BMJ Open

Allophone immigrant women's knowledge and perceptions of epidural analgesia during labour: a qualitative study

Journal:	*BMJ Open*
Manuscript ID	bmjopen-2021-057125
Article Type:	Original research
Date Submitted by the Author:	09-Sep-2021
Complete List of Authors:	Dominicé Dao, Melissa; Geneva University Hospitals, Primary Care; University of Geneva Faculty of Medicine Gerosa, Désirée; Geneva University Hospitals, Woman, Child and Adolescent; University of Applied Sciences and Arts Western Switzerland, School of health sciences Pélieu, Iris; Geneva University Hospitals, Acute Care Medicine haller, guy; Geneva University Hospitals, Acute Care Medicine; University of Geneva, Faculty of Medicine
Keywords:	Anaesthesia in obstetrics < ANAESTHETICS, PAIN MANAGEMENT, QUALITATIVE RESEARCH, REPRODUCTIVE MEDICINE, Maternal medicine < OBSTETRICS

I, the Submitting Author has the right to grant and does grant on behalf of all authors of the Work (as defined in the below author licence), an exclusive licence and/or a non-exclusive licence for contributions from authors who are: i) UK Crown employees; ii) where BMJ has agreed a CC-BY licence shall apply, and/or iii) in accordance with the terms applicable for US Federal Government officers or employees acting as part of their official duties; on a worldwide, perpetual, irrevocable, royalty-free basis to BMJ Publishing Group Ltd ("BMJ") its licensees and where the relevant Journal is co-owned by BMJ to the co-owners of the Journal, to publish the Work in this journal and any other BMJ products and to exploit all rights, as set out in our licence.

The Submitting Author accepts and understands that any supply made under these terms is made by BMJ to the Submitting Author unless you are acting as an employee on behalf of your employer or a postgraduate student of an affiliated institution which is paying any applicable article publishing charge ("APC") for Open Access articles. Where the Submitting Author wishes to make the Work available on an Open Access basis (and intends to pay the relevant APC), the terms of reuse of such Open Access shall be governed by a Creative Commons licence – details of these licences and which Creative Commons licence will apply to this Work are set out in our licence referred to above.

Other than as permitted in any relevant BMJ Author's Self Archiving Policies, I confirm this Work has not been accepted for publication elsewhere, is not being considered for publication elsewhere and does not duplicate material already published. I confirm all authors consent to publication of this Work and authorise the granting of this licence.

Allophone immigrant women's knowledge and perceptions of epidural analgesia during labour: a qualitative study

Melissa Dominicé Dao[1], Désirée Gerosa[2], Iris Pélieu[3], Guy Haller[4,5]

1 MD, Msc, Transcultural Consultation, Division of Primary Care, Department of Primary Care, Geneva University Hospitals and Faculty of Medicine, University of Geneva, Geneva, Switzerland

2 Midwife, Msc, Department of Obstetrics and Gynaecology, University Hospitals of Geneva, Geneva, Switzerland and School of Health Sciences Geneva HES-SO University of Applied Sciences and Arts Western Switzerland

3 MD, Consultant, Division of Division of Anesthesiology, Unit of Maternal Care, Geneva University Hospitals

4 MD, Msc, PhD Department of Acute Care Medicine, Division of Anesthesiology, Unit of Maternal Care, Geneva University Hospitals and Faculty of Medicine, University of Geneva, Geneva, Switzerland

5. MD, Msc, PhD Department of Epidemiology and Preventive Medicine, Health Services Management and Research Unit, Monash University, Melbourne Victoria, Australia

Corresponding Author:

Dr Melissa Dominicé Dao
Transcultural Consultation
Division of Primary Care
Department of Primary Care
Geneva University Hospitals
4, rue Gabrielle Perret-Gentil
1211 Geneva, Switzerland
mailto:Melissa.Dominice@hcuge.ch
+4179 55 33 317

.

Word count: 4152 (including patient excerpts)

ABSTRACT :

Objectives: To explore allophone immigrant women's knowledge and perceptions of epidural analgesia, in order to identify their information needs prior to the procedure.

Design: We conducted focus groups (FG) with allophone women from five different linguistic immigrant communities, with the aid of professional interpreters. Thematic analysis of FG transcripts was carried out by all authors.

Setting: Women were recruited at two non-profit associations offering French language and cultural integration training to non-French speaking immigrant women in Geneva.

Participants: Forty women from 10 countries who spoke either Albanian, Arabic, Farsi/Dari, Tamil or Tigrigna. Four participants were nulliparous, but all others had previous experience of labour and delivery, often in European countries. A single FG was conducted for each of the 5 language groups.

Results: We identified five main themes: (1) Women's partial knowledge of epidural analgesia procedures; (2) Strong fears of short and long term negative consequences of epidural analgesia during childbirth; (3) Reliance on multiple sources of information regarding epidural analgesia for childbirth; (4) Presentation of salient narratives of labour pain to justify their attitudes toward epidural analgesia; and (5) Complex community positioning of pro-epidural women.

Conclusions: Women in our study had partial knowledge of epidural analgesia and had perceptions of a high risk-to-benefits ratio of epidural analgesia. Diverse and sometimes conflicting information about epidural analgesia can interfere with women's' decisions about epidural analgesia. Our study suggests that women need comprehensive but also tailored information in their own language to support their decision-making regarding labor analgesia.

Keywords: Epidural analgesia; immigrant women; allophone; labor pain; representations; social positioning; qualitative research

STRENGTHS AND LIMITATIONS OF THIS STUDY:

Strengths:

- The inclusion of a diverse sample of hard-to-reach subjects allowed exploration of differences between language groups.
- Focus group discussions with the aid of community interpreters created a comfortable atmosphere in which participants could freely express themselves.
- A diverse research team involved in all aspects of the study allowed for multiple perspectives on the FG results.
- Attention was given to reflexivity throughout the study in an attempt to avoid bias associated with individual researchers' personal and professional beliefs and experiences with epidural analgesia for labour pain management.

Limitations:

- No data were collected on participants' education level, health literacy or migration history, and therefore their influence on participants' knowledge and perceptions could not be explored.
- This was a small single-site study with a non-representative sample of participants, and therefore results cannot be generalized to other contexts.

INTRODUCTION:

Epidural analgesia and anesthesia has become the most widely used pain control method in obstetrics, allowing either vaginal childbirth or cesarean section, if required. In the UK and USA, 60% of women will give birth under epidural analgesia, 69% in Canada and 83% in France.[1-3] While largely available in Western countries, epidural labour analgesia shows lower rates of use amongst immigrant women and parturients from ethnic minorities. In a study set in Ireland, women from Africa were three-times less likely than their Western European counterparts to have epidural analgesia for labour and delivery.[4] [5] In another study in Norway, 30% of women originating from Pakistan compared with 9% native Norwegian women received no analgesia for labour pain management.[6] In a large US study conducted by the Center for Disease Control and Prevention, researchers found large disparities across ethnic groups in the use of epidural labour analgesia; non-Hispanic white women were found to be the most likely to receive neuraxial analgesia and Afro-American women the least likely.[7]

There are several hypothesis to explain these disparities. One is the often lower socioeconomic level of women from non-dominant ethnic groups, which can negatively impact access to care, including epidural analgesia techniques.[8] Another possible explanation is the lower level of knowledge of labor analgesia in immigrant and ethnic minority women. Several studies found that women from non-Western countries were less likely to ask for epidural analgesia because they had little awareness that labour pain can be relieved.[9] [10] [11] Researchers even found that Somali women in the USA had substantial resistance to any labour related intervention because they believed it would increase the risk of cesarean section or death.[11] Other possible causes of disparities include difficulties accessing adequate information due to a language barrier, staff's limited time, fewer opportunities offered to members of ethnic minorities to express personal preferences and prior suboptimal experiences with Western world health care institutions.[12] An extensive literature review exploring women's experiences of pregnancy confirmed that immigrant women often encountered difficulties navigating the healthcare system, being understood and receiving treatments respectful of their cultural background. [13]

While several barriers related to language, social and economic status, awareness of labour pain analgesia, and prior negative healthcare experience have been identified, less is known about immigrant women and ethnic minority parturients' specific knowledge and perceptions of epidural analgesia. Furthermore little is known about the type of information that these women wish to receive in order to make an informed decision regarding epidural analgesia for labour pain. An improved understanding of these women's information needs may help the development of tailored information to enhance informed decision making. Our study aimed to explore allophone immigrant women's knowledge and perceptions of epidural analgesia, in order to identify their information needs for better decision-making.

METHODS:

Design, setting, rationale

The study is part of larger project aimed at developing and assessing the impact of a multilingual short information video on epidural labour analgesia specifically designed for immigrant allophone women. To identify their knowledge, perceptions and information needs regarding the epidural analgesia technique, we used exploratory qualitative methods with focus groups. The details of the method used is reported according to the Consolidated criteria for reporting qualitative research (COREQ) checklist (see Supplementary file).[14]

The study was set in Geneva (Switzerland), a cosmopolitan city where 64 % of the population holds a foreign passport and 54% of women who give birth at the main public hospital (Geneva University Hospitals or HUG) have a primary language other than French (the official language of Geneva).[15]

Sampling and participant recruitment

Using the HUG Maternity hospital interpreter services use data, we identified the most frequently requested interpreter languages for women admitted for labour and delivery. We selected five languages for our: Tigrigna, Dari/Farsi, Albanian, Tamil and Arabic. We contacted two well-known non-profit associations offering French language and cultural integration training to non-French speaking immigrant women in Geneva.[16 17] Women were approached during their French language classes and invited to participate in the focus groups on a voluntary basis. All participants were informed about the research purpose and design and provided written consent to participate in the study. Information on the study was provided in their own language by a professional community interpreter. Inclusion criteria included being female, over 18 years of age and belonging to one of the five linguistic communities selected. Childbirth experience was not an inclusion criteria. Participants were offered light refreshments and were given a voucher from a local grocery store after the focus group.

Data collection

For focus group animation, we used a discussion guide developed through discussions with experienced interpreters, experts in transcultural consulting, healthcare professionals and patients. It contained 14 questions, focused on: prior knowledge and representations of epidural analgesia for childbirth, information needs, expectations of epidural analgesia, knowledge of the epidural procedure, and preferences regarding visual aspects of an informative film (see Supplementary file). A short video showing how an epidural is performed was also shown at the end of the interview to trigger additional questions and discussion content from the participants. FG lasted 2 hours including a short break.

Focus groups were held in empty classrooms at the language school. For each focus group, a professional female interpreter was hired, chosen for her extensive experience with immigrant communities. Focus groups were led by two female experienced researchers (MDD, DG, IP). A short summary of relevant topics discussed during the sessions, as well as observations of group dynamics, were drafted by the two researchers immediately following focus group sessions. This was performed in order to facilitate content analysis. All focus groups discussions were audio recorded, and only the French language portions of the recordings were transcribed (interviewers' questions and interpreters' translations of participants' comments).

Data analysis

During the data collection period, regular meetings between researchers took place to reflect on group animation processes, interview content and to identify emerging themes. Each transcript was first analyzed separately by each researcher (MDD, IP, DG, GH) and then discussed together in order to develop a consensus coding list. Some codes emerged inductively from the data, while others emanated deductively from the interview questions. The final code list, resulting from a consensus meeting between all researchers, was then used to code all five focus group transcripts.

All researchers first coded each focus group transcript separately. Consensus meetings were then held to compare coding and resolve discrepancies. Tables were created to compare coding results across transcripts. Main themes were identified and discussed for each focus group and then compared across the five groups. A thematic analysis framework was used in order to bridge inductive and deductive coding methods.[18 19] Notes from each meeting were kept and referred to throughout the research process.

Reflexivity

Because researchers were aware that their personal beliefs, their gender, their prior personal and professional experiences of childbirth, and their individual perspectives regarding epidural analgesia could influence data collection and analysis, these were discussed during team meetings throughout the study process. Researchers' different personal and professional backgrounds helped to identify individual norms and assumptions in order to minimize their impact on data collection and interpretation.

Patient and public involvement

Patients were involved in the construction of the discussion guide, through identification of relevant themes. They informed preferences regarding gender of interviewers and FG settings. They did not participate in the recruitment or data analysis. Participants will access results through an invitation to

watch the information video about epidural analgesia whose content and format are based on the FG content.

RESULTS:

Five focus groups involving 40 immigrant women from 10 different countries were conducted between May and September 2019. Participants were all native speakers of one of the five selected languages (Albanian, Arabic, Farsi/Dari, Tamil and Tigrigna). None of the participants spoke French. **Table 1** provides an overview of participants' characteristics within each of the groups.

Table 1: participant characteristics for each language group

Focus group language	Countries of origin	Number of participants	Age range	Childbirth history
Albanian	Kosovo, Albania	9	25 to 46 years old	5 women with 1-4 children, 1 pregnant again 3 women had none
Arabic	Syria, Sudan, Irak, Egypt, Palestine	7	30 to 60 years old	All with 2 to 4 children 1 is pregnant again
Farsi/Dari	Iran, Afghanistan	7	32 to 57 years old	All with 2 to 5 children
Tamil	Sri Lanka	8	37 to 52 years old	7 had 1 to 3 children 1 had none
Tigrigna	Eritrea	9	23 to 41 years old	All had 1 to 4 children

Women knew each other from their French classes and the dynamic within groups was very lively. They willingly shared personal childbirth experiences (sometimes distressing ones) from their original home country or in Europe. With the exception of Iran, women declared that epidural analgesia was not routinely offered for vaginal deliveries in their homeland. Some of them had knowledge that this type of procedure could also be used for Cesarean section or other types of surgery, both in men and women. Women had many questions and were eager for more information about epidural analgesia during childbirth, but also about sexual and reproductive health.

Five main themes emerged from the focus group discussions: (1) Women's partial knowledge of epidural analgesia procedures; (2) Strong fears of short and long term negative consequences of epidural analgesia during childbirth; (3) Reliance on multiple sources of information regarding epidural analgesia

for childbirth; (4) Presentation of salient narratives of labour pain to justify their attitudes toward epidural analgesia; and (5) Complex community positioning of pro-epidural women.

Partial knowledge of epidural analgesia procedure

While in all groups many women were aware of the availability of epidural analgesia for childbirth, their understanding of the procedure varied widely and was often patchy. All groups mentioned that epidural analgesia is performed by an injection through a needle inserted in the back and is used to relieve labor pain.

> *If there is too much pain, it exists to ease the pain. It's called epidural, they can inject you, as you want. (Tigrigna)*
>
> *I didn't know the name, but I knew that there was an injection in the back. (Albanian)*

The Albanian, Arabic and Tigrigna groups commented that the procedure was also used for Caesarian sections but only the Arabic and Dari groups mentioned that an anesthesiologist was required to perform the procedure.

All patients in all groups were aware that during needle insertion, they had to stay still. A key concern in all groups was the risk of harm from the needle if woman moved during the procedure.

> *It's very important not to move, because the injection has to be done in a precise place. Otherwise we can have paralysis. (Dari)*
>
> *The anesthesiologist explained that I shouldn't have a cold, that I shouldn't cough, that I absolutely should not move* [during the procedure]. *(Arabic)*

Very few women could cite additional aspects of the procedure such as the risk of total anesthesia of lower extremities or that a catheter remained in the back following needle withdrawal.

> *I heard that, after receiving the epidural, is there some thread or something there? Because I heard, they leave a thread in there or something. (Tigrigna)*

Perception of a high risk to benefits ratio of epidural analgesia

All groups agreed that epidural analgesia can reduce pain associated with childbirth. In addition, some women mentioned that it accelerated post-labour recovery (Arabic), allowed to open female genital mutilations type 3 (Arabic), and eased vaginal delivery, thus avoiding the risk of Caesarian section (Dari).

> *The information we received is that it reduces very much, it reduces pain. (Tamil)*

We heard that if we take the epidural, we feel less the pain, it's an easier delivery for the mom. (Albanian)

Despite these acknowledged benefits, the amount of discussions on the risks and adverse effects of epidural analgesia was striking in all groups. Eritrean women were particularly prone to express their concerns over health hazards associated with the procedure.

The main concern was the mother's health, and women in all groups agreed that there was no risk for the baby, as nicely summarized by one Albanian participant: "*it's only for our body".* All groups feared immediate or delayed complications such as pain during the procedure, lower limb paralysis, persistent low back pain and headache.

It's a very difficult, very painful injection. (Arabic)

The needle can go to the wrong place, it can harm a nerve or something. (..) If it's the back that is injured it means that the legs will not walk any more. (Tigrigna)

We risk having pain in the lower back, having headaches. (Dari)

Furthermore women in the Arabic, Dari and Tigrigna groups worried about the impact of epidural analgesia on the delivery process, mainly not being able to push or not knowing when to push.

So my husband told me that if you have an epidural you won't have enough strength to push, to give birth to the baby. (Dari)

In all groups, women frequently referred to generic "adverse effects" of epidural analgesia, although they were often unable to specify the nature of these negative effects even when researchers tried to elicit more information.

But even if it helps us during the delivery, later it will cause problems. (Tamil)

We hear discussions around us, women say "it's not good for your health". That's all, but I don't know how. (Tigrigna)

Reliance on plural sources of information on epidural analgesia for childbirth

Participants relied on various sources of information on epidural analgesia for childbirth. Those who did not know much about the procedure often mentioned that the procedure was not available in their home country.

Women who had previous personal experience of epidural analgesia referred to it as a valid source of information, and often contrasted their positive experience with the negative information they overheard.

The others say it will hurt your back (…). But I say no, I had it twice [the epidural]*, and I have never had* [back] *pain. (Dari)*

Most information was acquired from relatives, friends and community members, especially other women from the same ethnic group. Here again, prior experience of other women was referred to.

> *Once I went home I was told by my relatives that I should not have accepted the epidural because there are secondary effects. (...) I asked my relatives 'where does that come from' and they said 'it happened to certain people'. (Dari)*

> *We hear discussions around us, women say "it's not good for your health". (Tigrigna)*

Health professionals were also often mentioned as reliable and trustful source of information. Women never referred to internet or the social media as a source of information.

Narratives of labour pain to justify one's attitude toward epidural analgesia

Suffering during labor was a strong recurrent theme discussed by participants. Most women justified the need for epidural analgesia by the intolerable intensity of labour pain.

> *So there, my daughter has heard so many things about epidural, she refused it. But as she was in labour, she suffered and, when it was proposed to her, she accepted. And she was pleased because she didn't feel anything. (Arabic)*

> *Me, I had two children. My first child was born in Iran, I saw death with my eyes, and finally I had a Caesarian section. However my second child was born here in Switzerland. So I was very frightened because of that experience I had in Iran. So I was told that with an epidural I might not have pain and at that moment, I accepted. (Iran)*

However, some also denied the benefits of epidural analgesia and described pain associated with childbirth as a natural process that women had to accept and tolerate. Some women also regretted having initially asked for an epidural and not feeling pain. Others underlined that women should at least once in their life feel the pain of childbirth.

