb_1 *lbcp_1 *prene_1 *vsprene_1 *bplan_1. The software converts these ICUs into Elementary Context Units (ECUs). These ECUs consist of text segments classified according to their unique vocabularies, which exhibit similarities and differences compared to the vocabularies of ECUs from other classes.

4.4. Ethical Considerations

This study was approved by the Ethics Committee of the University of Évora (No. 22162, 22 February 2023). The Ethics Committee of the healthcare institution involved, ULSAALE, also granted the necessary authorization to conduct the interviews (No. 05/2024, 26 January 2024). To ensure the protection of participants' data, all measures of anonymity and confidentiality were taken. Participants were informed in detail about the study, including its purpose and possible contributions. Each participant gave their informed consent upon admission to the maternity ward.

4.5. Limitations of the Study

This study has several important limitations that should be acknowledged. The sample of 16 women does not allow for generalizations to larger populations. This single-center study included only physiological deliveries without epidural anesthesia, complicated deliveries, or surgical deliveries, representing a very narrow segment of the general population. Other clinical data, such as the need for episiotomy or duration of the second stage of labor, were not included, which can also be a limitation.

The representativeness of the sample, composed of Portuguese women who gave birth at a Local Health Unit in Alto Alentejo, Portugal, significantly limits the transferability of the results to women in different cultural, socioeconomic, or health contexts. The exclusion of women with pregnancy complications or who received epidural analgesia further limits the applicability of the results to the broader population of women in labor.

The methodology lacks justification for the sample size beyond the principles of data saturation. Furthermore, the discussion relies heavily on anthropological and psychological literature rather than clinically meaningful results, which may limit its clinical applicability. The narrative does not adequately address the negative aspects of vocalization, such as potential disturbances in clinical settings or cultural barriers to expression.

5. Conclusions

This study allowed for a deeper understanding of the phenomenon of women's vocalization in the first and second stages of labor, using a qualitative methodological approach, with the collection of their experiences through interviews in the postpartum period.

Many women in this study reported that vocalization emerged as an instinctive and innate manifestation, an adaptive and functional response to pain and the physiology of childbirth. For these participants, vocalization facilitated nonverbal communication with healthcare professionals and represented their most primitive and authentic expression during labor. However, some women in this study also revealed the emergence of constraints, such as shame, guilt, or pressure to maintain socially acceptable behaviors during labor, which raises questions about the impact of cultural or social norms on how women experience childbirth.

Healthcare professionals should consider vocalization as a potentially legitimate and functional expression for many women in labor, recognizing individual and cultural differences in preferences and comfort levels. This approach could contribute to more personalized and respectful obstetric care.

Future research should include longitudinal designs that examine perceptions immediately after childbirth compared to several weeks later, and studies with more diverse samples in different cultural and healthcare settings.

Given the limitations of this small, single-center study, future research should focus on larger, multicenter investigations that include diverse populations and various birthing contexts to better understand the generalizability and reproducibility of these findings. The knowledge gained can be used both to promote literacy in this area of population health and in the training of health professionals who work with women.

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Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Information on data collection instruments will be made available upon request to the corresponding author. The data is not available due to ethical and privacy restrictions.

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Abbreviations

The following abbreviations are used in this manuscript:

IRaMuTeQ	Interface de R pour les Analyses Multidimensionnelles de Textes et de Questionnaires
SPSS	Statistical Package for the Social Sciences
SClínic	Clinical Information System

ICUs	Initial Context Units
ECUs	Elementary Context Units
ULSAALE	Local Health Unit of Alto Alentejo (Unidade Local de Saúde do Alto Alentejo)
SD	Standard Deviation
DHC	Descending Hierarchical Classification