> *So normally, in my opinion, it's part of the birth itself. The mother must feel this pain, how the baby will come out, through this pain. (Egyptian)*

> *So at first, as I had too much pain, I accepted. With the second daughter, I said no. Because I already did it once. No, no, no, I didn't want it. (Eritrean)*

> *Me for instance, if I had given birth, it's not that it's dangerous to have the epidural but I would have liked to feel these pains. (Albanian)*

Pain was also seen as a distractor that prevented women from thinking straight, leading them to accept epidural analgesia without paying attention to adverse side effects

At the time of the birth, we don't have good reflexes. When we go through the stage of pain, someone proposes something, immediately we take it. Without thinking about it, all women, they want something to decrease the pain. (Tamil)

Complex community positioning of pro-epidural women

In each group of participants, a number of strong advocates of epidural analgesia emerged. It was not easy for these women to position themselves against the majority of women who systematically discussed negative side effects and considered labour pain as a compulsory part of childbirth experience.

Therefore pro-epidural women often referred to their personal experience to justify and support the use of epidural analgesia.

So I was told that with an epidural I would not have pain. At that moment I accepted, because of my prior bad experience. I had pain but only a little. Once the baby was born, it went well. But once I went home, I was told, my close relatives [told me], that I should not have accepted the epidural because there are secondary effects. Six years later, I am very happy, I don't have any pain or any problem. (Dari)

Epidural supporters also highlighted the fact that adequate information was provided by health professionals and that this encouraged them to choose this technique and improved their freedom.

What I appreciated is that one week before delivery, I was explained everything [through a prenatal consultation]. *If I wanted to give birth vaginally, if I wanted a Caesarian, I was explained everything, so I wasn't scarred. (Dari)*

So for me, I think that what the others said is wrong. Because they give us an appointment before, they explain to us. If we take the epidural, if we do a Caesarian section, they explain it to us. (…) So already we understand what is awaiting us. (Tigrigna)

Some advocates were also assertive and tried to undermine other women's fears of adverse effects

I don't agree with what the others say. It's all in the head because you are scared. (…) Others say that it hurts the back and the pain stays, but no, I had it twice and I never had pain. It all happens in the head, because of being scared to take the epidural, that's it! (Tigrigna)

Probably the woman she already has back pain (…) and then she says "oh, well, it's because of the injection!". (Arabic)

DISCUSSION:

Our study shows that immigrant allophone women from the Middle East, Afghanistan, Iran, Eritrea, Sri-Lanka and Albania are well aware of the availability of epidural analgesia to control labour pain. However, their knowledge of the technique remains incomplete, and negative representations of epidural analgesia as a risky procedure predominates over positive perceptions of its benefits for pain management. Traditional perspectives of pain as a natural part of childbirth is also often advocated. Some women disagree with this traditional perspective, and use subtle narrative strategies such as positive individual experiences to justify the use of epidural analgesia for labour. These pro epidural women also underline the supportive role played by informative health professionals in their decision making process. Eritrean women appeared more worried than others about the side effects and complications associated with the technique. No other significant differences could be observed between ethnic groups.

In low-income countries, many barriers to the development of epidural analgesia have been identified. These include costs, availability of specialized staff and material, awareness of existing labour pain management techniques and beliefs that labour pain is natural and good and should not be treated.[20 21 22] Interestingly in our sample of immigrant women who have moved from low-income to a western high-income country, perspectives differed. Yet all groups of women were aware of labour pain management techniques and had some level of knowledge of the epidural technique. This may be explained by improved access of immigrant women to multiple sources of information and expertise once in western countries. Several information leaflets and prenatal counseling in parturients' native language are available, although the language barrier may sometimes hinder access to information.[23-25]

In our groups of immigrant women, negative representations of epidural analgesia as a risky procedure predominated over positive opinions. This is not specific to immigrant women from low-income countries. Negative representations of epidural analgesia is common including amongst natives from Western high-income countries. The epidural technique is often blamed for slowing the natural process of labour, for increasing the risk of instrumental delivery, for causing long-term back pain, and for impeding breast feeding.[26 27] Although robust scientific data have invalidated these claims,[28 29] many women in high-income countries also consider that epidural analgesia increases their risk of Caesarian section and can cause paraplegia.[30 31]

Another interesting finding of our study is the reliance of women on diverse sources of information and particularly on information provided by peers that have already experienced childbirth with analgesia techniques. This finding does not seem limited to immigrant women, as in a study of parturients in the USA, friends and family members were cited as the most important sources of information regarding epidural analgesia (70.5%), over internet (25%), books (23%) and childbirth classes (22.5%).[32] This highlights the importance of providing peer to peer exchange opportunities, such as collective birthing classes, which are rarely available for allophone parturients due to language barriers. In our sample of allophone immigrant women, husbands, family and other community members were mentioned as

influencing their choice to accept or refuse epidural analgesia. In high-income countries also partners' preferences, recommendations of friends and family members appear to be an important factor influencing the decision of asking or not for epidural analgesia. [23 31 33] Healthcare professionals should thus provide information in a format that women can then share with others, in order to enhance women's autonomy in deciding whether or not to have labour epidural analgesia.

In our study, we also found that perspectives regarding labour pain varied widely. Many women supported a traditional perspective that labour pains are a necessary step toward childbirth and maternity. In a study in Iran, women who had given birth without epidural even expressed a sense of empowerment and belonging to an elite. [34] Furthermore, several qualitative studies in various cultural contexts found that labour pain, although challenging for women, is viewed as a positive, essential and beneficial part of life, and as a source of trust in one's body. [35 36] Health professionals should be aware of these different perceptions of labour pain, and tailor their pain management procedures to the women's personal and cultural preferences. This approach is particularly relevant with immigrant women as they have been found to encounter difficulties constructing their maternal identity across cultures, especially when practices differ between their home and host country.[37] A more conservative approach to labour pain may be challenging to healthcare professionals in Westernized countries, who tend to value a calm and well organized labour room as a tangible indication of their professional competence.[38]

Regardless of cultural perspectives and peer influences on the decision to have or not an epidural, labour pain is sometime overwhelming and can abruptly force women to request labour analgesia. In our study, some participants recall that labour pain was so strong that it hindered their ability to think and overrode their initial decision not to ask for an epidural. Nulliparous parturient women have indeed been shown to increase their wish of epidural analgesia from 27.9% before labour to 48.2% as soon as painful contractions begin.[32] A systematic review of women's expectations regarding labour pain showed that an important proportion of women underestimate the intensity of labor pain.[39] In high-income countries studies, researchers found that 50% of women who had initially not requested an epidural finally asked for it.[40 41] Healthcare professionals should keep this in mind, since women may feel disappointed or defeated when accepting epidural analgesia. Indeed in our study, several women expressed worries and regrets following acceptance of epidural analgesia.

Further research should focus on how to provide precocious and adequate medical information about epidural analgesia, tailored to parturients' individual and cultural perspectives, in order to support their decision making process, especially if their preference goes against traditional community perspectives.

Based on our research findings, **Table 2** offers a checklist of key issues to address by health professionals caring for allophone immigrant women, to help them discuss the option of epidural analgesia for labour pains and enhance these women's autonomy regarding their decision.

Table 2: Key issues to discuss with parturient to enhance autonomy and informed decision making for epidural analgesia during childbirth

Prior to giving information, the clinician should explore:

- Prior women's knowledge and experience of epidural analgesia
- Individual, family and community perspectives regarding labour pain and analgesia
- Presence of family or community members supporting or opposing the use of epidural analgesia

Information about epidural analgesia should include:

- Overall simple description of the technique (i.e. catheter placed in the back)
- What woman should do or not do during the procedure (i.e. movement)
- What women will feel during the procedure
- Risks and benefits of the procedure
- Short and long term side effects and possible complications
- Consequences of not choosing epidural analgesia for pain management
- Alternative pain management options

Provide access to documents in women's own language (paper, online) that allow them to discuss the procesure with family members and peers from their own community

Offer support to women that choose epidural analgesia against their family or community values or perspectives

CONCLUSION:

This study shows that immigrant women's decision regarding epidural analgesia during child birth is a complex interplay between knowledge, experience, attachment to tradition, social positioning and trust in the host country health system. By offering tailored medical information, health professionals can support women who wish to have a pain free labor with epidural analgesia despite the mainstream cultural views of their community. By questioning women's perspectives of labour pain, they can adapt their offer of pain management procedures. Although this is relevant for any woman, it is particularly important with immigrant women, as these women encounter more linguistic, social or cultural barriers in accessing health care preferences. This study also shows that research with often excluded minority communities is not only possible, but yields information that may also benefit the mainstream population.

Author contribution:

GH, IP, MDD, DG conceived and designed the study.

GH and IP wrote the initial draft and protocol and MDD and DG revised it

MDD, DG and IP conducted the focus groups and data collection process

MDD, IP, GH, DG analyzed and interpreted data (codebook elaboration, coding, thematic analysis).

MDD and GH wrote the first draft of the manuscript, all authors revised it and contributed to its final version

Funding statement:

This project received funding (grant QS-0521) from the Geneva University Hospitals' private funding agency ("Fondation privée des HUG") and funding (grant number not applicable) from the Swiss Federal Office for Public Health (OFSP).

All authors declare having no conflict of interest.

Ethical consent:

The study was granted a waiver (Req-2019-00329) from the Cantonal Ethics Committee of Human Research (Switzerland), since no personal or sensitive data were assessed and there was no risk of hazards for participants. Written individual consent to participate was obtained before the focus group and consent form content was translated by professional interpreters.

Acknowledgements:

We wish to thank Camarada and AMICGE for their help organizing the focus groups, patients for their guidance in the design of the focus group interviews and settings, participants for their time and enthusiasm during the focus groups, the Geneva Red Cross and Connexxion interpreters for their excellent translation work, Emma Perneger for the quality of her written transcription of focus group discussions, and Patricia Hudelson for her attentive proofreading of an earlier version of this manuscript.

References :

1. INSERM. Enquête nationale périnatale 2016. Blondel B, Gonzalez L, Raynaud P ed. Paris: INSERM - DRESS, 2017.
2. Silva M, Halpern SH. Epidural analgesia for labor: Current techniques. *Local Reg Anesth* 2010;3:143-53. doi: 10.2147/LRA.S10237 [published Online First: 2010/01/01]
3. Statistics N. NHS Maternity Statistics, England 2019-20, 2020.
4. Husarova V, Macdarby L, Dicker P, et al. The use of pain relief during labor among migrant obstetric populations. *Int J Gynaecol Obstet* 2016;135(2):200-04. doi: 10.1016/j.ijgo.2016.05.003 [published Online First: 2016/09/25]
5. Hayes I, Enohumah K, McCaul C. Care of the migrant obstetric population. *Int J Obstet Anesth* 2011;20(4):321-9. doi: 10.1016/j.ijoa.2011.06.008 [published Online First: 2011/08/16]
6. Vangen S, Stoltenberg C, Schei B. Ethnicity and use of obstetrical analgesia: do Pakistani women receive inadequate pain relief in labour? *Ethn Health* 1996;1(2):161-7. doi: 10.1080/13557858.1996.9961783 [published Online First: 1996/05/01]
7. Osterman MJ, Martin JA. Epidural and spinal anesthesia use during labor: 27-state reporting area, 2008. *Natl Vital Stat Rep* 2011;59(5):1-13, 16. [published Online First: 2011/05/11]
8. Liu N, Wen SW, Manual DG, et al. Social disparity and the use of intrapartum epidural analgesia in a publicly funded health care system. *Am J Obstet Gynecol* 2010;202(3):273 e1-8. doi: 10.1016/j.ajog.2009.10.871 [published Online First: 2010/01/05]
9. James JN, Prakash KS, Ponniah M. Awareness and attitudes towards labour pain and labour pain relief of urban women attending a private antenatal clinic in Chennai, India. *Indian J Anaesth* 2012;56(2):195-8. doi: 10.4103/0019-5049.96331 [published Online First: 2012/06/16]
10. Mung'ayi V, Nekyon D, Karuga R. Knowledge, attitude and use of labour pain relief methods among women attending antenatal clinic in Nairobi. *East Afr Med J* 2008;85(9):438-41. doi: 10.4314/eamj.v85i9.117084 [published Online First: 2009/06/23]
11. Brown E, Carroll J, Fogarty C, et al. "They get a C-section...they gonna die": Somali women's fears of obstetrical interventions in the United States. *J Transcult Nurs* 2010;21(3):220-7. doi: 10.1177/1043659609358780 [published Online First: 2010/06/04]
12. De Freitas C, Massag J, Amorim M, et al. Involvement in maternal care by migrants and ethnic minorities: a narrative review. *Public Health Rev* 2020;41:5. doi: 10.1186/s40985-020-00121-w [published Online First: 2020/04/14]
13. Fair F, Raben L, Watson H, et al. Migrant women's experiences of pregnancy, childbirth and maternity care in European countries: A systematic review. *PLoS One* 2020;15(2):e0228378. doi: 10.1371/journal.pone.0228378 [published Online First: 2020/02/12]
14. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int J Qual Health Care* 2007;19(6):349-57. doi: 10.1093/intqhc/mzm042 [published Online First: 2007/09/18]
15. Hudelson P, Dao MD, Perron NJ, et al. Interpreter-mediated diabetes consultations: a qualitative analysis of physician communication practices. *BMC Fam Pract* 2013;14:163. doi: 10.1186/1471-2296-14-163 [published Online First: 2013/10/25]
16. Association Camarada [Available from: www.camarada.ch.
17. Association des médiatrices interculturelles [Available from: https://amicge.ch/.
18. Westfall RE, Benoit C. The rhetoric of "natural" in natural childbirth: childbearing women's perspectives on prolonged pregnancy and induction of labour. *Soc Sci Med* 2004;59(7):1397-408. doi: 10.1016/j.socscimed.2004.01.017 [published Online First: 2004/07/13]
19. Boyatzis RE. Transforming qualitative information: Thematic analysis and code development. Thousand Oaks, CA: Sage 1998.
20. Ezeonu PO, Anozie OB, Onu FA, et al. Perceptions and practice of epidural analgesia among women attending antenatal clinic in FETHA. *Int J Womens Health* 2017;9:905-11. doi: 10.2147/IJWH.S144953 [published Online First: 2017/12/26]

21. Okojie NQ, Isah EC. Perception of Epidural Analgesia for Labour among Pregnant Women in a Nigerian Tertiary Hospital Setting. *J West Afr Coll Surg* 2014;4(4):142-62. [published Online First: 2014/10/01]
22. Delwatta SL, Kaushalya PDJ, Ravindu Shehan AK, et al. Is knowledge and attitude on epidural analgesia during labour satisfactory among pregnant women attending antenatal clinics in Colombo District? *Sri Lankan Journal of Anaesthesiology* 2019;21(1):21–27. doi: http://doi.org/10.4038/slja.v27i1.8364
23. Harkins J, Carvalho B, Evers A, et al. Survey of the Factors Associated with a Woman's Choice to Have an Epidural for Labor Analgesia. *Anesthesiol Res Pract* 2010;2010 doi: 10.1155/2010/356789 [published Online First: 2010/08/20]
24. E S, EK S, I S-V, et al. Predictors of recommendation and acceptance of intrapartum epidural analgesia. *Anesth Analg* 2000;90(1):109-13. . doi: 10.1097/00000539-200001000-00024.
25. Le Ray C, Goffinet F, Palot M, et al. Factors associated with the choice of delivery without epidural analgesia in women at low risk in France. *Birth* 2008;35(3):171-8. doi: 10.1111/j.1523-536X.2008.00237.x [published Online First: 2008/10/11]
26. Halpern SH, Leighton BL. Misconceptions about neuraxial analgesia. *Anesthesiol Clin North Am* 2003;21(1):59-70. doi: 10.1016/s0889-8537(02)00028-7 [published Online First: 2003/04/18]
27. Munnur U, Suresh MS. Backache, headache, and neurologic deficit after regional anesthesia. *Anesthesiol Clin North Am* 2003;21(1):71-86. doi: 10.1016/s0889-8537(02)00031-7 [published Online First: 2003/04/18]
28. Anim-Somuah M, Smyth RM, Jones L. Epidural versus non-epidural or no analgesia in labour. *Cochrane Database Syst Rev* 2011(12):CD000331. doi: 10.1002/14651858.CD000331.pub3 [published Online First: 2011/12/14]
29. Sng BL, Leong WL, Zeng Y, et al. Early versus late initiation of epidural analgesia for labour. *Cochrane Database Syst Rev* 2014(10):CD007238. doi: 10.1002/14651858.CD007238.pub2 [published Online First: 2014/10/11]
30. Ituk U, Wong CA. Epidural labor analgesia: Whence come our patients' misconceptions? *J Clin Anesth* 2017;42:84-85. doi: 10.1016/j.jclinane.2017.07.012 [published Online First: 2017/08/26]
31. Toledo P, Sun J, Peralta F, et al. A qualitative analysis of parturients' perspectives on neuraxial labor analgesia. *Int J Obstet Anesth* 2013;22(2):119-23. doi: 10.1016/j.ijoa.2012.11.003 [published Online First: 2013/03/07]
32. Echevarria GC, Grant GJ, Chung Y, et al. Survey of nulliparous parturients' attitudes regarding timing of epidural analgesia initiation. *J Clin Anesth* 2017;41:106-11. doi: 10.1016/j.jclinane.2017.06.008 [published Online First: 2017/06/28]
33. Orbach-Zinger S, Bardin R, Berestizhevsky Y, et al. A survey of attitudes of expectant first-time fathers and mothers toward epidural analgesia for labor. *Int J Obstet Anesth* 2008;17(3):243-6. doi: 10.1016/j.ijoa.2008.01.012 [published Online First: 2008/05/24]
34. Shahoei R, Khosravy F, Zaheri F, et al. Iranian Kurdish women's experiences of childbirth: A qualitative study. *Iran J Nurs Midwifery Res* 2014;19(7 Suppl 1):S112-7. [published Online First: 2014/02/01]
35. Van der Gucht N, Lewis K. Women's experiences of coping with pain during childbirth: a critical review of qualitative research. *Midwifery* 2015;31(3):349-58. doi: 10.1016/j.midw.2014.12.005 [published Online First: 2015/01/21]
36. Lundgren I, Dahlberg K. Women's experience of pain during childbirth. *Midwifery* 1998;14(2):105-10. doi: 10.1016/s0266-6138(98)90007-9 [published Online First: 1999/06/26]
37. Pangas J, Ogunsiji O, Elmir R, et al. Refugee women's experiences negotiating motherhood and maternity care in a new country: A meta-ethnographic review. *Int J Nurs Stud* 2019;90:31-45. doi: 10.1016/j.ijnurstu.2018.10.005 [published Online First: 2018/12/26]
38. Schott A, Henley J. Culture, religion and childbearing in a multiracial society: a handbook for health professionals. London: Butterworth Heinemann 1996.

39. Lally JE, Murtagh MJ, Macphail S, et al. More in hope than expectation: a systematic review of women's expectations and experience of pain relief in labour. *BMC Med* 2008;6:7. doi: 10.1186/1741-7015-6-7 [published Online First: 2008/03/28]
40. Toledo P, Sun J, Grobman WA, et al. Racial and ethnic disparities in neuraxial labor analgesia. *Anesth Analg* 2012;114(1):172-8. doi: 10.1213/ANE.0b013e318239dc7c [published Online First: 2011/11/15]
41. Ranta P, Spalding M, Kangas-Saarela T, et al. Maternal expectations and experiences of labour pain--options of 1091 Finnish parturients. *Acta Anaesthesiol Scand* 1995;39(1):60-6. doi: 10.1111/j.1399-6576.1995.tb05593.x [published Online First: 1995/01/01]

Documents for focus groups Translated from French to English (UK) with www.DeepL.com/Translator (free version) and reviewed for mistakes

1) Introductory speech to the focus group:

Ladies, thank you for taking part in this group interview to share your ideas, your representations and your experience of the epidural.

I am ... (presentation of the speaker) and my colleagues are ... (presentation of the co-facilitators and the interpreter).

This interview is being conducted with the aim of making a film to explain the position required for an epidural to patients who do not understand French. More than a simple translation, we seek to take into account the cultural representations specific to each community.

You are here as experts to express the need for information that you would like to receive in order to carry out this procedure.

This interview is completely anonymous, and what you say is confidential and your words will not be shared beyond this group and the research team. The results of this work can be shared with you and you may view the future film if you wish.

This interview is conducted with an interpreter, everything you say will be translated. When you speak, it is necessary to give her time to translate. We will make sure each of you has time to express herself. This exchange will last about 1h30. We will record the session and take notes so that we can analyze what is being said as accurately as possible during this project.

We will now do a short round to let each woman in the group introduce themselves (first name, age, country of origin, whether or not they have already given birth, with or without an epidural).

Documents for focus groups Translated from French to English (UK) with www.DeepL.com/Translator (free version) and reviewed for mistakes

2) Conducting the focus groups (FG)

FG preparation :
- Check the audio and video equipment
- Prepare nametags
- Prepare a table plan
- Provide water and glasses
- Provide a sign to indicate the FG room to participants
- Provide a sign for the door: "Do not disturb"

Introduction:
- Free placement of speakers
- Welcome and thank you
- Introductory speech (presentation of moderators and interpreter, topic of the discussion, reasons and principles of participation, anonymity, access to the results of the study, basics of good communication with interpreter)
- Launch an ice-breaker round

Focus group discussion:
- Using the semi-structured questionnaire (see interview guide)

Conclusion:
- Inform the group that the themes are exhausted
- Make sure there are no outstanding questions or ideas
- Review the 6-8 key ideas from the FG
- Congratulate on the relevance of the contributions
- Acknowledgements

Immediate debriefing of moderators:
- Report back on key points
- Check the quality of the recordings

Documents for focus groups Translated from French to English (UK) with www.DeepL.com/Translator (free version) and reviewed for mistakes

3) Interview guide :

a) Knowledge, questions and need for information :

Have you ever given birth?

What do you know about epidurals?
Follow-up questions: *What have you heard? What do you know? What have you been told about the epidural? What do they say about the epidural in your country?*

Check that everyone knows what an epidural is. Define the epidural as follows: "It is an anaesthetic/injection that is given in the lower back at the level of the spine and which helps to reduce pain during childbirth.

If you were offered an epidural at the time of delivery, what information would you want to receive? Follow-up question: *What would you need to make a decision?*

What are your fears about this procedure?
Follow-up questions: *Do you have any concerns about this procedure? about the consequences of this procedure? about the labour? about the baby?*

b) Expectations and sensations during the epidural:

What do you know about what it feels like to have an epidural?
Follow-up question: *What do you imagine it to feel like?*

What do you imagine one can expect from an epidural?
Follow-up question: *What effects? What kind of sensations after the epidural in place?*

c) Performing the procedure:

Do you know how an epidural is done?

Do you know what position you should be in for an epidural?

Showing of the film and explanation of the sensations during the procedure: cold of the disinfection, local anaesthetic prick, Tuohy needle pressure in the back, possible paresthesias, maintaining immobility during the procedure despite potentially painful contractions.u

In the film, you could see the position necessary for the epidural. What do you call this position?
Follow-up question: *What word in your language describes this position? How would you tell someone to get into this position?*

It is very important that the woman does not move during the epidural. The pain and contractions of childbirth can make this difficult. What would be the right words to make women understand this?

Documents for focus groups Translated from French to English (UK) with www.DeepL.com/Translator (free version) and reviewed for mistakes

Follow-up question: *How do you say that you should not move? What words would you need?*

d) Indications for the film:

We want to make a film to explain to women how the epidural works. What would be shocking in such a film?

How should nudity be shown? Is it better to show real people or to make a cartoon?

We treat people from all over the world. How can we show this diversity of patients visually?
Follow-up question: *What skin colour would you like to see the woman in labour in the film/cartoon? What should she look like? What hair colour? Should she have a particular hairstyle? How would you feel if the woman did not look like you?*
In the film, does the woman have to be accompanied by someone close to her? And if so, who?

How important to you is the colour or gender of the doctors and nurses in the film? What would be your preference (male/female, skin colour)?

COREQ (COnsolidated criteria for REporting Qualitative research) Checklist

A checklist of items that should be included in reports of qualitative research. You must report the page number in your manuscript where you consider each of the items listed in this checklist. If you have not included this information, either revise your manuscript accordingly before submitting or note N/A.

Topic	Item No.	Guide Questions/Description	Reported on Page No.
Domain 1: Research team and reflexivity			
Personal characteristics			
Interviewer/facilitator	1	Which author/s conducted the interview or focus group?	6
Credentials	2	What were the researcher's credentials? E.g. PhD, MD	1
Occupation	3	What was their occupation at the time of the study?	1
Gender	4	Was the researcher male or female?	6
Experience and training	5	What experience or training did the researcher have?	1, 6
Relationship with participants			
Relationship established	6	Was a relationship established prior to study commencement?	5
Participant knowledge of the interviewer	7	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	5 + supplemen
Interviewer characteristics	8	What characteristics were reported about the inter viewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	6
Domain 2: Study design			
Theoretical framework			
Methodological orientation and Theory	9	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	5
Participant selection			
Sampling	10	How were participants selected? e.g. purposive, convenience, consecutive, snowball	5
Method of approach	11	How were participants approached? e.g. face-to-face, telephone, mail, email	5
Sample size	12	How many participants were in the study?	6
Non-participation	13	How many people refused to participate or dropped out? Reasons?	5
Setting			
Setting of data collection	14	Where was the data collected? e.g. home, clinic, workplace	5
Presence of non-participants	15	Was anyone else present besides the participants and researchers?	5
Description of sample	16	What are the important characteristics of the sample? e.g. demographic data, date	7
Data collection			
Interview guide	17	Were questions, prompts, guides provided by the authors? Was it pilot tested?	5 + supplemen
Repeat interviews	18	Were repeat inter views carried out? If yes, how many?	N/A
Audio/visual recording	19	Did the research use audio or visual recording to collect the data?	6
Field notes	20	Were field notes made during and/or after the inter view or focus group?	6
Duration	21	What was the duration of the inter views or focus group?	5
Data saturation	22	Was data saturation discussed?	N/A
Transcripts returned	23	Were transcripts returned to participants for comment and/or	N/A

Topic	Item No.	Guide Questions/Description	Reported on Page No.
		correction?	
Domain 3: analysis and findings			
Data analysis			
Number of data coders	24	How many data coders coded the data?	6
Description of the coding tree	25	Did authors provide a description of the coding tree?	6
Derivation of themes	26	Were themes identified in advance or derived from the data?	6
Software	27	What software, if applicable, was used to manage the data?	N/A
Participant checking	28	Did participants provide feedback on the findings?	N/A
Reporting			
Quotations presented	29	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	8-11
Data and findings consistent	30	Was there consistency between the data presented and the findings?	11
Clarity of major themes	31	Were major themes clearly presented in the findings?	7
Clarity of minor themes	32	Is there a description of diverse cases or discussion of minor themes?	8-9

Developed from: Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007. Volume 19, Number 6: pp. 349 – 357

Once you have completed this checklist, please save a copy and upload it as part of your submission. DO NOT include this checklist as part of the main manuscript document. It must be uploaded as a separate file.

BMJ Open

Allophone immigrant women's knowledge and perceptions of epidural analgesia for labour pain: a qualitative study

Journal:	*BMJ Open*
Manuscript ID	bmjopen-2021-057125.R1
Article Type:	Original research
Date Submitted by the Author:	26-Jan-2022
Complete List of Authors:	Dominicé Dao, Melissa; Geneva University Hospitals, Primary Care; University of Geneva Faculty of Medicine Gerosa, Désirée; Geneva University Hospitals, Woman, Child and Adolescent; University of Applied Sciences and Arts Western Switzerland, School of health sciences Pélieu, Iris; Geneva University Hospitals, Acute Care Medicine haller, guy; Geneva University Hospitals, Acute Care Medicine; University of Geneva, Faculty of Medicine
Primary Subject Heading:	Obstetrics and gynaecology
Secondary Subject Heading:	Anaesthesia, Communication, Qualitative research
Keywords:	Anaesthesia in obstetrics < ANAESTHETICS, PAIN MANAGEMENT, QUALITATIVE RESEARCH, REPRODUCTIVE MEDICINE, Maternal medicine < OBSTETRICS

I, the Submitting Author has the right to grant and does grant on behalf of all authors of the Work (as defined in the below author licence), an exclusive licence and/or a non-exclusive licence for contributions from authors who are: i) UK Crown employees; ii) where BMJ has agreed a CC-BY licence shall apply, and/or iii) in accordance with the terms applicable for US Federal Government officers or employees acting as part of their official duties; on a worldwide, perpetual, irrevocable, royalty-free basis to BMJ Publishing Group Ltd ("BMJ") its licensees and where the relevant Journal is co-owned by BMJ to the co-owners of the Journal, to publish the Work in this journal and any other BMJ products and to exploit all rights, as set out in our licence.

The Submitting Author accepts and understands that any supply made under these terms is made by BMJ to the Submitting Author unless you are acting as an employee on behalf of your employer or a postgraduate student of an affiliated institution which is paying any applicable article publishing charge ("APC") for Open Access articles. Where the Submitting Author wishes to make the Work available on an Open Access basis (and intends to pay the relevant APC), the terms of reuse of such Open Access shall be governed by a Creative Commons licence – details of these licences and which Creative Commons licence will apply to this Work are set out in our licence referred to above.

Other than as permitted in any relevant BMJ Author's Self Archiving Policies, I confirm this Work has not been accepted for publication elsewhere, is not being considered for publication elsewhere and does not duplicate material already published. I confirm all authors consent to publication of this Work and authorise the granting of this licence.

Allophone immigrant women's knowledge and perceptions of epidural analgesia for labour pain: a qualitative study

Melissa Dominicé Dao[1], Désirée Gerosa[2], Iris Pélieu [3], Guy Haller [4,5]

1 MD, Msc, Transcultural Consultation, Division of Primary Care, Department of Primary Care, Geneva University Hospitals and Faculty of Medicine, University of Geneva, Geneva, Switzerland

2 Midwife, Msc, Department of Obstetrics and Gynaecology, University Hospitals of Geneva, Geneva, Switzerland and School of Health Sciences Geneva HES-SO University of Applied Sciences and Arts Western Switzerland

3 MD, Consultant, Division of Division of Anesthesiology, Unit of Maternal Care, Geneva University Hospitals

4 MD, Msc, PhD Department of Acute Care Medicine, Division of Anesthesiology, Unit of Maternal Care, Geneva University Hospitals and Faculty of Medicine, University of Geneva, Geneva, Switzerland

5. MD, Msc, PhD Department of Epidemiology and Preventive Medicine, Health Services Management and Research Unit, Monash University, Melbourne Victoria, Australia

Corresponding Author:

Dr Melissa Dominicé Dao
Transcultural Consultation
Division of Primary Care
Department of Primary Care
Geneva University Hospitals
4, rue Gabrielle Perret-Gentil
1211 Geneva, Switzerland
melissa.dominice@hcuge.ch
+4179 55 33 317

Word count: 4651 (including patient excerpts)

ABSTRACT :

Objectives: To explore allophone immigrant women's knowledge and perceptions of epidural analgesia for labour pain, in order to identify their information needs prior to the procedure.

Design: We conducted focus groups interviews with allophone women from five different linguistic immigrant communities, with the aid of professional interpreters. Thematic analysis of focus group transcripts was carried out by all authors.

Setting: Women were recruited at two non-profit associations offering French language and cultural integration training to non-French speaking immigrant women in Geneva.

Participants: Forty women from 10 countries who spoke either Albanian, Arabic, Farsi/Dari, Tamil or Tigrigna took part in the five focus groups. Four participants were nulliparous, but all others had previous experience of labour and delivery, often in European countries. A single focus group was conducted for each of the five language groups.

Results: We identified five main themes: (1) Women's partial knowledge of epidural analgesia procedures; (2) Strong fears of short and long term negative consequences of epidural analgesia during childbirth; (3) Reliance on multiple sources of information regarding epidural analgesia for childbirth; (4) Presentation of salient narratives of labour pain to justify their attitudes toward epidural analgesia; and (5) Complex community positioning of pro-epidural women.

Conclusions: Women in our study had partial knowledge of epidural analgesia for labour pain and had perceptions of a high risk-to-benefits ratio for this procedure. Diverse and sometimes conflicting information about epidural analgesia can interfere with women's' decisions regarding labour analgesia. Our study suggests that women need comprehensive but also tailored information in their own language to support their decision-making regarding epidural labour analgesia.

Keywords: Epidural analgesia; immigrant women; allophone; labour pain; representations; social positioning; qualitative research

STRENGTHS AND LIMITATIONS OF THIS STUDY:

Strengths:

- The inclusion of a diverse sample of hard-to-reach subjects allowed exploration of women's perspectives regarding epidural labour analgesia across different language groups.
- Focus group discussions supported by community interpreters created a comfortable atmosphere in which participants could freely express themselves.
- A diverse research team involved in all aspects of the study allowed for multiple perspectives on the focus group transcripts' analysis.
- Attention was given to reflexivity throughout the study in order to avoid bias associated with individual researchers' personal and professional beliefs and experiences with epidural analgesia for labour pain management.

Limitations:

- No data were collected on participants' education level, health literacy or migration history, and therefore their influence on participants' knowledge and perceptions could not be explored.
- This was a single-site study with a representative sample of immigrants in Switzerland, and therefore results cannot be totally generalized to other contexts and settings.

INTRODUCTION:

Epidural analgesia and anaesthesia has become the most widely used pain control method in obstetrics, allowing relief from labour pain during vaginal childbirth or caesarean section if required. In the UK and USA, 60% of women will give birth under epidural analgesia, 69% in Canada and 83% in France.[1-3] While largely available in Western countries, epidural labour analgesia shows lower rates of use among immigrant women and parturients from ethnic minorities. In a study set in Ireland, women from Africa were three times less likely than their Western European counterparts to have epidural analgesia for labour and delivery.[4 5] In another study in Norway, 30% of women originating from Pakistan compared with 9% native Norwegian women received no analgesia for labour pain management.[6] In a large US study conducted by the Center for Disease Control and Prevention, researchers found large disparities across ethnic groups in the use of epidural labour analgesia; non-Hispanic white women were found to be the most likely to receive neuraxial analgesia and Afro-American women the least likely.[7]

There are several hypothesis to explain these disparities. One is the often lower socioeconomic level of women from non-dominant ethnic groups, which can negatively impact access to care, including epidural analgesia techniques.[8] Another possible explanation is the lower level of knowledge of labour analgesia in immigrant and ethnic minority women. Several studies found that women from non-Western countries were less likely to ask for epidural analgesia because they had little awareness that labour pain can be relieved.[9 10 11] Researchers even found that Somali women in the USA had substantial resistance to any labour related intervention because they believed it would increase the risk of caesarean section or death.[11] Other possible causes of disparities include difficulties accessing adequate information due to a language barrier, staff's limited time, fewer opportunities offered to members of ethnic minorities to express personal preferences and prior suboptimal experiences with Western world health care institutions.[12] An extensive literature review exploring women's experiences of pregnancy confirmed that immigrant women often encountered difficulties navigating the healthcare system, being understood and receiving treatments respectful of their cultural background. [13]

While several barriers related to language, social and economic status, awareness of labour pain analgesia, and prior negative healthcare experience have been identified, less is known about specific knowledge and perceptions of epidural labour analgesia of immigrant women from ethnic minorities. The nature and type of information needed by these women to allow an informed decision making process regarding the use of epidural analgesia for labour pain management is unknown.

Our study aimed to explore allophone immigrant women's knowledge and perceptions of epidural analgesia, in order to identify their information needs and develop tailored information material to enhance their decision making process. It was part of a larger project aimed at developing a multilingual short information video on epidural labour analgesia specifically designed for immigrant allophone women.

METHODS:

Design, setting, rationale

We conducted an exploratory qualitative study using focus group interviews and thematic analysis exploring the knowledge and perceptions of allophone migrant women regarding epidural analgesia for labour pain. Focus groups have been identified as an efficient method with culturally and linguistically diverse populations to generate knowledge about patient preferences regarding health care provision and to inform future health interventions.[14 15] Details of the methodology used are reported according to the Consolidated criteria for reporting qualitative research (COREQ) checklist (see Supplementary file).[16] The study was set in Geneva (Switzerland), a cosmopolitan city where 64 % of the population holds a foreign passport and 54% of women who give birth at the main public hospital (Geneva University Hospitals or HUG) have a primary language other than French (the official language of Geneva).[17]

Sampling and participant recruitment

Using the HUG Maternity hospital interpreter services data, we identified the most frequently requested interpreter languages for women admitted for labour and delivery. We selected five languages for our study: Tigrigna, Dari/Farsi, Albanian, Tamil and Arabic. Dari and Farsi speakers were considered a single group as there languages hold 90% lexical similarity. We contacted two well-known non-profit associations offering French language and cultural integration training to non-French speaking immigrant women in Geneva.[18 19] Women were approached during their French language classes and invited to participate in the focus groups on a voluntary basis. All participants were informed about the research purpose and design and provided oral consent to participate in the study. Information on the study was provided in their own language by a professional community interpreter. Inclusion criteria included being female, over 18 years of age and belonging to one of the five linguistic communities selected. We included women with and without experience of labour and childbirth as we wanted to access a wide variety of perspectives on epidural labour analgesia. Participants were offered light refreshments and were given a voucher from a local grocery store after the focus group.