References

1. Karaahmet, A.Y.; Bilgiç, F.S.; Güdücü, N. Physiological birth advocates: Turkish midwifery students' perceptions of natural birth. *J. Health Life Sci. Sağlık Ve Yaşam Bilim. Derg.* **2022**, *4*, 265–271. [CrossRef]
2. Dahan, O.; Zibenberg, A.; Goldberg, A. Birthing consciousness and the flow experience during physiological childbirth. *Midwifery* **2024**, *138*, 104151. [CrossRef]
3. Mota, Z.M.M.; Bezerra dos Anjos, S.D.J.S.; de Freitas, A.S.F.; Ferreira, A.R. Transformative potential of pregnancy and childbirth in women's life: Qualitative evidences. *Rev. Baiana Enferm.* **2019**, *33*, 1–13.
4. Dahan, O. The riddle of the extreme ends of the birth experience: Birthing consciousness and its fragility. *Curr. Psychol.* **2023**, *42*, 262–272. [CrossRef]
5. Kurz, E.; Davis, D.; Browne, J. Parturescence: A theorisation of women's transformation through childbirth. *Women Birth* **2022**, *35*, 135–143. [CrossRef]
6. Davison, C.L.; McKenzie, B.; Hauck, Y. Looking back moving forward: The history of midwifery in Western Australia. *Women Birth* **2022**, *35*, e409–e420. [CrossRef] [PubMed]
7. Haikera, H.K.; Aku-Akai, L.; Aboua, Y.G. Scope of medicinal plants for uterotonic, tocolytic, and wellness effects in pregnant women: A cultural perspective. In *Curative and Preventive Properties of Medicinal Plants*; Apple Academic Press: Palm Bay, FL, USA, 2023; pp. 341–352, ISBN 978-100073383-9.
8. Palharini, L.A.; Figueirôa, S.F.D.M. Gênero, história e medicalização do parto: A exposição "Mulheres e práticas de saúde". *História Ciênc. Saúde-Manguinhos* **2018**, *25*, 1039–1061. [CrossRef]
9. Arteaga-Cruz, E.; Cuvi, J. Global Health, Intercultural Health, and the Marginalization of Traditional Birth Attendants in Ecuador. In *The Routledge Handbook of Anthropology and Global Health*; Taylor and Francis: Abingdon, UK, 2024; pp. 185–197, ISBN 978-100385907-9.
10. Silva, F.; Nucci, M.; Nakano, A.R.; Teixeira, L. Ideal childbirth: Medicalization and construction of a hospital delivery assistance script in brazil in mid-20th century. *Saude E Soc.* **2019**, *28*, 171–184. [CrossRef]
11. Chronaki, M. Challenges and redefinitions of birth in the maternity landscapes of volos, Greece. In *Greece: Economic Crises and Management*; Nova Science Publishers, Inc.: Hauppauge, NY, USA, 2016; pp. 57–73, ISBN 978-163484421-5.
12. Leão, M.R.C.; Riesco, M.L.G.; Schneck, C.A.; Angelo, M. Reflections on the excessive rates of cesareans in Brazil and the empowerment of women. *Cienc. E Saude Coletiva* **2013**, *18*, 2395–2400. [CrossRef]
13. Prosen, M.; Tavčar Krajnc, M. Sociological conceptualization of the medicalization of pregnancy and childbirth: The implications in Slovenia. *Rev. Za Sociol.* **2013**, *43*, 251–272. [CrossRef]
14. Anikin, A.; Persson, T.; Arnling Bååth, R. Human Non-linguistic Vocal Repertoire: Call Types and Their Meaning. *J. Nonverbal Behav.* **2018**, *42*, 53–80. [CrossRef]
15. Anikin, A.; Canessa-Pollard, V.; Pisanski, K.; Massenet, M.; Reby, D. Beyond speech: Exploring diversity in the human voice. *iScience* **2023**, *26*, 108204. [CrossRef]
16. Raine, J.; Pisanski, K.; Reby, D. Tennis grunts communicate acoustic cues to sex and contest outcome. *Anim. Behav.* **2017**, *130*, 47–55. [CrossRef]
17. Nakamichi, M. Non-human primate birth and human birth. *Primates J. Primatol.* **2023**, *64*, 551–556. [CrossRef]
18. Baker, A.; Kenner, A.N. Communication of Pain: Vocalization as an Indicator of the Stage of Labour. *Aust. N. Z. J. Obstet. Gynaecol.* **1993**, *33*, 384–385. [CrossRef]
19. Mendonça, P.P.d.A.; Vieira, L.B.; Silva, V.L.; Zveiter, M. The use of your own voice in labor: A phenomenological study. *Rev. Gaúcha Enferm.* **2023**, *43*, e20220215. [CrossRef]
20. Danford, K.; Mercein, J. The Birth Process and Voice Training: The Glorious Chorus: A Qualitative Pilot Inquiry. *Voice Speech Rev.* **2017**, *12*, 35–48. [CrossRef]
21. Danford, K.; Roosevelt, L.; Vroom, A.; Harris, L.; Zielinski, R. Impolite Birth: Theatre Voice Training and the Experience of Childbirth. *Voice Speech Rev.* **2022**, *17*, 167–181. [CrossRef]
22. Pierce, B. The practice of toning in pregnancy and labour: Participant experiences. *Complement. Ther. Nurs. Midwifery* **1998**, *4*, 41–46. [CrossRef]
23. Leppänen, T. Always More Than Two: Vibrations, the Foetus, and the Pregnant Person in Childbirth Singing Practices. *NORA—Nord. J. Fem. Gend. Res.* **2018**, *26*, 99–111. [CrossRef]

24. Neta, J.N.; Amorim, M.M.; Guendler, J.; Delgado, A.; Lemos, A.; Katz, L. Vocalization during the second stage of labor to prevent perineal trauma: A randomized controlled trial. *Eur. J. Obstet. Gynecol. Reprod. Biol.* **2022**, *275*, 46–53. [CrossRef] [PubMed]
25. Navarro-Prado, S.; Sánchez-Ojeda, M.; Marmolejo-Martín, J.; Kapravelou, G.; Fernández-Gómez, E.; Martín-Salvador, A. Cultural influence on the expression of labour-associated pain. *BMC Pregnancy Childbirth* **2022**, *22*, 836. [CrossRef]
26. Ozcan, H.; Samur, I.; Uzun, F.; Sahin, R. Cultural Methods Used by Women Who Give Vaginal Birth to Cope with Birth Labour Pain. *Int. J. Caring Sci.* **2021**, *14*, 1106–1114.
27. Howson, A. *Qualitative Research Methods (Sociology)*; Salem Press: Hackensack, NJ, USA, 2024.
28. Bouncken, R.B.; Czakon, W.; Schmitt, F. Purposeful sampling and saturation in qualitative research methodologies: Recommendations and review. *Rev. Manag. Sci.* **2025**. [CrossRef]
29. Shaheen, M.; Pradhan, S.; Ranajee. Sampling in Qualitative Research. In *Qualitative Techniques for Workplace Data Analysis*; IGI Global Scientific Publishing: Hershey, PA, USA, 2019; pp. 25–51. [CrossRef]
30. Vasileiou, K.; Barnett, J.; Thorpe, S.; Young, T. Characterising and justifying sample size sufficiency in interview-based studies: Systematic analysis of qualitative health research over a 15-year period. *BMC Med. Res. Methodol.* **2018**, *18*, 148. [CrossRef] [PubMed]
31. Lu, Y.; Jian, M.; Muhamad, N.S.; Hizam-Hanafiah, M. Data saturation in qualitative research: A literature review in entrepreneurship study from 2004–2024. *J. Infrastruct. Policy Dev.* **2024**, *8*, 9753. [CrossRef]
32. Maroco, J. *Análise Estatística Com o SPSS Statistics João Marôco*, 8th ed.; ReportNumber Lda: Pêro Pinheiro, Portugal, 2018.
33. Polit, D.F.; Beck, C.T. *Fundamentos de Pesquisa em Enfermagem—Avaliação de Evidências Para a Prática da Enfermagem*, 9th ed.; Artmed Editora: Porto Alegre, Brazil, 2018; ISBN 978-85-8271-489-8.
34. Mercer, R.T. Nursing Support of the Process of Becoming a Mother. *J. Obstet. Gynecol. Neonatal Nurs.* **2006**, *35*, 649–651. [CrossRef]
35. Beiranvand, S.P.; Moghaddam, Z.B.; Hasani, M.; Beiranvand, S.; Beygizadeh, A. Fear of natural childbirth and its related factors among primigravid women: A mixed-methods study. *Iran. J. Obstet. Gynecol. Infertil.* **2024**, *27*, 21–36. [CrossRef]
36. Mckay, S.; Roberts, J. Obstetrics by ear *1Maternal and caregiver perceptions of the meaning of maternal sounds during second stage labor. *J. Nurse. Midwifery* **1990**, *35*, 266–273. [CrossRef]
37. Fuller, B.F.; Roberts, J.E.; McKay, S. Acoustical analysis of maternal sounds during the second stage of labor. *Appl. Nurs. Res.* **1993**, *6*, 8–12. [CrossRef] [PubMed]