Data collection

The focus group discussion guide included 14 questions, focusing on: prior knowledge and representations of epidural analgesia for childbirth, information needs, expectations of epidural analgesia, knowledge of the epidural procedure, and preferences regarding visual aspects of an informative film (see Supplementary file). A short video showing how an epidural is performed was also shown at the end of the interview to trigger additional questions and discussion content from the participants. FG lasted 2 hours including a short break.

Focus groups were held in empty classrooms at the language school. Each focus group included 7 to 9 women and was held with women from a single language group. Translation was provided by a professional female interpreter, chosen for her extensive experience with immigrant communities. Focus groups were led by two female experienced researchers (MDD, DG, IP). A short summary of relevant topics discussed during the sessions, as well as observations of group dynamics, were drafted by the two researchers immediately following focus group sessions. These notes served as additional data and facilitated subsequent thematic analysis.[20] All focus groups discussions were audio recorded, and only the French language portions of the recordings were transcribed (interviewers' questions and interpreters' translations of participants' comments).

Data analysis

During the data collection period, regular meetings between researchers took place to reflect on group animation processes, interview content and to identify emerging themes. Each transcript was first analysed separately by each researcher (MDD, IP, DG, GH) and then discussed together in order to develop a consensus coding list. Some codes emerged inductively from the data, while others emanated deductively from the interview questions; a thematic analysis framework was used in order to bridge inductive and deductive coding methods.[21 22] The final code list, resulting from a consensus meeting between all researchers, was then used to code all five focus group transcripts (see Supplementary material).

All researchers then first coded each focus group transcript separately. Consensus meetings were held to compare coding and resolve discrepancies. Tables were created to compare excerpts for each code across focus groups; the main themes emerged through group discussions of this coded data across FG.[23] Attention was given to how these themes compared across the five groups. Notes from each meeting were kept and referred to throughout the research process.

Reflexivity

To minimise the influence of researchers' opinions and beliefs regarding epidural labour analgesia, key steps of the thematic analysis were systematically completed during team meetings. Each researcher's personal perspective was challenged by other members of the group when there was discrepancies in theme identification, or when gender or prior personal and professional experiences of childbirth were felt by other members as possibly influencing data interpretation. Our research team included researchers with different personal and professional backgrounds. The diversity of the group allowed identification of individual norms and assumptions and discussion of these in order to minimize their impact on data collection and interpretation.

Patient and public involvement

To ensure participants' involvement and inform the study conduct, we included women (patients, interpreters, and bilingual nurses) from the different linguistic groups selected. They supported study interpreters, experts in transcultural care, and healthcare professionals involved in the study in designing the original protocol and developing the original discussion guide. More specifically they provided advice regarding common cultural issues surrounding epidural labour analgesia, gender preference for interviewers and settings for the conduct of the FG. They were not further involved in other participants' recruitment or data analysis.

RESULTS:

Participant characteristics

Five focus groups involving 40 immigrant women from 10 different countries were conducted between May and September 2019. Participants were all native speakers of one of the five selected languages (Albanian, Arabic, Farsi/Dari, Tamil and Tigrigna). None of the participants spoke French. **Table 1** provides an overview of participants' characteristics within each of the groups.

Table 1: participant characteristics for each language group

Focus group language	Countries of origin	Number of participants	Age range	Childbirth history
Albanian	Kosovo, Albania	9	25 to 46 years old	5 women with 1-4 children, 1 pregnant again 3 women had none
Arabic	Syria, Sudan, Iraq, Egypt, Palestine	7	30 to 60 years old	All with 2 to 4 children 1 is pregnant again
Farsi/Dari	Iran, Afghanistan	7	32 to 57 years old	All with 2 to 5 children
Tamil	Sri Lanka	8	37 to 52 years old	7 had 1 to 3 children 1 had none
Tigrigna	Eritrea	9	23 to 41 years old	All had 1 to 4 children

Women knew each other from their French classes and the dynamic within groups was very lively. They willingly shared personal childbirth experiences (sometimes distressing ones) from their original home

country or in Europe. With the exception of Iran, women declared that epidural analgesia was not routinely offered for vaginal deliveries in their homeland. Some of them had knowledge that this type of procedure could also be used for caesarean section or other types of surgery, both in men and women. Women had many questions about epidural labour analgesia, including many relevant technical questions regarding contraindications, secondary effects, expected effect, etc. They were eager for more information about these topics, but also in general about sexual and reproductive health.

Five main themes emerged from the focus group discussions: (1) Women's partial knowledge of epidural analgesia procedures; (2) Strong fears of short and long term negative consequences of epidural analgesia during childbirth; (3) Reliance on multiple sources of information regarding epidural analgesia for childbirth; (4) Presentation of salient narratives of labour pain to justify their attitudes toward epidural analgesia; and (5) Complex community positioning of pro-epidural women.

Partial knowledge of epidural analgesia procedure

While in all groups many women were aware of the availability of epidural analgesia for childbirth, their understanding of the procedure varied widely and was often patchy. All groups mentioned that epidural analgesia is performed by an injection through a needle inserted in the back and is used to relieve labour pain.

> *If there is too much pain, it exists to ease the pain. It's called epidural, they can inject you, as you want. (Tigrigna)*

> *I didn't know the name, but I knew that there was an injection in the back. (Albanian)*

The Albanian, Arabic and Tigrigna groups commented that the procedure was also used for caesarean sections, but only the Arabic and Dari groups mentioned that an anaesthesiologist was required to perform the procedure.

All patients in all groups were aware that during needle insertion, they had to stay still. A key concern in all groups was the risk of harm from the needle if woman moved during the procedure.

> *It's very important not to move, because the injection has to be done in a precise place. Otherwise we can have paralysis. (Dari)*

> *The anaesthesiologist explained that I shouldn't have a cold, that I shouldn't cough, that I absolutely should not move* [during the procedure]. *(Arabic)*

Only rarely did women cite additional aspects of the procedure, such as the risk of total anaesthesia of lower extremities or that a catheter remained in the back following needle withdrawal.

I heard that, after receiving the epidural, is there some thread or something there? Because I heard, they leave a thread in there or something. (Tigrigna)

Perception of a high risk to benefits ratio of epidural analgesia

All groups agreed that epidural analgesia can reduce pain associated with childbirth. In addition, some women mentioned that it accelerated post-labour recovery (Arabic), allowed to open female genital mutilations type 3 (Arabic), and eased vaginal delivery, thus avoiding the risk of caesarean section (Dari).

The information we received is that it reduces very much, it reduces pain. (Tamil)

We heard that if we take the epidural, we feel less the pain, it's an easier delivery for the mom. (Albanian)

Despite these acknowledged benefits, the amount of discussions on the risks and adverse effects of epidural analgesia was striking in all groups. Eritrean women were particularly prone to express their concerns over health hazards associated with the procedure. The main concern was the mother's health, and women in all groups agreed that there was no risk for the baby, as nicely summarized by one Albanian participant: "*it's only for our body"*. All groups feared immediate or delayed complications such as pain during the procedure, lower limb paralysis, persistent low back pain and headache.

It's a very difficult, very painful injection. (Arabic)

The needle can go to the wrong place, it can harm a nerve or something. (..) If it's the back that is injured it means that the legs will not walk any more. (Tigrigna)

We risk having pain in the lower back, having headaches. (Dari)

Furthermore women in the Arabic, Dari and Tigrigna groups worried about the impact of epidural analgesia on the delivery process, mainly not being able to push or not knowing when to push.

So my husband told me that if you have an epidural you won't have enough strength to push, to give birth to the baby. (Dari)

In all groups, women frequently referred to generic "adverse effects" of epidural analgesia, although they were often unable to specify the nature of these negative effects even when researchers tried to elicit more information.

But even if it helps us during the delivery, later it will cause problems. (Tamil)

We hear discussions around us, women say "it's not good for your health". That's all, but I don't know how. (Tigrigna)

Reliance on plural sources of information on epidural analgesia for childbirth

Participants relied on various sources of information on epidural analgesia for childbirth. Those who did not know much about the procedure often mentioned that the procedure was not available in their home country. Women who had previous personal experience of epidural analgesia referred to it as a valid source of information, and often contrasted their positive experience with the negative information they overheard.

> *The others say it will hurt your back (…). But I say no, I had it twice* [the epidural]*, and I have never had* [back] *pain. (Dari)*

Most information was acquired from relatives, friends and community members, especially other women from the same ethnic group. Here again, prior experience of other women was referred to.

> *Once I went home I was told by my relatives that I should not have accepted the epidural because there are secondary effects. (…) I asked my relatives 'where does that come from' and they said 'it happened to certain people'. (Dari)*

> *We hear discussions around us, women say "it's not good for your health". (Tigrigna)*

Health professionals were also often mentioned as reliable and trustful source of information. Women never referred to internet or the social media as a source of information.

Narratives of labour pain to justify one's attitude toward epidural analgesia

Pain and suffering during labour was a strong recurrent theme discussed by participants. Participants used salient childbirth narratives of themselves or others to lend weight to their fears, perceptions and decisions regarding epidural labour analgesia. Some women justified the need for epidural analgesia by the intolerable intensity of labour pains.

> *So there, my daughter has heard so many things about epidural, she refused it. But as she was in labour, she suffered and, when it was proposed to her, she accepted. And she was pleased because she didn't feel anything. (Arabic)*

> *Me, I had two children. My first child was born in Iran, I saw death with my eyes, and finally I had a caesarean section. However my second child was born here in Switzerland. So I was very frightened because of that experience I had in Iran. So I was told that with an epidural I might not have pain and at that moment, I accepted. (Iran)*

More often, women described labour pain as a natural process associated with giving birth that women should accept and endure.

So normally, in my opinion, it's part of the birth itself. The mother must feel this pain, how the baby will come out, through this pain. (Egyptian)

Furthermore, some women regretted having initially asked for an epidural and not feeling pain. Others underlined that women should at least once in their life feel the pain of childbirth.

So at first, as I had too much pain, I accepted. With the second daughter, I said no. Because I already did it once. No, no, no, I didn't want it. (Eritrean)

Me for instance, if I had given birth, it's not that it's dangerous to have the epidural but I would have liked to feel these pains. (Albanian)

Finally, pain was seen as a distractor that prevented women from thinking straight, leading them to accept epidural analgesia without paying attention to adverse side effects.

At the time of the birth, we don't have good reflexes. When we go through the stage of pain, someone proposes something, immediately we take it. Without thinking about it, all women, they want something to decrease the pain. (Tamil)

Complex community positioning of pro-epidural women

In each group of participants, a minority of strong advocates of epidural labour analgesia emerged. It was not easy for these women to position themselves against the majority of women who systematically discussed negative side effects and considered labour pain as a compulsory part of childbirth experience. A common strategy of these pro-epidural women was to oppose these arguments by referring to their positive personal experience to justify and support their use of epidural analgesia during labour.

So I was told that with an epidural I would not have pain. At that moment I accepted, because of my prior bad experience. I had pain but only a little. Once the baby was born, it went well. But once I went home, I was told, my close relatives [told me], that I should not have accepted the epidural because there are secondary effects. Six years later, I am very happy, I don't have any pain or any problem. (Dari)

These supporters of epidural labour analgesia also highlighted the fact that adequate information had been provided by health professionals and that this encouraged them to accept this technique and improved their freedom of choice.

What I appreciated is that one week before delivery, I was explained everything [through a prenatal consultation]. *If I wanted to give birth vaginally, if I wanted a caesarean, I was explained everything, so I wasn't scarred. (Dari)*

So for me, I think that what the others said is wrong. Because they give us an appointment before, they explain to us. If we take the epidural, if we do a caesarean section, they explain it to us. (...) So already we understand what is awaiting us. (Tigrigna)

Some epidural advocates showed uncommon assertiveness and tried to undermine other women's fears of adverse effects.

I don't agree with what the others say. It's all in the head because you are scared. (...) Others say that it hurts the back and the pain stays, but no, I had it twice and I never had pain. It all happens in the head, because of being scared to take the epidural, that's it! (Tigrigna)

Probably the woman she already has back pain (...) and then she says "oh, well, it's because of the injection!". (Arabic)

DISCUSSION:

Our study shows that immigrant allophone women from the Middle East, Afghanistan, Iran, Eritrea, Sri-Lanka and Albania are well aware of the availability of epidural analgesia to control labour pain. However, their knowledge of the technique remains incomplete, and negative representations of epidural analgesia as a risky procedure predominates over positive perceptions of its benefits for pain management. Traditional perspectives of pain as a natural part of childbirth is also often advocated. Yet, some women seem to disagree with this traditional perspective, and use subtle narrative strategies such as positive individual experiences to justify the use of epidural analgesia for labour in contradiction with traditional practice in their native home country. These pro-epidural women also underline the supportive role played by information provided by health professionals in their decision making process. Finally, except for Eritrean women who appeared to be more worried than others about the side effects and complications associated with the technique, there were no other differences observed between ethnic groups.

Several studies performed in low-income countries, have identified significant barriers to the use of epidural analgesia for labour and delivery. These include costs, availability of specialized staff and material, awareness of existing labour pain management techniques and beliefs that labour pain is natural and good and should not be treated.[24 25 26] In our study of women having migrated from low-income countries, participants from all ethnic groups were aware of the different management techniques for labour pain, of their risks and benefits, and had some level of knowledge of the epidural technique itself. This may be explained by improved access of immigrant women to multiple sources of information and expertise once they live in western high income countries. For instance, in our hospital setting, several information leaflets in different languages are available to explain labour, pain management and perinatal care; although, for some specific countries, the language barrier may still

hinder access to information.[27-29] For many others this is not the case and this may explain why perspectives of immigrant women who have moved to a western high-income country differ from the ones in their native home country.

In the different groups of immigrant women interviewed, we found that negative representations of epidural analgesia predominated over positive opinions. This is however not specific to immigrant women from low-income countries. Negative representations of epidural analgesia are common, including amongst natives of Western high-income countries. In many studies, authors found that women often blame epidural technique for slowing the natural process of labour, for increasing the risk of instrumental delivery, and for impeding breast feeding.[30 31] Although robust scientific data have invalidated these claims,[32 33] many women in high-income countries also consider that epidural analgesia increases their risk of caesarean section and can cause paraplegia.[34 35]

Another interesting finding of our study is the reliance of women on diverse sources of information and particularly on information provided by peers that have already experienced childbirth with analgesia techniques. This finding is similar in studies performed elsewhere. For instance, in a study in the USA, researchers found that friends and family members were often cited as the most important sources of information regarding epidural analgesia (70.5%), over internet (25%), books (23%) and childbirth classes (22.5%).[36] This highlights the importance of providing peer to peer exchange opportunities, such as collective birthing classes, which are rarely available for allophone parturients due to language barriers. In our sample of allophone immigrant women, husbands, family and other community members were mentioned as influencing their choice to accept or refuse epidural analgesia. In high-income countries also partners' preferences, recommendations of friends and family members appear to be an important factor influencing the decision to request or refuse epidural labour analgesia. [27 35 37] Healthcare professionals should thus provide information in a format that women can then share with others, in order to enhance women's autonomy in deciding whether or not to have labour epidural analgesia.

In our study, we also found that perspectives regarding labour pain varied widely. Many women supported a traditional perspective that labour pains are a necessary step toward childbirth and maternity. In a study in Iran, women who had given birth without epidural even expressed a sense of empowerment and belonging to an elite. [38] Furthermore, several qualitative studies in various cultural contexts found that labour pain, although challenging for women, is viewed as a positive, essential and beneficial part of life, and as a source of trust in one's body. [39 40] Health professionals should be aware of these different perceptions of labour pain, and tailor their pain management procedures to the women's personal and cultural preferences. This approach is particularly relevant with immigrant women as they have been found to encounter difficulties constructing their maternal identity across cultures, especially when practices differ between their home and host country.[41] A more conservative approach to labour pain

may be challenging to healthcare professionals in Westernized countries, who tend to value a calm and well organized labour room as a tangible indication of their professional competence.[42]

Regardless of cultural perspectives and peer influences on the decision to have or not an epidural, labour pain is sometime overwhelming and can abruptly force women to request labour analgesia. In our study, some participants recall that labour pain was so strong that it hindered their ability to think and overrode their initial decision not to ask for an epidural. Nulliparous parturient women have indeed been shown to increase their wish of epidural analgesia from 27.9% before labour to 48.2% as soon as painful contractions begin.[36] A systematic review of women's expectations regarding labour pain showed that an important proportion of women underestimate the intensity of labour pain.[43] In high-income countries studies, researchers found that 50% of women who had initially not requested an epidural finally asked for it.[44 45] Healthcare professionals should keep this in mind, since women may feel disappointed or defeated when accepting epidural analgesia. Indeed in our study, several women expressed worries and regrets following acceptance of epidural analgesia.

This qualitative study has several strengths. One is a significant representative sample of 40 allophone immigrant women from cultural minorities from 10 different countries. Another is the use of a culturally congruent data collection method based on focus group interviews that allows, in a friendly atmosphere, in-depth understanding of participants beliefs and values. Finally our study has a high level of internal validity due to the involvement of researchers from different professional backgrounds, age and gender groups. They were all involved at each stage of the data collection, thematic analysis, coding and interpretation. In addition, to avoid bias associated with researchers' beliefs and personal experience with epidural analgesia, special attention was given to reflexivity throughout the study.

A number of limitations should also be mentioned. One is that our study design did not record participant information such as education level, health literacy or migration history, which could potentially impact on participants' perspective over epidural analgesia for labour. Another is the limited generalizability of our study findings. These might be limited to immigrants located in high income western countries such as Switzerland.

Further research should therefore also focus on immigrants in upper-middle, lower-middle or low-income countries to assess whether women's knowledge and perceptions of epidural analgesia for labour pain: management differ from the ones identified in our study. It could also assess whether providing information about epidural analgesia tailored to parturients' individual and cultural perspectives, improves their decision making process regarding epidural analgesia use for labour. This becomes particularly relevant when the women's decision differs from the traditional perspective of their native community.

Our research findings have implications for clinicians and policymakers**.** **Table 2** provides a checklist of key aspects that should be addressed by health professionals caring for allophone immigrant women to facilitate the decision making process and improve women's autonomy.

Table 2: Key aspects to integrate into the discussion with parturients to enhance their autonomy and informed decision making for epidural analgesia during childbirth

Prior to giving information, the clinician should explore:

- Prior women's knowledge and experience of epidural analgesia
- Individual, family and community perspectives regarding labour pain and analgesia
- Presence of family or community members supporting or opposing the use of epidural analgesia

Information about epidural analgesia should include:

- Overall simple description of the technique (i.e. catheter placed in the back)
- What woman should do or not do during the procedure (i.e. movement)
- What women will feel during the procedure
- Risks and benefits of the procedure
- Short and long term side effects and possible complications
- Consequences of not choosing epidural analgesia for pain management
- Alternative pain management options

Provide access to documents in women's own language (paper, online) that allow them to discuss the procedure with family members and peers from their own community

Offer support to women that choose epidural analgesia against their family or community values or perspectives

CONCLUSION:

This study shows that immigrant women's decision regarding epidural analgesia during child birth is a complex interplay between knowledge, experience, attachment to tradition, social positioning and trust in the host country health system. By offering tailored medical information, health professionals can support women who wish to have a pain free labour with epidural analgesia despite the mainstream cultural views of their community. By questioning women's perspectives of labour pain, they can adapt their offer of pain management procedures. Although this is relevant for any woman, it is particularly important with immigrant women, as these women encounter more linguistic, social or cultural barriers in accessing health care preferences. This study also shows that research with often excluded minority communities is not only possible, but yields information that may also benefit the mainstream population.