38. McGettigan, C.; Scott, S.K. Voluntary and involuntary processes affect the production of verbal and non-verbal signals by the human voice. *Behav. Brain Sci.* **2014**, *37*, 564–565. [CrossRef]
39. Anikin, A.; Persson, T. Nonlinguistic vocalizations from online amateur videos for emotion research: A validated corpus. *Behav. Res. Methods* **2017**, *49*, 758–771. [CrossRef]
40. Owren, M.J.; Amoss, R.T.; Rendall, D. Two Organizing Principles of Vocal Production: Implications for Nonhuman and Human Primates. *Am. J. Primatol.* **2011**, *73*, 530–544. [CrossRef]
41. Dahan, O. Birthing Consciousness as a Case of Adaptive Altered State of Consciousness Associated With Transient Hypofrontality. *Perspect. Psychol. Sci.* **2020**, *15*, 794–808. [CrossRef] [PubMed]
42. Carvalho, M.E.S. *A Musicoterapia Pré-Natal: Da Criação de Uma Canção do Bebé Imaginário à Observação da Musicalidade Comunicativa Mãe-Bebé Após o Nascimento*; Centro de Estudos de Sociologia e Estética Musical: Lisboa, Portugal, 2019.
43. Bastos, A.N.; Rossarola, A.; Abbud, L.; Brandão, M. As conquistas das mulheres na sociedade patriarcal. *J. Eletrônico Fac. Integradas Vianna Júnior* **2019**, *8*, 26.
44. Djorić, M. The Attitudes of Roma Women on Violent Extremism and Radicalization in Serbia: A Preliminary Study. *Natl. Ethn. Polit.* **2021**, *27*, 213–225. [CrossRef]
45. Hasdeu, I. Roma: A community of married people. Reflections on gender and ethnicity from the women's point of view. *Acta Ethnogr. Hung.* **2014**, *59*, 69–83. [CrossRef]
46. Merhaut, M. Theoretical studies focused on gender discrimination against roma women in the Czech Republic. *J. Ethn. Cult. Stud.* **2019**, *6*, 28–44. [CrossRef]
47. Delgado, A.; Lemos, A.; Boaviagem, A.; Araújo, A.E.d. Prescription of breathing orientations given by the healthcare team during labor: A cross-sectional study. *O Mundo Saúde* **2018**, *42*, 628–641. [CrossRef]
48. Zhang, Z.; Peng, Y.; Chen, T. Om chanting modulates the processing of negative stimuli: Behavioral and electrophysiological evidence. *Front. Psychol.* **2022**, *13*, 943243. [CrossRef]
49. Deumert, A. Positive vibrations—voice, sound, and resonance as insurgency. *Crit. Inq. Lang. Stud.* **2023**, *20*, 408–425. [CrossRef]
50. Yilmaz Menek, M.; Dansuk, E.; Tayboga, U.I. Effect of Local Vibration Therapy on Pain, Joint Position Sense, Kinesiophobia, and Disability in Cervical Disc Herniation: A Randomized Controlled Trial. *J. Clin. Med.* **2024**, *13*, 4566. [CrossRef]
51. Swee, G.; Schirmer, A. On the Importance of Being Vocal: Saying "Ow" Improves Pain Tolerance. *J. Pain* **2015**, *16*, 326–334. [CrossRef]
52. Kuzmin, V.E. "Il Mio Tesoro" by Wolfgang Amadeus Mozart: The Individual Features of Breath Control by Tenor Singers upon Performance of Vocalizations. *Music. Scholarsh. Probl. Muzykalnoj Nauk.* **2020**, *4*, 241–249. [CrossRef]