Author contribution:

GH, IP, MDD, DG conceived and designed the study.

GH and IP wrote the initial draft and protocol and MDD and DG revised it.

MDD, DG and IP conducted the focus groups and data collection process.

MDD, IP, GH, DG analysed and interpreted data (codebook elaboration, coding, thematic analysis).

MDD and GH wrote the first draft of the manuscript, all authors revised it and contributed to its final version.

Funding statement:

This project received funding (grant QS-0521) from the Geneva University Hospitals' private funding agency ("Fondation privée des HUG") and funding (grant number not applicable) from the Swiss Federal Office for Public Health (OFSP).

All authors declare having no conflict of interest.

Ethical consent:

The study was granted a waiver (Req-2019-00329) from the Cantonal Ethics Committee of Human Research (Switzerland), since no personal or sensitive data were assessed and there was no risk of hazards for participants. The consent form content was translated by professional interpreters and oral individual consent to participate was obtained before the focus group.

Acknowledgements:

We wish to thank Camarada and AMICGE for their help organizing the focus groups, patients for their guidance in the design of the focus group interviews and settings, participants for their time and enthusiasm during the focus groups, the Geneva Red Cross and Connexxion interpreters for their excellent translation work, Emma Perneger for the quality of her written transcription of focus group discussions, and Patricia Hudelson for her attentive proofreading of an earlier version of this manuscript.

References :

1. INSERM. Enquête nationale périnatale 2016. Blondel B, Gonzalez L, Raynaud P ed. Paris: INSERM - DRESS, 2017.
2. Silva M, Halpern SH. Epidural analgesia for labor: Current techniques. *Local Reg Anesth* 2010;3:143-53. doi: 10.2147/LRA.S10237 [published Online First: 2010/01/01]
3. Statistics N. NHS Maternity Statistics, England 2019-20, 2020.
4. Husarova V, Macdarby L, Dicker P, et al. The use of pain relief during labor among migrant obstetric populations. *Int J Gynaecol Obstet* 2016;135(2):200-04. doi: 10.1016/j.ijgo.2016.05.003 [published Online First: 2016/09/25]
5. Hayes I, Enohumah K, McCaul C. Care of the migrant obstetric population. *Int J Obstet Anesth* 2011;20(4):321-9. doi: 10.1016/j.ijoa.2011.06.008 [published Online First: 2011/08/16]
6. Vangen S, Stoltenberg C, Schei B. Ethnicity and use of obstetrical analgesia: do Pakistani women receive inadequate pain relief in labour? *Ethn Health* 1996;1(2):161-7. doi: 10.1080/13557858.1996.9961783 [published Online First: 1996/05/01]
7. Osterman MJ, Martin JA. Epidural and spinal anesthesia use during labor: 27-state reporting area, 2008. *Natl Vital Stat Rep* 2011;59(5):1-13, 16. [published Online First: 2011/05/11]
8. Liu N, Wen SW, Manual DG, et al. Social disparity and the use of intrapartum epidural analgesia in a publicly funded health care system. *Am J Obstet Gynecol* 2010;202(3):273 e1-8. doi: 10.1016/j.ajog.2009.10.871 [published Online First: 2010/01/05]
9. James JN, Prakash KS, Ponniah M. Awareness and attitudes towards labour pain and labour pain relief of urban women attending a private antenatal clinic in Chennai, India. *Indian J Anaesth* 2012;56(2):195-8. doi: 10.4103/0019-5049.96331 [published Online First: 2012/06/16]
10. Mung'ayi V, Nekyon D, Karuga R. Knowledge, attitude and use of labour pain relief methods among women attending antenatal clinic in Nairobi. *East Afr Med J* 2008;85(9):438-41. doi: 10.4314/eamj.v85i9.117084 [published Online First: 2009/06/23]
11. Brown E, Carroll J, Fogarty C, et al. "They get a C-section...they gonna die": Somali women's fears of obstetrical interventions in the United States. *J Transcult Nurs* 2010;21(3):220-7. doi: 10.1177/1043659609358780 [published Online First: 2010/06/04]
12. De Freitas C, Massag J, Amorim M, et al. Involvement in maternal care by migrants and ethnic minorities: a narrative review. *Public Health Rev* 2020;41:5. doi: 10.1186/s40985-020-00121-w [published Online First: 2020/04/14]
13. Fair F, Raben L, Watson H, et al. Migrant women's experiences of pregnancy, childbirth and maternity care in European countries: A systematic review. *PLoS One* 2020;15(2):e0228378. doi: 10.1371/journal.pone.0228378 [published Online First: 2020/02/12]
14. Halcomb EJ, Gholizadeh L, DiGiacomo M, et al. Literature review: considerations in undertaking focus group research with culturally and linguistically diverse groups. *J Clin Nurs* 2007;16(6):1000-11. doi: 10.1111/j.1365-2702.2006.01760.x [published Online First: 2007/05/24]
15. Colucci E. On the use of focus groups in cross-cultural research. In: Liamputtong P, ed. Doing cross-cultural research. Dordrecht: Springer 2008:233-52.
16. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int J Qual Health Care* 2007;19(6):349-57. doi: 10.1093/intqhc/mzm042 [published Online First: 2007/09/18]
17. Hudelson P, Dao MD, Perron NJ, et al. Interpreter-mediated diabetes consultations: a qualitative analysis of physician communication practices. *BMC Fam Pract* 2013;14:163. doi: 10.1186/1471-2296-14-163 [published Online First: 2013/10/25]
18. Association Camarada [Available from: www.camarada.ch.
19. Association des médiatrices interculturelles [Available from: https://amicge.ch/.
20. Onwuegbuzie A, Dickinson W, Leech N, et al. A qualitative framework for collecting and analyzing data in focus group research. . *International journal of qualitative methods* 2009;8(3):1-21.

21. Westfall RE, Benoit C. The rhetoric of "natural" in natural childbirth: childbearing women's perspectives on prolonged pregnancy and induction of labour. *Soc Sci Med* 2004;59(7):1397-408. doi: 10.1016/j.socscimed.2004.01.017 [published Online First: 2004/07/13]
22. Boyatzis RE. Transforming qualitative information: Thematic analysis and code development. Thousand Oaks, CA: Sage 1998.
23. Vaismoradi M, Turunen H, Bondas T. Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nurs Health Sci* 2013;15(3):398-405. doi: 10.1111/nhs.12048 [published Online First: 2013/03/14]
24. Ezeonu PO, Anozie OB, Onu FA, et al. Perceptions and practice of epidural analgesia among women attending antenatal clinic in FETHA. *Int J Womens Health* 2017;9:905-11. doi: 10.2147/IJWH.S144953 [published Online First: 2017/12/26]
25. Okojie NQ, Isah EC. Perception of Epidural Analgesia for Labour among Pregnant Women in a Nigerian Tertiary Hospital Setting. *J West Afr Coll Surg* 2014;4(4):142-62. [published Online First: 2014/10/01]
26. Delwatta SL, Kaushalya PDJ, Ravindu Shehan AK, et al. Is knowledge and attitude on epidural analgesia during labour satisfactory among pregnant women attending antenatal clinics in Colombo District? *Sri Lankan Journal of Anaesthesiology* 2019;21(1):21–27. doi: http://doi.org/10.4038/slja.v27i1.8364
27. Harkins J, Carvalho B, Evers A, et al. Survey of the Factors Associated with a Woman's Choice to Have an Epidural for Labor Analgesia. *Anesthesiol Res Pract* 2010;2010 doi: 10.1155/2010/356789 [published Online First: 2010/08/20]
28. E S, EK S, I S-V, et al. Predictors of recommendation and acceptance of intrapartum epidural analgesia. *Anesth Analg* 2000;90(1):109-13. . doi: 10.1097/00000539-200001000-00024.
29. Le Ray C, Goffinet F, Palot M, et al. Factors associated with the choice of delivery without epidural analgesia in women at low risk in France. *Birth* 2008;35(3):171-8. doi: 10.1111/j.1523-536X.2008.00237.x [published Online First: 2008/10/11]
30. Halpern SH, Leighton BL. Misconceptions about neuraxial analgesia. *Anesthesiol Clin North Am* 2003;21(1):59-70. doi: 10.1016/s0889-8537(02)00028-7 [published Online First: 2003/04/18]
31. Munnur U, Suresh MS. Backache, headache, and neurologic deficit after regional anesthesia. *Anesthesiol Clin North Am* 2003;21(1):71-86. doi: 10.1016/s0889-8537(02)00031-7 [published Online First: 2003/04/18]
32. Anim-Somuah M, Smyth RM, Jones L. Epidural versus non-epidural or no analgesia in labour. *Cochrane Database Syst Rev* 2011(12):CD000331. doi: 10.1002/14651858.CD000331.pub3 [published Online First: 2011/12/14]
33. Sng BL, Leong WL, Zeng Y, et al. Early versus late initiation of epidural analgesia for labour. *Cochrane Database Syst Rev* 2014(10):CD007238. doi: 10.1002/14651858.CD007238.pub2 [published Online First: 2014/10/11]
34. Ituk U, Wong CA. Epidural labor analgesia: Whence come our patients' misconceptions? *J Clin Anesth* 2017;42:84-85. doi: 10.1016/j.jclinane.2017.07.012 [published Online First: 2017/08/26]
35. Toledo P, Sun J, Peralta F, et al. A qualitative analysis of parturients' perspectives on neuraxial labor analgesia. *Int J Obstet Anesth* 2013;22(2):119-23. doi: 10.1016/j.ijoa.2012.11.003 [published Online First: 2013/03/07]
36. Echevarria GC, Grant GJ, Chung Y, et al. Survey of nulliparous parturients' attitudes regarding timing of epidural analgesia initiation. *J Clin Anesth* 2017;41:106-11. doi: 10.1016/j.jclinane.2017.06.008 [published Online First: 2017/06/28]
37. Orbach-Zinger S, Bardin R, Berestizhevsky Y, et al. A survey of attitudes of expectant first-time fathers and mothers toward epidural analgesia for labor. *Int J Obstet Anesth* 2008;17(3):243-6. doi: 10.1016/j.ijoa.2008.01.012 [published Online First: 2008/05/24]
38. Shahoei R, Khosravy F, Zaheri F, et al. Iranian Kurdish women's experiences of childbirth: A qualitative study. *Iran J Nurs Midwifery Res* 2014;19(7 Suppl 1):S112-7. [published Online First: 2014/02/01]

39. Van der Gucht N, Lewis K. Women's experiences of coping with pain during childbirth: a critical review of qualitative research. *Midwifery* 2015;31(3):349-58. doi: 10.1016/j.midw.2014.12.005 [published Online First: 2015/01/21]
40. Lundgren I, Dahlberg K. Women's experience of pain during childbirth. *Midwifery* 1998;14(2):105-10. doi: 10.1016/s0266-6138(98)90007-9 [published Online First: 1999/06/26]
41. Pangas J, Ogunsiji O, Elmir R, et al. Refugee women's experiences negotiating motherhood and maternity care in a new country: A meta-ethnographic review. *Int J Nurs Stud* 2019;90:31-45. doi: 10.1016/j.ijnurstu.2018.10.005 [published Online First: 2018/12/26]
42. Schott A, Henley J. Culture, religion and childbearing in a multiracial society: a handbook for health professionals. London: Butterworth Heinemann 1996.
43. Lally JE, Murtagh MJ, Macphail S, et al. More in hope than expectation: a systematic review of women's expectations and experience of pain relief in labour. *BMC Med* 2008;6:7. doi: 10.1186/1741-7015-6-7 [published Online First: 2008/03/28]
44. Toledo P, Sun J, Grobman WA, et al. Racial and ethnic disparities in neuraxial labor analgesia. *Anesth Analg* 2012;114(1):172-8. doi: 10.1213/ANE.0b013e318239dc7c [published Online First: 2011/11/15]
45. Ranta P, Spalding M, Kangas-Saarela T, et al. Maternal expectations and experiences of labour pain--options of 1091 Finnish parturients. *Acta Anaesthesiol Scand* 1995;39(1):60-6. doi: 10.1111/j.1399-6576.1995.tb05593.x [published Online First: 1995/01/01]

CODE NAME	DESCRIPTION	EXAMPLES
Positive effects of epidural	Any talk from women that mentions positive or beneficial effects of the epidural	*After it was good because I didn't feel the pain anymore, the big pain. (Albanian)* *My 4th child was born here, I also had an injection, an hour later the little one was born. (Dari)*
Negative effects of epidural	Any speech by women that mentions the negative effects or consequences of epidurals, either short or long term	*I heard that if you move during the epidural, it can be harmful to your health. (Albanian)* *Because I've heard that it causes back pain. (Dari)*
Help during childbirth (except epidural)	Any talk from women that mentions things other than the epidural that help them during childbirth (effect on fear, on pain, etc.)	*If my husband is there, I will be less hurt and less afraid. (Albanian)* *A week before the delivery, everything was explained to me (...) so I was not afraid. (Dari)*
Sources of information	Any mention by the women of sources of information concerning the epidural and everything related to it (its consequences, its effects, etc.)	*In my family, in fact there are quite a few who have had caesarean sections, with epidurals. (Albanian)* *It's the doctor who knows if it has negative effects on the baby or on our health, the doctor would have told us. (Dari)*
Procedural knowledge	What women say they know about the procedural elements of epidural insertion and use	*From what I've seen, when you put the epidural in, it's in the bones, you feel the cold. (Albanian)* *Once we gave her the injection lying down because sitting down is more difficult. Three years ago she had the epidural while lying down. (Dari)*
Clear-cut discourse of pro- or anti-peridural women	Discourse of women who in the focus group defend the epidural (I call them "pioneers"), rather "militant" content that is often in contradiction with the majority of the group	*I try to retain only the positive, everything that others say, I don't want to listen. (Albanian)* *I'm very happy, but if I do it again, I'll do it again. (Dari)*

	OR discourse of women who are firmly opposed to the epidural	
Normativity of childbirth	Normative discourse around vaginal delivery with contractions that is useful or beneficial in any capacity	*For normal deliveries, we don't give this. (Albanian)* *Because he thought that (...) giving vaginal delivery was even beneficial for my health. (Dari)*
Pain and suffering in childbirth	Discourse around the pain and suffering present during childbirth	*I gave birth in Afghanistan and suffered a lot (Dari)*
Trust in the medical profession	Women's discourse around trust (or not) in the medical profession and the emotions that come with it	*It is the doctor who knows if it has negative effects on the baby or on our health, the doctor would have told us (Dari)*
Questions	Questions that women ask about epidurals in the broad sense (procedure, effects, contraindication, etc.)	*If I move, could I be paralyzed? (Albanian, double coded with "negative effects")* *The epidural, the older you get, is there more risk? (Dari)*
Words for epidural position	Lexical field related to the woman's position during the epidural insertion specifically requested for the film	*Stay calm, sit quietly, don't move (Dari)*

NB: original code list was done in French, this is an English translation by the authors of this manuscript

Documents for focus groups Translated from French to English (UK) with www.DeepL.com/Translator (free version) and reviewed for mistakes

1) Introductory speech to the focus group:

Ladies, thank you for taking part in this group interview to share your ideas, your representations and your experience of the epidural.

I am ... (presentation of the speaker) and my colleagues are ... (presentation of the co-facilitators and the interpreter).

This interview is being conducted with the aim of making a film to explain the position required for an epidural to patients who do not understand French. More than a simple translation, we seek to take into account the cultural representations specific to each community.

You are here as experts to express the need for information that you would like to receive in order to carry out this procedure.

This interview is completely anonymous, and what you say is confidential and your words will not be shared beyond this group and the research team. The results of this work can be shared with you and you may view the future film if you wish.

This interview is conducted with an interpreter, everything you say will be translated. When you speak, it is necessary to give her time to translate. We will make sure each of you has time to express herself. This exchange will last about 1h30. We will record the session and take notes so that we can analyze what is being said as accurately as possible during this project.

We will now do a short round to let each woman in the group introduce themselves (first name, age, country of origin, whether or not they have already given birth, with or without an epidural).

Documents for focus groups Translated from French to English (UK) with www.DeepL.com/Translator (free version) and reviewed for mistakes

2) Conducting the focus groups (FG)

FG preparation :
- Check the audio and video equipment
- Prepare nametags
- Prepare a table plan
- Provide water and glasses
- Provide a sign to indicate the FG room to participants
- Provide a sign for the door: "Do not disturb"

Introduction:
- Free placement of speakers
- Welcome and thank you
- Introductory speech (presentation of moderators and interpreter, topic of the discussion, reasons and principles of participation, anonymity, access to the results of the study, basics of good communication with interpreter)
- Launch an ice-breaker round

Focus group discussion:
- Using the semi-structured questionnaire (see interview guide)

Conclusion:
- Inform the group that the themes are exhausted
- Make sure there are no outstanding questions or ideas
- Review the 6-8 key ideas from the FG
- Congratulate on the relevance of the contributions
- Acknowledgements

Immediate debriefing of moderators:
- Report back on key points
- Check the quality of the recordings

Documents for focus groups Translated from French to English (UK) with www.DeepL.com/Translator (free version) and reviewed for mistakes

3) Interview guide :

a) Knowledge, questions and need for information :

Have you ever given birth?

What do you know about epidurals?
Follow-up questions: *What have you heard? What do you know? What have you been told about the epidural? What do they say about the epidural in your country?*

Check that everyone knows what an epidural is. Define the epidural as follows: "It is an anaesthetic/injection that is given in the lower back at the level of the spine and which helps to reduce pain during childbirth.

If you were offered an epidural at the time of delivery, what information would you want to receive? Follow-up question: *What would you need to make a decision?*

What are your fears about this procedure?
Follow-up questions: *Do you have any concerns about this procedure? about the consequences of this procedure? about the labour? about the baby?*

b) Expectations and sensations during the epidural:

What do you know about what it feels like to have an epidural?
Follow-up question: *What do you imagine it to feel like?*

What do you imagine one can expect from an epidural?
Follow-up question: *What effects? What kind of sensations after the epidural in place?*

c) Performing the procedure:

Do you know how an epidural is done?

Do you know what position you should be in for an epidural?

Showing of the film and explanation of the sensations during the procedure: cold of the disinfection, local anaesthetic prick, Tuohy needle pressure in the back, possible paresthesias, maintaining immobility during the procedure despite potentially painful contractions.u

In the film, you could see the position necessary for the epidural. What do you call this position?
Follow-up question: *What word in your language describes this position? How would you tell someone to get into this position?*

It is very important that the woman does not move during the epidural. The pain and contractions of childbirth can make this difficult. What would be the right words to make women understand this?