53. Cooke, A. When will we change practice and stop directing pushing in labour? *Br. J. Midwifery* **2010**, *18*, 76–81. [CrossRef]
54. Çalik, K.Y.; Karabulutlu, Ö.; Yavuz, C. First do no harm—interventions during labor and maternal satisfaction: A descriptive cross-sectional study. *BMC Pregnancy Childbirth* **2018**, *18*, 415. [CrossRef]
55. Lee, N.; Gao, Y.; Lotz, L.; Kildea, S. Maternal and neonatal outcomes from a comparison of spontaneous and directed pushing in second stage. *Women Birth* **2019**, *32*, e433–e440. [CrossRef] [PubMed]
56. Farley, D.; Piszczek, Ł.; Bąbel, P. Why is running a marathon like giving birth? The possible role of oxytocin in the underestimation of the memory of pain induced by labor and intense exercise. *Med. Hypotheses* **2019**, *128*, 86–90. [CrossRef]
57. Callison, E.R.; Berg, K.E.; Slivka, D.R. Grunting in Tennis Increases Ball Velocity but Not Oxygen Cost. *J. Strength Cond. Res.* **2014**, *28*, 1915–1919. [CrossRef]
58. Brewer, J.F.; Man, T.H.; Weldon, J.S.; Hinman, M.R.; O'COnnell, D.G. The Effects of Forced Exhalation and Inhalation, Grunting, and Valsalva Maneuver on Forehand Force in Collegiate Tennis Players. *J. Strength Cond. Res.* **2016**, *30*, 430–437. [CrossRef]
59. Tammany, J.E.; O'Connell, D.G.; Latham, S.E.; Rogers, J.A.; Sugar, T.S. The effect of grunting on overhead throwing velocity in collegiate baseball pitchers. *Int. J. Sports Sci. Coach.* **2021**, *16*, 1111–1116. [CrossRef]
60. Zuarez-Easton, S.; Erez, O.; Zafran, N.; Carmeli, J.; Garmi, G.; Salim, R. Pharmacologic and nonpharmacologic options for pain relief during labor: An expert review. *Am. J. Obstet. Gynecol.* **2023**, *228*, S1246–S1259. [CrossRef] [PubMed]
61. Halliday, L.; Nelson, S.M.; Kearns, R.J. Epidural analgesia in labor: A narrative review. *Int. J. Gynaecol. Obstet. Off. Organ Int. Fed. Gynaecol. Obstet.* **2022**, *159*, 356–364. [CrossRef]
62. Kličan-Jaić, K.; Pešić, M.; Ivanovski, I.; Banožić, I.; Vučić, M.; Kuna, K. Trend and development of epidural analgesia and epidural anesthesia in the maternitiy ward of UHC Sestre milosrdnice over the past ten years; [Trend i razvoj epiduralne analgezije i epiduralne anestezije u rodilištu KBC-a Sestre milosrdnice tijekom prošlih deset godina]. *Lijec. Vjesn.* **2020**, *142*, 135–139. [CrossRef]
63. Sridharan, D.; Ryan, K.; Griffin, A.; Adam, K.; Lusby, C.; Patel, R.; Lynn, M.; Adams, W.; Pham, T.; Frenn, R. Patient Decision Making Surrounding Epidural Use in Labor. *North Am. Proc. Gynecol. Obstet.* **2024**, *3*. [CrossRef]
64. Ismail, S.; Abbasi, S.; Khan, S.; Monem, A.; Afshan, G. Factors associated with choice of delivery with or without epidural analgesia among laboring women: A cross-sectional survey at a tertiary care hospital of a developing country. *J. Perinat. Med.* **2015**, *44*, 799–806. [CrossRef]