Documents for focus groups Translated from French to English (UK) with www.DeepL.com/Translator (free version) and reviewed for mistakes

Follow-up question: *How do you say that you should not move? What words would you need?*

d) Indications for the film:

We want to make a film to explain to women how the epidural works. What would be shocking in such a film?

How should nudity be shown? Is it better to show real people or to make a cartoon?

We treat people from all over the world. How can we show this diversity of patients visually?
Follow-up question: *What skin colour would you like to see the woman in labour in the film/cartoon? What should she look like? What hair colour? Should she have a particular hairstyle? How would you feel if the woman did not look like you?*
In the film, does the woman have to be accompanied by someone close to her? And if so, who?

How important to you is the colour or gender of the doctors and nurses in the film? What would be your preference (male/female, skin colour)?

COREQ (COnsolidated criteria for REporting Qualitative research) Checklist

A checklist of items that should be included in reports of qualitative research. You must report the page number in your manuscript where you consider each of the items listed in this checklist. If you have not included this information, either revise your manuscript accordingly before submitting or note N/A.

Topic	Item No.	Guide Questions/Description	Reported on Page No.
Domain 1: Research team and reflexivity			
Personal characteristics			
Interviewer/facilitator	1	Which author/s conducted the interview or focus group?	6
Credentials	2	What were the researcher's credentials? E.g. PhD, MD	1
Occupation	3	What was their occupation at the time of the study?	1
Gender	4	Was the researcher male or female?	6
Experience and training	5	What experience or training did the researcher have?	1, 6
Relationship with participants			
Relationship established	6	Was a relationship established prior to study commencement?	5
Participant knowledge of the interviewer	7	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	5 + supplemen
Interviewer characteristics	8	What characteristics were reported about the inter viewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	6
Domain 2: Study design			
Theoretical framework			
Methodological orientation and Theory	9	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	5
Participant selection			
Sampling	10	How were participants selected? e.g. purposive, convenience, consecutive, snowball	5
Method of approach	11	How were participants approached? e.g. face-to-face, telephone, mail, email	5
Sample size	12	How many participants were in the study?	6
Non-participation	13	How many people refused to participate or dropped out? Reasons?	5
Setting			
Setting of data collection	14	Where was the data collected? e.g. home, clinic, workplace	5
Presence of non-participants	15	Was anyone else present besides the participants and researchers?	5
Description of sample	16	What are the important characteristics of the sample? e.g. demographic data, date	7
Data collection			
Interview guide	17	Were questions, prompts, guides provided by the authors? Was it pilot tested?	5 + supplemen
Repeat interviews	18	Were repeat inter views carried out? If yes, how many?	N/A
Audio/visual recording	19	Did the research use audio or visual recording to collect the data?	6
Field notes	20	Were field notes made during and/or after the inter view or focus group?	6
Duration	21	What was the duration of the inter views or focus group?	5
Data saturation	22	Was data saturation discussed?	N/A
Transcripts returned	23	Were transcripts returned to participants for comment and/or	N/A

Topic	Item No.	Guide Questions/Description	Reported on Page No.
		correction?	
Domain 3: analysis and findings			
Data analysis			
Number of data coders	24	How many data coders coded the data?	6
Description of the coding tree	25	Did authors provide a description of the coding tree?	6
Derivation of themes	26	Were themes identified in advance or derived from the data?	6
Software	27	What software, if applicable, was used to manage the data?	N/A
Participant checking	28	Did participants provide feedback on the findings?	N/A
Reporting			
Quotations presented	29	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	8-11
Data and findings consistent	30	Was there consistency between the data presented and the findings?	11
Clarity of major themes	31	Were major themes clearly presented in the findings?	7
Clarity of minor themes	32	Is there a description of diverse cases or discussion of minor themes?	8-9

Developed from: Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007. Volume 19, Number 6: pp. 349 – 357

Once you have completed this checklist, please save a copy and upload it as part of your submission. DO NOT include this checklist as part of the main manuscript document. It must be uploaded as a separate file.

BMJ Open

Allophone immigrant women's knowledge and perceptions of epidural analgesia for labour pain: a qualitative study

Journal:	*BMJ Open*
Manuscript ID	bmjopen-2021-057125.R2
Article Type:	Original research
Date Submitted by the Author:	15-Mar-2022
Complete List of Authors:	Dominicé Dao, Melissa; Geneva University Hospitals, Primary Care; University of Geneva Faculty of Medicine Gerosa, Désirée; Geneva University Hospitals, Woman, Child and Adolescent; University of Applied Sciences and Arts Western Switzerland, School of health sciences Pélieu, Iris; Geneva University Hospitals, Acute Care Medicine haller, guy; Geneva University Hospitals, Acute Care Medicine; University of Geneva, Faculty of Medicine
Primary Subject Heading:	Obstetrics and gynaecology
Secondary Subject Heading:	Anaesthesia, Communication, Qualitative research
Keywords:	Anaesthesia in obstetrics < ANAESTHETICS, PAIN MANAGEMENT, QUALITATIVE RESEARCH, REPRODUCTIVE MEDICINE, Maternal medicine < OBSTETRICS

I, the Submitting Author has the right to grant and does grant on behalf of all authors of the Work (as defined in the below author licence), an exclusive licence and/or a non-exclusive licence for contributions from authors who are: i) UK Crown employees; ii) where BMJ has agreed a CC-BY licence shall apply, and/or iii) in accordance with the terms applicable for US Federal Government officers or employees acting as part of their official duties; on a worldwide, perpetual, irrevocable, royalty-free basis to BMJ Publishing Group Ltd ("BMJ") its licensees and where the relevant Journal is co-owned by BMJ to the co-owners of the Journal, to publish the Work in this journal and any other BMJ products and to exploit all rights, as set out in our licence.

The Submitting Author accepts and understands that any supply made under these terms is made by BMJ to the Submitting Author unless you are acting as an employee on behalf of your employer or a postgraduate student of an affiliated institution which is paying any applicable article publishing charge ("APC") for Open Access articles. Where the Submitting Author wishes to make the Work available on an Open Access basis (and intends to pay the relevant APC), the terms of reuse of such Open Access shall be governed by a Creative Commons licence – details of these licences and which Creative Commons licence will apply to this Work are set out in our licence referred to above.

Other than as permitted in any relevant BMJ Author's Self Archiving Policies, I confirm this Work has not been accepted for publication elsewhere, is not being considered for publication elsewhere and does not duplicate material already published. I confirm all authors consent to publication of this Work and authorise the granting of this licence.

Allophone immigrant women's knowledge and perceptions of epidural analgesia for labour pain: a qualitative study

Melissa Dominicé Dao[1], Désirée Gerosa[2], Iris Pélieu [3], Guy Haller [4,5]

1 MD, Msc, Transcultural Consultation, Division of Primary Care, Department of Primary Care, Geneva University Hospitals and Faculty of Medicine, University of Geneva, Geneva, Switzerland

2 Midwife, Msc, Department of Obstetrics and Gynaecology, University Hospitals of Geneva, Geneva, Switzerland and School of Health Sciences Geneva HES-SO University of Applied Sciences and Arts Western Switzerland

3 MD, Consultant, Division of Division of Anesthesiology, Unit of Maternal Care, Geneva University Hospitals

4 MD, Msc, PhD Department of Acute Care Medicine, Division of Anesthesiology, Unit of Maternal Care, Geneva University Hospitals and Faculty of Medicine, University of Geneva, Geneva, Switzerland

5. MD, Msc, PhD Department of Epidemiology and Preventive Medicine, Health Services Management and Research Unit, Monash University, Melbourne Victoria, Australia

Corresponding Author:

Dr Melissa Dominicé Dao
Transcultural Consultation
Division of Primary Care
Department of Primary Care
Geneva University Hospitals
4, rue Gabrielle Perret-Gentil
1211 Geneva, Switzerland
melissa.dominice@hcuge.ch
+4179 55 33 317

Word count: 4655 (including patient excerpts)

ABSTRACT :

Objectives: To explore allophone immigrant women's knowledge and perceptions of epidural analgesia for labour pain, in order to identify their information needs prior to the procedure.

Design: We conducted focus groups interviews with allophone women from five different linguistic immigrant communities, with the aid of professional interpreters. Thematic analysis of focus group transcripts was carried out by all authors.

Setting: Women were recruited at two non-profit associations offering French language and cultural integration training to non-French speaking immigrant women in Geneva.

Participants: Forty women from 10 countries who spoke either Albanian, Arabic, Farsi/Dari, Tamil or Tigrigna took part in the five focus groups. Four participants were nulliparous, but all others had previous experience of labour and delivery, often in European countries. A single focus group was conducted for each of the five language groups.

Results: We identified five main themes: (1) Women's partial knowledge of epidural analgesia procedures; (2) Strong fears of short and long term negative consequences of epidural analgesia during childbirth; (3) Reliance on multiple sources of information regarding epidural analgesia for childbirth; (4) Presentation of salient narratives of labour pain to justify their attitudes toward epidural analgesia; and (5) Complex community positioning of pro-epidural women.

Conclusions: Women in our study had partial knowledge of epidural analgesia for labour pain and had perceptions of a high risk-to-benefits ratio for this procedure. Diverse and sometimes conflicting information about epidural analgesia can interfere with women's' decisions regarding this treatment option for labour pain. Our study suggests that women need comprehensive but also tailored information in their own language to support their decision-making regarding epidural labour analgesia.

Keywords: Epidural analgesia; immigrant women; allophone; labour pain; representations; social positioning; qualitative research

STRENGTHS AND LIMITATIONS OF THIS STUDY:

Strengths:

- The inclusion of a diverse sample of hard-to-reach subjects allowed exploration of women's perspectives regarding epidural labour analgesia across different language groups.
- Focus group discussions supported by community interpreters created a comfortable atmosphere in which participants could freely express themselves.
- A diverse research team involved in all aspects of the study allowed for multiple perspectives on the focus group transcripts' analysis.
- Attention was given to reflexivity throughout the study in order to avoid bias associated with individual researchers' personal and professional beliefs and experiences with epidural analgesia for labour pain management.

Limitations:

- No data were collected on participants' education level, health literacy or migration history, and therefore their influence on participants' knowledge and perceptions could not be explored.
- This was a single-site study with a convenience sample of recent immigrants in Switzerland, and therefore results cannot be totally generalized to other contexts and settings.

INTRODUCTION:

Epidural analgesia and anaesthesia has become the most widely used pain control method in obstetrics, allowing relief from labour pain during vaginal childbirth or caesarean section if required. In the UK and USA, 60% of women will give birth under epidural analgesia, 69% in Canada and 83% in France.[1-3] While largely available in Western countries, epidural labour analgesia shows lower rates of use among immigrant women and parturients from ethnic minorities. In a study set in Ireland, women from Africa were three times less likely than their Western European counterparts to have epidural analgesia for labour and delivery.[4 5] In another study in Norway, 30% of women originating from Pakistan compared with 9% native Norwegian women received no analgesia for labour pain management.[6] In a large US study conducted by the Center for Disease Control and Prevention, researchers found large disparities across ethnic groups in the use of epidural labour analgesia; non-Hispanic white women were found to be the most likely to receive neuraxial analgesia and Afro-American women the least likely.[7]

There are several hypothesis to explain these disparities. One is the often lower socioeconomic level of women from non-dominant ethnic groups, which can negatively impact access to care, including epidural analgesia techniques.[8] Another possible explanation is the lower level of knowledge of labour analgesia in immigrant and ethnic minority women. Several studies found that women from non-Western countries were less likely to ask for epidural analgesia because they had little awareness that labour pain can be relieved.[9 10 11] Researchers even found that Somali women in the USA had substantial resistance to any labour related intervention because they believed it would increase the risk of caesarean section or death.[11] Other possible causes of disparities include difficulties accessing adequate information due to a language barrier, staff's limited time, fewer opportunities offered to members of ethnic minorities to express personal preferences and prior suboptimal experiences with Western world health care institutions.[12] An extensive literature review exploring women's experiences of pregnancy confirmed that immigrant women often encountered difficulties navigating the healthcare system, being understood and receiving treatments respectful of their cultural background. [13]

While several barriers related to language, social and economic status, awareness of labour pain analgesia, and prior negative healthcare experience have been identified, less is known about specific knowledge and perceptions of epidural labour analgesia of immigrant women from ethnic minorities. The nature and type of information needed by these women to allow an informed decision making process regarding the use of epidural analgesia for labour pain management is unknown.

Our study aimed to explore allophone immigrant women's knowledge and perceptions of epidural analgesia, in order to identify their information needs and develop tailored information material to enhance their decision making process. Our study was part of a larger project aimed at developing a multilingual short information video on epidural labour analgesia specifically designed for immigrant allophone women.

METHODS:

Design, setting, rationale

We conducted an exploratory qualitative study using focus group interviews and thematic analysis exploring the knowledge and perceptions of allophone migrant women regarding epidural analgesia for labour pain. Focus groups have been identified as an efficient method with culturally and linguistically diverse populations to generate knowledge about patient preferences regarding health care provision and to inform future health interventions.[14 15] Details of the methodology used are reported according to the Consolidated criteria for reporting qualitative research (COREQ) checklist (Supplementary file 1).[16] The study was set in Geneva (Switzerland), a cosmopolitan city where 64 % of the population holds a foreign passport and 54% of women who give birth at the main public hospital (Geneva University Hospitals or HUG) have a primary language other than French (the official language of Geneva).[17]

Sampling and participant recruitment

Using the HUG Maternity hospital interpreter services data, we identified the most frequently requested interpreter languages for women admitted for labour and delivery. We selected five language groups for our study: Tigrigna, Dari/Farsi, Albanian, Tamil and Arabic. Dari and Farsi speakers were considered a single group as there languages hold 90% lexical similarity. We contacted two well-known non-profit associations offering French language and cultural integration training to non-French speaking immigrant women in Geneva.[18 19] Women were approached during their French language classes and invited to participate in the focus groups on a voluntary basis. All participants were informed about the research purpose and design and provided oral consent to participate in the study. Information on the study was provided in their own language by a professional community interpreter. Inclusion criteria included being female, over 18 years of age and belonging to one of the five linguistic communities selected. We included women with and without experience of labour and childbirth as we wanted to access a wide variety of perspectives on epidural labour analgesia. Participants were offered light refreshments and were given a voucher from a local grocery store after the focus group.

Data collection

The focus group discussion guide included 14 questions, focusing on: prior knowledge and representations of epidural analgesia for childbirth, information needs, expectations of epidural analgesia, knowledge of the epidural procedure, and preferences regarding visual aspects of an informative film (Supplementary file 2). A short video showing how an epidural is performed was also shown at the end of the interview to trigger additional questions and discussion content from the participants. Focus groups lasted two hours including a short break.

Focus groups were held in empty classrooms at the language school. Each focus group included 7 to 9 women and was held with women from a single language group. Translation was provided by a professional female interpreter, chosen for her extensive experience with immigrant communities. Focus groups were led by two female experienced researchers (MDD, DG, IP). A short summary of relevant topics discussed during the sessions, as well as observations of group dynamics, were drafted by the two researchers immediately following focus group sessions. These notes served as additional data and facilitated subsequent thematic analysis.[20] All focus groups discussions were audio recorded, and only the French language portions of the recordings were transcribed (interviewers' questions and interpreters' translations of participants' comments).

Data analysis

During the data collection period, regular meetings between researchers took place to reflect on group animation processes, interview content and to identify emerging themes. Each transcript was first analysed separately by each researcher (MDD, IP, DG, GH) and then discussed together in order to develop a consensus coding list. Some codes emerged inductively from the data, while others emanated deductively from the interview questions; a thematic analysis framework was used in order to bridge inductive and deductive coding methods.[21 22] The final code list, resulting from a consensus meeting between all researchers, was then used to code all five focus group transcripts (Supplementary file 3).

All researchers then first coded each focus group transcript separately. Consensus meetings were held to compare coding and resolve discrepancies. Tables were created to compare excerpts for each code across focus groups; the main themes emerged through group discussions of this coded data across focus groups.[23] Attention was given to how these themes compared across the five groups. Notes from each meeting were kept and referred to throughout the research process.

Reflexivity

To minimise the influence of researchers' opinions and beliefs regarding epidural labour analgesia, key steps of the thematic analysis were systematically completed during team meetings. Each researcher's personal perspective was challenged by other members of the group when there was discrepancies in theme identification, or when gender or prior personal and professional experiences of childbirth were felt by other members as possibly influencing data interpretation. Our research team included researchers with different personal and professional backgrounds. The diversity of the group allowed identification of individual norms and assumptions and discussion of these in order to minimize their impact on data collection and interpretation.

Patient and public involvement

To ensure participants' involvement and inform the study conduct, we included women (patients, interpreters, and bilingual nurses) from the different linguistic groups selected. They supported study interpreters, experts in transcultural care, and healthcare professionals involved in the study in designing the original protocol and developing the original discussion guide. More specifically they provided advice regarding common cultural issues surrounding epidural labour analgesia, gender preference for interviewers and settings for the conduct of the focus groups. They were not further involved in other participants' recruitment or data analysis.

RESULTS:

Participant characteristics

Five focus groups involving 40 immigrant women from 10 different countries were conducted between May and September 2019. Participants were all native speakers of one of the five selected languages (Albanian, Arabic, Farsi/Dari, Tamil and Tigrigna). None of the participants spoke French. **Table 1** provides an overview of participants' characteristics within each of the groups.

Table 1: participant characteristics for each language group

Focus group language	Countries of origin	Number of participants	Age range	Childbirth history
Albanian	Kosovo, Albania	9	25 to 46 years old	5 women with 1-4 children, 1 pregnant again 3 women had none
Arabic	Syria, Sudan, Iraq, Egypt, Palestine	7	30 to 60 years old	All with 2 to 4 children 1 is pregnant again
Farsi/Dari	Iran, Afghanistan	7	32 to 57 years old	All with 2 to 5 children
Tamil	Sri Lanka	8	37 to 52 years old	7 had 1 to 3 children 1 had none
Tigrigna	Eritrea	9	23 to 41 years old	All had 1 to 4 children

Women knew each other from their French classes and the dynamic within groups was very lively. They willingly shared personal childbirth experiences (sometimes distressing ones) from their original home country or in Europe. With the exception of Iran, women declared that epidural analgesia was not

routinely offered for vaginal deliveries in their homeland. Some of them had knowledge that this type of procedure could also be used for caesarean section or other types of surgery, both in men and women. Women had many questions about epidural labour analgesia, including many relevant technical questions regarding contraindications, secondary effects, expected effect, etc. They were eager for more information about these topics, but also in general about sexual and reproductive health.

Five main themes emerged from the focus group discussions: (1) Women's partial knowledge of epidural analgesia procedures; (2) Strong fears of short and long term negative consequences of epidural analgesia during childbirth; (3) Reliance on multiple sources of information regarding epidural analgesia for childbirth; (4) Presentation of salient narratives of labour pain to justify their attitudes toward epidural analgesia; and (5) Complex community positioning of pro-epidural women.

Partial knowledge of epidural analgesia procedure

While in all groups many women were aware of the availability of epidural analgesia for childbirth, their understanding of the procedure varied widely and was often patchy. All groups mentioned that epidural analgesia is performed by an injection through a needle inserted in the back and is used to relieve labour pain.

> *If there is too much pain, it exists to ease the pain. It's called epidural, they can inject you, as you want. (Tigrigna)*

> *I didn't know the name, but I knew that there was an injection in the back. (Albanian)*

The Albanian, Arabic and Tigrigna groups commented that the procedure was also used for caesarean sections, but only the Arabic and Dari groups mentioned that an anaesthesiologist was required to perform the procedure.

All patients in all groups were aware that during needle insertion, they had to stay still. A key concern in all groups was the risk of harm from the needle if woman moved during the procedure.

> *It's very important not to move, because the injection has to be done in a precise place. Otherwise we can have paralysis. (Dari)*

> *The anaesthesiologist explained that I shouldn't have a cold, that I shouldn't cough, that I absolutely should not move* [during the procedure]. *(Arabic)*

Only rarely did women cite additional aspects of the procedure, such as the risk of total anaesthesia of lower extremities or that a catheter remained in the back following needle withdrawal.

> *I heard that, after receiving the epidural, is there some thread or something there? Because I heard, they leave a thread in there or something. (Tigrigna)*

Perception of a high risk to benefits ratio of epidural analgesia

All groups agreed that epidural analgesia can reduce pain associated with childbirth. In addition, some women mentioned that it accelerated post-labour recovery (Arabic), allowed to open female genital mutilations type 3 (Arabic), and eased vaginal delivery, thus avoiding the risk of caesarean section (Dari).

> *The information we received is that it reduces very much, it reduces pain. (Tamil)*

> *We heard that if we take the epidural, we feel less the pain, it's an easier delivery for the mom. (Albanian)*

Despite these acknowledged benefits, the amount of discussions on the risks and adverse effects of epidural analgesia was striking in all groups. Eritrean women were particularly prone to express their concerns over health hazards associated with the procedure. The main concern was the mother's health, and women in all groups agreed that there was no risk for the baby, as nicely summarized by one Albanian participant: "*it's only for our body"*. All groups feared immediate or delayed complications such as pain during the procedure, lower limb paralysis, persistent low back pain and headache.

> *It's a very difficult, very painful injection. (Arabic)*

> *The needle can go to the wrong place, it can harm a nerve or something. (..) If it's the back that is injured it means that the legs will not walk any more. (Tigrigna)*

> *We risk having pain in the lower back, having headaches. (Dari)*

Furthermore women in the Arabic, Dari and Tigrigna groups worried about the impact of epidural analgesia on the delivery process, mainly not being able to push or not knowing when to push.

> *So my husband told me that if you have an epidural you won't have enough strength to push, to give birth to the baby. (Dari)*

In all groups, women frequently referred to generic "adverse effects" of epidural analgesia, although they were often unable to specify the nature of these negative effects even when researchers tried to elicit more information.

> *But even if it helps us during the delivery, later it will cause problems. (Tamil)*

> *We hear discussions around us, women say "it's not good for your health". That's all, but I don't know how. (Tigrigna)*

Reliance on plural sources of information on epidural analgesia for childbirth

Participants relied on various sources of information on epidural analgesia for childbirth. Those who did not know much about the procedure often mentioned that the procedure was not available in their home country. Women who had previous personal experience of epidural analgesia referred to it as a valid source of information, and often contrasted their positive experience with the negative information they overheard.

> *The others say it will hurt your back (...). But I say no, I had it twice* [the epidural]*, and I have never had* [back] *pain. (Dari)*

Most information was acquired from relatives, friends and community members, especially other women from the same ethnic group. Here again, prior experience of other women was referred to.

> *Once I went home I was told by my relatives that I should not have accepted the epidural because there are secondary effects. (...) I asked my relatives 'where does that come from' and they said 'it happened to certain people'. (Dari)*

> *We hear discussions around us, women say "it's not good for your health". (Tigrigna)*

Health professionals were also often mentioned as reliable and trustful source of information. Women never referred to internet or the social media as a source of information.

Narratives of labour pain to justify one's attitude toward epidural analgesia

Pain and suffering during labour was a strong recurrent theme discussed by participants. Participants used salient childbirth narratives of themselves or others to lend weight to their fears, perceptions and decisions regarding epidural labour analgesia. Some women justified the need for epidural analgesia by the intolerable intensity of labour pains.

> *So there, my daughter has heard so many things about epidural, she refused it. But as she was in labour, she suffered and, when it was proposed to her, she accepted. And she was pleased because she didn't feel anything. (Arabic)*

> *Me, I had two children. My first child was born in Iran, I saw death with my eyes, and finally I had a caesarean section. However my second child was born here in Switzerland. So I was very frightened because of that experience I had in Iran. So I was told that with an epidural I might not have pain and at that moment, I accepted. (Iran)*

More often, women described labour pain as a natural process associated with giving birth that women should accept and endure.

> *So normally, in my opinion, it's part of the birth itself. The mother must feel this pain, how the baby will come out, through this pain. (Egyptian)*

Furthermore, some women regretted having initially asked for an epidural and not feeling pain. Others underlined that women should at least once in their life feel the pain of childbirth.

> *So at first, as I had too much pain, I accepted. With the second daughter, I said no. Because I already did it once. No, no, no, I didn't want it. (Eritrean)*

> *Me for instance, if I had given birth, it's not that it's dangerous to have the epidural but I would have liked to feel these pains. (Albanian)*

Finally, pain was seen as a distractor that prevented women from thinking straight, leading them to accept epidural analgesia without paying attention to adverse side effects.

> *At the time of the birth, we don't have good reflexes. When we go through the stage of pain, someone proposes something, immediately we take it. Without thinking about it, all women, they want something to decrease the pain. (Tamil)*

Complex community positioning of pro-epidural women

In each group of participants, a minority of strong advocates of epidural labour analgesia emerged. It was not easy for these women to position themselves against the majority of women who systematically discussed negative side effects and considered labour pain as a compulsory part of childbirth experience. A common strategy of these pro-epidural women was to oppose these arguments by referring to their positive personal experience to justify and support their use of epidural analgesia during labour.

> *So I was told that with an epidural I would not have pain. At that moment I accepted, because of my prior bad experience. I had pain but only a little. Once the baby was born, it went well. But once I went home, I was told, my close relatives [told me], that I should not have accepted the epidural because there are secondary effects. Six years later, I am very happy, I don't have any pain or any problem. (Dari)*

These supporters of epidural labour analgesia also highlighted the fact that adequate information had been provided by health professionals and that this encouraged them to accept this technique and improved their freedom of choice.

> *What I appreciated is that one week before delivery, I was explained everything* [through a prenatal consultation]. *If I wanted to give birth vaginally, if I wanted a caesarean, I was explained everything, so I wasn't scarred. (Dari)*

> *So for me, I think that what the others said is wrong. Because they give us an appointment before, they explain to us. If we take the epidural, if we do a caesarean section, they explain it to us. (…) So already we understand what is awaiting us. (Tigrigna)*

Some epidural advocates showed uncommon assertiveness and tried to undermine other women's fears of adverse effects.

> *I don't agree with what the others say. It's all in the head because you are scared. (…) Others say that it hurts the back and the pain stays, but no, I had it twice and I never had pain. It all happens in the head, because of being scared to take the epidural, that's it! (Tigrigna)*

> *Probably the woman she already has back pain (…) and then she says "oh, well, it's because of the injection!". (Arabic)*

DISCUSSION:

Our study shows that immigrant allophone women from the Middle East, Afghanistan, Iran, Eritrea, Sri-Lanka and Albania are well aware of the availability of epidural analgesia to control labour pain. However, their knowledge of the technique remains incomplete, and negative representations of epidural analgesia as a risky procedure predominates over positive perceptions of its benefits for pain management. Traditional perspectives of pain as a natural part of childbirth is also often advocated. Yet, some women seem to disagree with this traditional perspective, and use subtle narrative strategies such as positive individual experiences to justify the use of epidural analgesia for labour in contradiction with traditional practice in their native home country. These pro-epidural women also underline the supportive role played by information provided by health professionals in their decision making process. Finally, except for Eritrean women who appeared to be more worried than others about the side effects and complications associated with the technique, there were no other differences observed between ethnic groups.

Several studies performed in low-income countries, have identified significant barriers to the use of epidural analgesia for labour and delivery. These include costs, availability of specialized staff and material, awareness of existing labour pain management techniques and beliefs that labour pain is natural and good and should not be treated.[24 25 26] In our study of women having migrated from low-income countries, participants from all ethnic groups were aware of the different management techniques for labour pain, of their risks and benefits, and had some level of knowledge of the epidural technique itself. This may be explained by improved access of immigrant women to multiple sources of information and expertise once they live in western high income countries. For instance, in our hospital setting, several information leaflets in different languages are available to explain labour, pain management and perinatal care; although, for some specific countries, the language barrier may still hinder access to information.[27-29] For many others this is not the case and this may explain why perspectives of immigrant women who have moved to a western high-income country differ from the ones in their native home country.

In the different groups of immigrant women interviewed, we found that negative representations of epidural analgesia predominated over positive opinions. This is however not specific to immigrant women from low-income countries. Negative representations of epidural analgesia are common, including amongst natives of Western high-income countries. In many studies, authors found that women often blame epidural technique for slowing the natural process of labour, for increasing the risk of instrumental delivery, and for impeding breast feeding.[30 31] Although robust scientific data have invalidated these claims,[32 33] many women in high-income countries also consider that epidural analgesia increases their risk of caesarean section and can cause paraplegia.[34 35]

Another interesting finding of our study is the reliance of women on diverse sources of information and particularly on information provided by peers that have already experienced childbirth with analgesia techniques. This finding is similar in studies performed elsewhere. For instance, in a study in the USA, researchers found that friends and family members were often cited as the most important sources of information regarding epidural analgesia (70.5%), over internet (25%), books (23%) and childbirth classes (22.5%).[36] This highlights the importance of providing peer to peer exchange opportunities, such as collective birthing classes, which are rarely available for allophone parturients due to language barriers. In our sample of allophone immigrant women, husbands, family and other community members were mentioned as influencing their choice to accept or refuse epidural analgesia. In high-income countries also partners' preferences, recommendations of friends and family members appear to be an important factor influencing the decision to request or refuse epidural labour analgesia. [27 35 37] Healthcare professionals should thus provide information in a format that women can then share with others, in order to enhance women's autonomy in deciding whether or not to have labour epidural analgesia.

In our study, we also found that perspectives regarding labour pain varied widely. Many women supported a traditional perspective that labour pains are a necessary step toward childbirth and maternity. In a study in Iran, women who had given birth without epidural even expressed a sense of empowerment and belonging to an elite. [38] Furthermore, several qualitative studies in various cultural contexts found that labour pain, although challenging for women, is viewed as a positive, essential and beneficial part of life, and as a source of trust in one's body. [39 40] Health professionals should be aware of these different perceptions of labour pain, and tailor their pain management procedures to the women's personal and cultural preferences. This approach is particularly relevant with immigrant women as they have been found to encounter difficulties constructing their maternal identity across cultures, especially when practices differ between their home and host country.[41] A more conservative approach to labour pain may be challenging to healthcare professionals in Westernized countries, who tend to value a calm and well organized labour room as a tangible indication of their professional competence.[42]

Regardless of cultural perspectives and peer influences on the decision to have or not an epidural, labour pain is sometime overwhelming and can abruptly force women to request labour analgesia. In our study, some participants recall that labour pain was so strong that it hindered their ability to think and overrode

their initial decision not to ask for an epidural. Nulliparous parturient women have indeed been shown to increase their wish of epidural analgesia from 27.9% before labour to 48.2% as soon as painful contractions begin.[36] A systematic review of women's expectations regarding labour pain showed that an important proportion of women underestimate the intensity of labour pain.[43] In high-income countries studies, researchers found that 50% of women who had initially not requested an epidural finally asked for it.[44 45] Healthcare professionals should keep this in mind, since women may feel disappointed or defeated when accepting epidural analgesia. Indeed in our study, several women expressed worries and regrets following acceptance of epidural analgesia.

This qualitative study has several strengths. One is a significant representative sample of 40 allophone immigrant women from cultural minorities from 10 different countries. Another is the use of a culturally congruent data collection method based on focus group interviews that allows, in a friendly atmosphere, in-depth understanding of participants beliefs and values. Finally our study has a high level of internal validity due to the involvement of researchers from different professional backgrounds, age and gender groups. They were all involved at each stage of the data collection, thematic analysis, coding and interpretation. In addition, to avoid bias associated with researchers' beliefs and personal experience with epidural analgesia, special attention was given to reflexivity throughout the study.

A number of limitations should also be mentioned. One is that our study design did not record participant information such as education level, health literacy or migration history, which could potentially impact on participants' perspective over epidural analgesia for labour. Another is the limited generalizability of our study findings. These might be limited to immigrants located in high income western countries such as Switzerland.

Further research should therefore also focus on immigrants in upper-middle, lower-middle or low-income countries to assess whether women's knowledge and perceptions of epidural analgesia for labour pain: management differ from the ones identified in our study. It could also assess whether providing information about epidural analgesia tailored to parturients' individual and cultural perspectives, improves their decision making process regarding epidural analgesia use for labour. This becomes particularly relevant when the women's decision differs from the traditional perspective of their native community.

Our research findings have implications for clinicians and policymakers**.** **Table 2** provides a checklist of key aspects that should be addressed by health professionals caring for allophone immigrant women to facilitate the decision making process and improve women's autonomy.

Table 2: Key aspects to integrate into the discussion with parturients to enhance their autonomy and informed decision making for epidural analgesia during childbirth

Prior to giving information, the clinician should explore:

- Prior women's knowledge and experience of epidural analgesia
- Individual, family and community perspectives regarding labour pain and analgesia
- Presence of family or community members supporting or opposing the use of epidural analgesia

Information about epidural analgesia should include:

- Overall simple description of the technique (i.e. catheter placed in the back)
- What woman should do or not do during the procedure (i.e. movement)
- What women will feel during the procedure
- Risks and benefits of the procedure
- Short and long term side effects and possible complications
- Consequences of not choosing epidural analgesia for pain management
- Alternative pain management options

Provide access to documents in women's own language (paper, online) that allow them to discuss the procedure with family members and peers from their own community

Offer support to women that choose epidural analgesia against their family or community values or perspectives

CONCLUSION:

This study shows that immigrant women's decision regarding epidural analgesia during child birth is a complex interplay between knowledge, experience, attachment to tradition, social positioning and trust in the host country health system. By offering tailored medical information, health professionals can support women who wish to have a pain free labour with epidural analgesia despite the mainstream cultural views of their community. By questioning women's perspectives of labour pain, they can adapt their offer of pain management procedures. Although this is relevant for any woman, it is particularly important with immigrant women, as these women encounter more linguistic, social or cultural barriers in accessing health care preferences. This study also shows that research with often excluded minority communities is not only possible, but yields information that may also benefit the mainstream population.

Author contribution:

GH, IP, MDD, DG conceived and designed the study.

GH and IP wrote the initial draft and protocol and MDD and DG revised it.

MDD, DG and IP conducted the focus groups and data collection process.

MDD, IP, GH, DG analysed and interpreted data (codebook elaboration, coding, thematic analysis).

MDD and GH wrote the first draft of the manuscript, all authors revised it and contributed to its final version.

Data availability statement:

Addition data (in French) such as code reports and code summaries are available upon written request to the first author.

Funding statement:

This project received funding (grant QS-0521) from the Geneva University Hospitals' private funding agency ("Fondation privée des HUG") and funding (grant number not applicable) from the Swiss Federal Office for Public Health (OFSP).

All authors declare having no conflict of interest.

Ethical consent:

The study was granted a waiver (Req-2019-00329) from the Cantonal Ethics Committee of Human Research (Switzerland), since no personal or sensitive data were assessed and there was no risk of hazards for participants. The consent form content was translated by professional interpreters and oral individual consent to participate was obtained before the focus group.

Acknowledgements:

We wish to thank Camarada and AMICGE for their help organizing the focus groups, patients for their guidance in the design of the focus group interviews and settings, participants for their time and enthusiasm during the focus groups, the Geneva Red Cross and Connexxion interpreters for their excellent translation work, Emma Perneger for the quality of her written transcription of focus group discussions, and Patricia Hudelson for her attentive proofreading of an earlier version of this manuscript.

References :

1. INSERM. Enquête nationale périnatale 2016. Blondel B, Gonzalez L, Raynaud P ed. Paris: INSERM - DRESS, 2017.
2. Silva M, Halpern SH. Epidural analgesia for labor: Current techniques. *Local Reg Anesth* 2010;3:143-53. doi: 10.2147/LRA.S10237 [published Online First: 2010/01/01]
3. Statistics N. NHS Maternity Statistics, England 2019-20, 2020.
4. Husarova V, Macdarby L, Dicker P, et al. The use of pain relief during labor among migrant obstetric populations. *Int J Gynaecol Obstet* 2016;135(2):200-04. doi: 10.1016/j.ijgo.2016.05.003 [published Online First: 2016/09/25]
5. Hayes I, Enohumah K, McCaul C. Care of the migrant obstetric population. *Int J Obstet Anesth* 2011;20(4):321-9. doi: 10.1016/j.ijoa.2011.06.008 [published Online First: 2011/08/16]
6. Vangen S, Stoltenberg C, Schei B. Ethnicity and use of obstetrical analgesia: do Pakistani women receive inadequate pain relief in labour? *Ethn Health* 1996;1(2):161-7. doi: 10.1080/13557858.1996.9961783 [published Online First: 1996/05/01]
7. Osterman MJ, Martin JA. Epidural and spinal anesthesia use during labor: 27-state reporting area, 2008. *Natl Vital Stat Rep* 2011;59(5):1-13, 16. [published Online First: 2011/05/11]
8. Liu N, Wen SW, Manual DG, et al. Social disparity and the use of intrapartum epidural analgesia in a publicly funded health care system. *Am J Obstet Gynecol* 2010;202(3):273 e1-8. doi: 10.1016/j.ajog.2009.10.871 [published Online First: 2010/01/05]
9. James JN, Prakash KS, Ponniah M. Awareness and attitudes towards labour pain and labour pain relief of urban women attending a private antenatal clinic in Chennai, India. *Indian J Anaesth* 2012;56(2):195-8. doi: 10.4103/0019-5049.96331 [published Online First: 2012/06/16]
10. Mung'ayi V, Nekyon D, Karuga R. Knowledge, attitude and use of labour pain relief methods among women attending antenatal clinic in Nairobi. *East Afr Med J* 2008;85(9):438-41. doi: 10.4314/eamj.v85i9.117084 [published Online First: 2009/06/23]
11. Brown E, Carroll J, Fogarty C, et al. "They get a C-section...they gonna die": Somali women's fears of obstetrical interventions in the United States. *J Transcult Nurs* 2010;21(3):220-7. doi: 10.1177/1043659609358780 [published Online First: 2010/06/04]
12. De Freitas C, Massag J, Amorim M, et al. Involvement in maternal care by migrants and ethnic minorities: a narrative review. *Public Health Rev* 2020;41:5. doi: 10.1186/s40985-020-00121-w [published Online First: 2020/04/14]
13. Fair F, Raben L, Watson H, et al. Migrant women's experiences of pregnancy, childbirth and maternity care in European countries: A systematic review. *PLoS One* 2020;15(2):e0228378. doi: 10.1371/journal.pone.0228378 [published Online First: 2020/02/12]
14. Halcomb EJ, Gholizadeh L, DiGiacomo M, et al. Literature review: considerations in undertaking focus group research with culturally and linguistically diverse groups. *J Clin Nurs* 2007;16(6):1000-11. doi: 10.1111/j.1365-2702.2006.01760.x [published Online First: 2007/05/24]
15. Colucci E. On the use of focus groups in cross-cultural research. In: Liamputtong P, ed. Doing cross-cultural research. Dordrecht: Springer 2008:233-52.
16. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int J Qual Health Care* 2007;19(6):349-57. doi: 10.1093/intqhc/mzm042 [published Online First: 2007/09/18]
17. Hudelson P, Dao MD, Perron NJ, et al. Interpreter-mediated diabetes consultations: a qualitative analysis of physician communication practices. *BMC Fam Pract* 2013;14:163. doi: 10.1186/1471-2296-14-163 [published Online First: 2013/10/25]
18. Association Camarada [Available from: www.camarada.ch.
19. Association des médiatrices interculturelles [Available from: https://amicge.ch/.
20. Onwuegbuzie A, Dickinson W, Leech N, et al. A qualitative framework for collecting and analyzing data in focus group research. . *International journal of qualitative methods* 2009;8(3):1-21.