65. Toledo, P.; Sun, J.; Peralta, F.; Grobman, W.A.; Wong, C.A.; Hasnain-Wynia, R. A qualitative analysis of parturients' perspectives on neuraxial labor analgesia. *Int. J. Obstet. Anesth.* **2013**, *22*, 119–123. [CrossRef]
66. Van den Bussche, E.; Crombez, G.; Eccleston, C.; Sullivan, M.J.L. Why women prefer epidural analgesia during childbirth: The role of beliefs about epidural analgesia and pain catastrophizing. *Eur. J. Pain* **2007**, *11*, 275–282. [CrossRef]
67. Goffinet, F.; Palot, M.; Garel, M.; Blondel, B.; Le Ray, C. Factors Associated with the Choice of Delivery without Epidural Analgesia in Women at Low Risk in France. *Birth* **2008**, *35*, 171–178. [CrossRef] [PubMed]
68. Gjærum, R.; Johansen, I.H.; Øian, P.; Bernitz, S.; Dalbye, R. Associations between cervical dilatation on admission and mode of delivery, a cohort study of Norwegian nulliparous women. *Sex. Reprod. Healthc.* **2022**, *31*, 100691. [CrossRef] [PubMed]
69. Cesario, S.K. Reevaluation of Friedman's Labor Curve: A pilot study. *JOGNN—J. Obstet. Gynecol. Neonatal Nurs.* **2004**, *33*, 713–722. [CrossRef] [PubMed]
70. Meng, R.; Shi, X.; Gao, Y.; Qin, L.; Li, J.; Chen, S.; Yang, W.; Si, R.; Yin, X.; Dong, F. Relationship between the duration of the second stage of labor and postpartum hemorrhage within 2 hours in primiparas undergoing epidural analgesia. *Chin. J. Perinat. Med.* **2024**, *27*, 1071–1075. [CrossRef]
71. Tilden, E.L.; Caughey, A.B.; Ahlberg, M.; Lundborg, L.; Wikström, A.-K.; Liu, X.; Ng, K.; Lapidus, J.; Sandström, A. Latent phase duration and associated outcomes: A contemporary, population-based observational study. *Am. J. Obstet. Gynecol.* **2023**, *228*, S1025–S1036.e9. [CrossRef]
72. Siddiqui, F.J.; Zeng, Y.; Sia, A.T.H.; Leong, W.L.; Assam, P.N.; Lim, Y.; Sng, B.L.; Chan, E. Early versus late initiation of epidural analgesia for labour. *Cochrane Database Syst. Rev.* **2014**, *2014*. [CrossRef]
73. Klein, B.E.; Gouveia, H.G. Use of Non-Pharmacological Pain Relief Methods in Labor. *Cogitare Enferm.* **2022**, *27*, e80300. [CrossRef]
74. Olza, I.; Leahy-Warren, P.; Benyamini, Y.; Kazmierczak, M.; Karlsdottir, S.I.; Spyridou, A.; Crespo-Mirasol, E.; Takács, L.; Hall, P.; Murphy, M.; et al. Women's psychological experiences of physiological childbirth: A metasynthesis. *BMJ Open* **2018**, *8*, e020347. [CrossRef]
75. Nilsson, C.; Hessman, E.; Sjöblom, H.; Dencker, A.; Jangsten, E.; Mollberg, M.; Patel, H.; Sparud-Lundin, C.; Wigert, H.; Begley, C. Definitions, measurements and prevalence of fear of childbirth: A systematic review. *BMC Pregnancy Childbirth* **2018**, *18*, 28. [CrossRef]
76. Andaroon, N.; Kordi, M.; Kimiaei, S.A.; Esmaeili, H. Relationship between Intensity of fear of Childbirth with choosing mode of delivery in Primiparous Women. *Iran. J. Obstet. Gynecol. Infertil.* **2017**, *20*, 68–75. [CrossRef]
77. Halmesmäki, E.; Saisto, T. Fear of childbirth: A neglected dilemma. *Acta Obstet. Gynecol. Scand.* **2003**, *82*, 201–208. [CrossRef]