21. Westfall RE, Benoit C. The rhetoric of "natural" in natural childbirth: childbearing women's perspectives on prolonged pregnancy and induction of labour. *Soc Sci Med* 2004;59(7):1397-408. doi: 10.1016/j.socscimed.2004.01.017 [published Online First: 2004/07/13]
22. Boyatzis RE. Transforming qualitative information: Thematic analysis and code development. Thousand Oaks, CA: Sage 1998.
23. Vaismoradi M, Turunen H, Bondas T. Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nurs Health Sci* 2013;15(3):398-405. doi: 10.1111/nhs.12048 [published Online First: 2013/03/14]
24. Ezeonu PO, Anozie OB, Onu FA, et al. Perceptions and practice of epidural analgesia among women attending antenatal clinic in FETHA. *Int J Womens Health* 2017;9:905-11. doi: 10.2147/IJWH.S144953 [published Online First: 2017/12/26]
25. Okojie NQ, Isah EC. Perception of Epidural Analgesia for Labour among Pregnant Women in a Nigerian Tertiary Hospital Setting. *J West Afr Coll Surg* 2014;4(4):142-62. [published Online First: 2014/10/01]
26. Delwatta SL, Kaushalya PDJ, Ravindu Shehan AK, et al. Is knowledge and attitude on epidural analgesia during labour satisfactory among pregnant women attending antenatal clinics in Colombo District? *Sri Lankan Journal of Anaesthesiology* 2019;21(1):21–27. doi: http://doi.org/10.4038/slja.v27i1.8364
27. Harkins J, Carvalho B, Evers A, et al. Survey of the Factors Associated with a Woman's Choice to Have an Epidural for Labor Analgesia. *Anesthesiol Res Pract* 2010;2010 doi: 10.1155/2010/356789 [published Online First: 2010/08/20]
28. E S, EK S, I S-V, et al. Predictors of recommendation and acceptance of intrapartum epidural analgesia. *Anesth Analg* 2000;90(1):109-13. . doi: 10.1097/00000539-200001000-00024.
29. Le Ray C, Goffinet F, Palot M, et al. Factors associated with the choice of delivery without epidural analgesia in women at low risk in France. *Birth* 2008;35(3):171-8. doi: 10.1111/j.1523-536X.2008.00237.x [published Online First: 2008/10/11]
30. Halpern SH, Leighton BL. Misconceptions about neuraxial analgesia. *Anesthesiol Clin North Am* 2003;21(1):59-70. doi: 10.1016/s0889-8537(02)00028-7 [published Online First: 2003/04/18]
31. Munnur U, Suresh MS. Backache, headache, and neurologic deficit after regional anesthesia. *Anesthesiol Clin North Am* 2003;21(1):71-86. doi: 10.1016/s0889-8537(02)00031-7 [published Online First: 2003/04/18]
32. Anim-Somuah M, Smyth RM, Jones L. Epidural versus non-epidural or no analgesia in labour. *Cochrane Database Syst Rev* 2011(12):CD000331. doi: 10.1002/14651858.CD000331.pub3 [published Online First: 2011/12/14]
33. Sng BL, Leong WL, Zeng Y, et al. Early versus late initiation of epidural analgesia for labour. *Cochrane Database Syst Rev* 2014(10):CD007238. doi: 10.1002/14651858.CD007238.pub2 [published Online First: 2014/10/11]
34. Ituk U, Wong CA. Epidural labor analgesia: Whence come our patients' misconceptions? *J Clin Anesth* 2017;42:84-85. doi: 10.1016/j.jclinane.2017.07.012 [published Online First: 2017/08/26]
35. Toledo P, Sun J, Peralta F, et al. A qualitative analysis of parturients' perspectives on neuraxial labor analgesia. *Int J Obstet Anesth* 2013;22(2):119-23. doi: 10.1016/j.ijoa.2012.11.003 [published Online First: 2013/03/07]
36. Echevarria GC, Grant GJ, Chung Y, et al. Survey of nulliparous parturients' attitudes regarding timing of epidural analgesia initiation. *J Clin Anesth* 2017;41:106-11. doi: 10.1016/j.jclinane.2017.06.008 [published Online First: 2017/06/28]
37. Orbach-Zinger S, Bardin R, Berestizhevsky Y, et al. A survey of attitudes of expectant first-time fathers and mothers toward epidural analgesia for labor. *Int J Obstet Anesth* 2008;17(3):243-6. doi: 10.1016/j.ijoa.2008.01.012 [published Online First: 2008/05/24]
38. Shahoei R, Khosravy F, Zaheri F, et al. Iranian Kurdish women's experiences of childbirth: A qualitative study. *Iran J Nurs Midwifery Res* 2014;19(7 Suppl 1):S112-7. [published Online First: 2014/02/01]

39. Van der Gucht N, Lewis K. Women's experiences of coping with pain during childbirth: a critical review of qualitative research. *Midwifery* 2015;31(3):349-58. doi: 10.1016/j.midw.2014.12.005 [published Online First: 2015/01/21]
40. Lundgren I, Dahlberg K. Women's experience of pain during childbirth. *Midwifery* 1998;14(2):105-10. doi: 10.1016/s0266-6138(98)90007-9 [published Online First: 1999/06/26]
41. Pangas J, Ogunsiji O, Elmir R, et al. Refugee women's experiences negotiating motherhood and maternity care in a new country: A meta-ethnographic review. *Int J Nurs Stud* 2019;90:31-45. doi: 10.1016/j.ijnurstu.2018.10.005 [published Online First: 2018/12/26]
42. Schott A, Henley J. Culture, religion and childbearing in a multiracial society: a handbook for health professionals. London: Butterworth Heinemann 1996.
43. Lally JE, Murtagh MJ, Macphail S, et al. More in hope than expectation: a systematic review of women's expectations and experience of pain relief in labour. *BMC Med* 2008;6:7. doi: 10.1186/1741-7015-6-7 [published Online First: 2008/03/28]
44. Toledo P, Sun J, Grobman WA, et al. Racial and ethnic disparities in neuraxial labor analgesia. *Anesth Analg* 2012;114(1):172-8. doi: 10.1213/ANE.0b013e318239dc7c [published Online First: 2011/11/15]
45. Ranta P, Spalding M, Kangas-Saarela T, et al. Maternal expectations and experiences of labour pain--options of 1091 Finnish parturients. *Acta Anaesthesiol Scand* 1995;39(1):60-6. doi: 10.1111/j.1399-6576.1995.tb05593.x [published Online First: 1995/01/01]

COREQ (COnsolidated criteria for REporting Qualitative research) Checklist

A checklist of items that should be included in reports of qualitative research. You must report the page number in your manuscript where you consider each of the items listed in this checklist. If you have not included this information, either revise your manuscript accordingly before submitting or note N/A.

Topic	Item No.	Guide Questions/Description	Reported on Page No.
Domain 1: Research team and reflexivity			
Personal characteristics			
Interviewer/facilitator	1	Which author/s conducted the interview or focus group?	6
Credentials	2	What were the researcher's credentials? E.g. PhD, MD	1
Occupation	3	What was their occupation at the time of the study?	1
Gender	4	Was the researcher male or female?	6
Experience and training	5	What experience or training did the researcher have?	1, 6
Relationship with participants			
Relationship established	6	Was a relationship established prior to study commencement?	5
Participant knowledge of the interviewer	7	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	5 + supplemen
Interviewer characteristics	8	What characteristics were reported about the inter viewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	6
Domain 2: Study design			
Theoretical framework			
Methodological orientation and Theory	9	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	5
Participant selection			
Sampling	10	How were participants selected? e.g. purposive, convenience, consecutive, snowball	5
Method of approach	11	How were participants approached? e.g. face-to-face, telephone, mail, email	5
Sample size	12	How many participants were in the study?	6
Non-participation	13	How many people refused to participate or dropped out? Reasons?	5
Setting			
Setting of data collection	14	Where was the data collected? e.g. home, clinic, workplace	5
Presence of non-participants	15	Was anyone else present besides the participants and researchers?	5
Description of sample	16	What are the important characteristics of the sample? e.g. demographic data, date	7
Data collection			
Interview guide	17	Were questions, prompts, guides provided by the authors? Was it pilot tested?	5 + supplemen
Repeat interviews	18	Were repeat inter views carried out? If yes, how many?	N/A
Audio/visual recording	19	Did the research use audio or visual recording to collect the data?	6
Field notes	20	Were field notes made during and/or after the inter view or focus group?	6
Duration	21	What was the duration of the inter views or focus group?	5
Data saturation	22	Was data saturation discussed?	N/A
Transcripts returned	23	Were transcripts returned to participants for comment and/or	N/A

Topic	Item No.	Guide Questions/Description	Reported on Page No.
		correction?	
Domain 3: analysis and findings			
Data analysis			
Number of data coders	24	How many data coders coded the data?	6
Description of the coding tree	25	Did authors provide a description of the coding tree?	6
Derivation of themes	26	Were themes identified in advance or derived from the data?	6
Software	27	What software, if applicable, was used to manage the data?	N/A
Participant checking	28	Did participants provide feedback on the findings?	N/A
Reporting			
Quotations presented	29	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	8-11
Data and findings consistent	30	Was there consistency between the data presented and the findings?	11
Clarity of major themes	31	Were major themes clearly presented in the findings?	7
Clarity of minor themes	32	Is there a description of diverse cases or discussion of minor themes?	8-9

Developed from: Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007. Volume 19, Number 6: pp. 349 – 357

Once you have completed this checklist, please save a copy and upload it as part of your submission. DO NOT include this checklist as part of the main manuscript document. It must be uploaded as a separate file.

Documents for focus groups Translated from French to English (UK) with www.DeepL.com/Translator (free version) and reviewed for mistakes

1) Introductory speech to the focus group:

Ladies, thank you for taking part in this group interview to share your ideas, your representations and your experience of the epidural.

I am ... (presentation of the speaker) and my colleagues are ... (presentation of the co-facilitators and the interpreter).

This interview is being conducted with the aim of making a film to explain the position required for an epidural to patients who do not understand French. More than a simple translation, we seek to take into account the cultural representations specific to each community.

You are here as experts to express the need for information that you would like to receive in order to carry out this procedure.

This interview is completely anonymous, and what you say is confidential and your words will not be shared beyond this group and the research team. The results of this work can be shared with you and you may view the future film if you wish.

This interview is conducted with an interpreter, everything you say will be translated. When you speak, it is necessary to give her time to translate. We will make sure each of you has time to express herself. This exchange will last about 1h30. We will record the session and take notes so that we can analyze what is being said as accurately as possible during this project.

We will now do a short round to let each woman in the group introduce themselves (first name, age, country of origin, whether or not they have already given birth, with or without an epidural).

Documents for focus groups Translated from French to English (UK) with www.DeepL.com/Translator (free version) and reviewed for mistakes

2) Conducting the focus groups (FG)

FG preparation :
- Check the audio and video equipment
- Prepare nametags
- Prepare a table plan
- Provide water and glasses
- Provide a sign to indicate the FG room to participants
- Provide a sign for the door: "Do not disturb"

Introduction:
- Free placement of speakers
- Welcome and thank you
- Introductory speech (presentation of moderators and interpreter, topic of the discussion, reasons and principles of participation, anonymity, access to the results of the study, basics of good communication with interpreter)
- Launch an ice-breaker round

Focus group discussion:
- Using the semi-structured questionnaire (see interview guide)

Conclusion:
- Inform the group that the themes are exhausted
- Make sure there are no outstanding questions or ideas
- Review the 6-8 key ideas from the FG
- Congratulate on the relevance of the contributions
- Acknowledgements

Immediate debriefing of moderators:
- Report back on key points
- Check the quality of the recordings

Documents for focus groups Translated from French to English (UK) with www.DeepL.com/Translator (free version) and reviewed for mistakes

3) Interview guide :

a) Knowledge, questions and need for information :

Have you ever given birth?

What do you know about epidurals?
Follow-up questions: *What have you heard? What do you know? What have you been told about the epidural? What do they say about the epidural in your country?*

Check that everyone knows what an epidural is. Define the epidural as follows: "It is an anaesthetic/injection that is given in the lower back at the level of the spine and which helps to reduce pain during childbirth.

If you were offered an epidural at the time of delivery, what information would you want to receive? Follow-up question: *What would you need to make a decision?*

What are your fears about this procedure?
Follow-up questions: *Do you have any concerns about this procedure? about the consequences of this procedure? about the labour? about the baby?*

b) Expectations and sensations during the epidural:

What do you know about what it feels like to have an epidural?
Follow-up question: *What do you imagine it to feel like?*

What do you imagine one can expect from an epidural?
Follow-up question: *What effects? What kind of sensations after the epidural in place?*

c) Performing the procedure:

Do you know how an epidural is done?

Do you know what position you should be in for an epidural?

Showing of the film and explanation of the sensations during the procedure: cold of the disinfection, local anaesthetic prick, Tuohy needle pressure in the back, possible paresthesias, maintaining immobility during the procedure despite potentially painful contractions.u

In the film, you could see the position necessary for the epidural. What do you call this position?
Follow-up question: *What word in your language describes this position? How would you tell someone to get into this position?*

It is very important that the woman does not move during the epidural. The pain and contractions of childbirth can make this difficult. What would be the right words to make women understand this?

Documents for focus groups Translated from French to English (UK) with www.DeepL.com/Translator (free version) and reviewed for mistakes

Follow-up question: *How do you say that you should not move? What words would you need?*

d) Indications for the film:

We want to make a film to explain to women how the epidural works. What would be shocking in such a film?

How should nudity be shown? Is it better to show real people or to make a cartoon?

We treat people from all over the world. How can we show this diversity of patients visually?
Follow-up question: *What skin colour would you like to see the woman in labour in the film/cartoon? What should she look like? What hair colour? Should she have a particular hairstyle? How would you feel if the woman did not look like you?*
In the film, does the woman have to be accompanied by someone close to her? And if so, who?

How important to you is the colour or gender of the doctors and nurses in the film? What would be your preference (male/female, skin colour)?

CODE NAME	DESCRIPTION	EXAMPLES
Positive effects of epidural	Any talk from women that mentions positive or beneficial effects of the epidural	*After it was good because I didn't feel the pain anymore, the big pain. (Albanian)* *My 4th child was born here, I also had an injection, an hour later the little one was born. (Dari)*
Negative effects of epidural	Any speech by women that mentions the negative effects or consequences of epidurals, either short or long term	*I heard that if you move during the epidural, it can be harmful to your health. (Albanian)* *Because I've heard that it causes back pain. (Dari)*
Help during childbirth (except epidural)	Any talk from women that mentions things other than the epidural that help them during childbirth (effect on fear, on pain, etc.)	*If my husband is there, I will be less hurt and less afraid. (Albanian)* *A week before the delivery, everything was explained to me (...) so I was not afraid. (Dari)*
Sources of information	Any mention by the women of sources of information concerning the epidural and everything related to it (its consequences, its effects, etc.)	*In my family, in fact there are quite a few who have had caesarean sections, with epidurals. (Albanian)* *It's the doctor who knows if it has negative effects on the baby or on our health, the doctor would have told us. (Dari)*
Procedural knowledge	What women say they know about the procedural elements of epidural insertion and use	*From what I've seen, when you put the epidural in, it's in the bones, you feel the cold. (Albanian)* *Once we gave her the injection lying down because sitting down is more difficult. Three years ago she had the epidural while lying down. (Dari)*
Clear-cut discourse of pro- or anti-peridural women	Discourse of women who in the focus group defend the epidural (I call them "pioneers"), rather "militant" content that is often in contradiction with the majority of the group	*I try to retain only the positive, everything that others say, I don't want to listen. (Albanian)* *I'm very happy, but if I do it again, I'll do it again. (Dari)*

	OR discourse of women who are firmly opposed to the epidural	
Normativity of childbirth	Normative discourse around vaginal delivery with contractions that is useful or beneficial in any capacity	*For normal deliveries, we don't give this. (Albanian)* *Because he thought that (...) giving vaginal delivery was even beneficial for my health. (Dari)*
Pain and suffering in childbirth	Discourse around the pain and suffering present during childbirth	*I gave birth in Afghanistan and suffered a lot (Dari)*
Trust in the medical profession	Women's discourse around trust (or not) in the medical profession and the emotions that come with it	*It is the doctor who knows if it has negative effects on the baby or on our health, the doctor would have told us (Dari)*
Questions	Questions that women ask about epidurals in the broad sense (procedure, effects, contraindication, etc.)	*If I move, could I be paralyzed? (Albanian, double coded with "negative effects")* *The epidural, the older you get, is there more risk? (Dari)*
Words for epidural position	Lexical field related to the woman's position during the epidural insertion specifically requested for the film	*Stay calm, sit quietly, don't move (Dari)*

NB: original code list was done in French, this is an English translation by the authors of this manuscript