78. Indraccolo, U.; Sassano, M.T.; Iorio, R.D.; Bonito, M.; Salvatore, R. Indraccolo Expectations and knowledge of intrapartum epidural analgesia: What women want. *Ital. J. Gynaecol. Obstet.* **2018**, *30*, 23–28. [CrossRef]
79. Alsbrooks, K.; Hoerauf, K. Prevalence, causes, impacts, and management of needle phobia: An international survey of a general adult population. *PLoS ONE* **2022**, *17*, e0276814. [CrossRef]
80. Ahmadi, Z. Identifying and Explaining Experiences of Fear of Childbirth and Coping Strategies: A Qualitative Study. *J. Qual. Res. Health Sci.* **2020**, *9*, 47–58. [CrossRef]
81. Wang, S.; Jiang, H. Research progress on the fear of childbirth intervention in foreign countries. *Chin. J. Pract. Nurs.* **2019**, *35*, 2797–2801. [CrossRef]
82. Wang, Y.; Liu, C.; Sun, Y.; Yuan, Y.; Chen, L. The mediating role of coping style in the relationship between fear of childbirth and psychological birth trauma among natural childbirth women in China: A structural equation model analysis. *BMC Pregnancy Childbirth* **2025**, *25*, 18. [CrossRef]
83. Otley, H. Fear of childbirth: Understanding the causes, impact and treatment. *Br. J. Midwifery* **2011**, *19*, 215–220. [CrossRef]
84. Dahan, O.; Goldberg, A. Birthing With Others: Exploring the Efficacy of One-On-One Professional Support on Physiological Birth and Flow State. *Birth* **2025**. [CrossRef] [PubMed]
85. Sserwanja, Q.; Mukunya, D.; Musaba, M.W.; Mutisya, L.M.; Kamara, K.; Ziaei, S. Women empowerment indices and utilization of health facilities during childbirth: Evidence from the 2019 Sierra Leone demographic health survey. *BMC Health Serv. Res.* **2023**, *23*, 109. [CrossRef] [PubMed]
86. Bhowmik, J.; Apputhurai, P.; Williams, J.; Biswas, R.K. Investigating the role of women's education status and empowerment on accessing skilled birth attendance in Bangladesh: A structural equation modelling approach. *Midwifery* **2024**, *138*, 104140. [CrossRef]
87. Wang, X.; Wang, X.; Wan, X.; Wen, X.; Lv, C.; Zhai, J. Empowering women with fetal malpositions: Enhancing childbirth experience and empowerment through educational interventions: A randomized controlled clinical trial. *BMC Pregnancy Childbirth* **2024**, *24*, 859. [CrossRef]
88. Baptie, G.; Januário, E.M.; Norman, A. Empowered or powerless? Contributing factors to women's appraisal of traumatic childbirth. *Br. J. Midwifery* **2021**, *29*, 674–682. [CrossRef]
89. Shen, H.; Zhao, H.; Wang, B.; Jiang, Y. Women's status, empowerment, and utilization of skilled delivery services in Papua New Guinea: An empirical analysis based on structural equation modeling. *Front. Public Health* **2023**, *11*, 1192966. [CrossRef]
90. Coates, R.; Ayers, S.; de Visser, R. Women's experiences of postnatal distress: A qualitative study. *BMC Pregnancy Childbirth* **2014**, *14*, 359. [CrossRef] [PubMed]
91. Hutton, E.; Lucas, C.; Boxem, J.; Prins, M. Effect of spontaneous pushing versus Valsalva pushing in the second stage of labour on mother and fetus: A systematic review of randomised trials: Spontaneous versus Valsalva pushing in labour. *BJOG Int. J. Obstet. Gynaecol.* **2011**, *118*, 662–670. [CrossRef]
92. Koyucu, R.G.; Demirci, N. Effects of pushing techniques during the second stage of labor: A randomized controlled trial. *Taiwan. J. Obstet. Gynecol.* **2017**, *56*, 606–612. [CrossRef]
93. Miller, J.M.; DeLancey, J.O.L.; Guo, Y.; Ashton-Miller, J.A.; Sampselle, C.M.; Low, L.K. Spontaneous pushing to prevent postpartum urinary incontinence: A randomized, controlled trial. *Int. Urogynecology J.* **2012**, *24*, 453–460. [CrossRef]
94. Fabian, H.M.; Rådestad, I.J.; Waldenström, U. Characteristics of Swedish women who do not attend childbirth and parenthood education classes during pregnancy. *Midwifery* **2004**, *20*, 226–235. [CrossRef] [PubMed]
95. Jakubiec, D.; Jagielska, K.; Karmowski, M.; Kubicka, K.; Karmowski, A.; Sobiech, K.A. Effect of attending childbirth education classes on psychological distress in pregnant women measured by means of the General Health Questionnaire. *Adv. Clin. Exp. Med.* **2014**, *23*, 953–957. [CrossRef] [PubMed]