



Dr Google, Our Patients and Us: Let's Get Connected!

Christian Loubert, MD, FRCPC
Anesthesiologist
CEMTL – Maisonneuve-Rosemont Hospital
June 2018





• No disclosure

1943-2018

• Except for...

Canadian Anesthesiologists' Society

Société canadienne des anesthésiologistes

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Centre intégré universitaire de santé et de services sociaux de l'Est-del'Île-de-Montréal

Québec **





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Invasive injection that increases the medicalization of childbirth or God-sent relief when giving birth becomes torture? Let's take a look at the epidural.

The epidural demonstrated its efficiency a long time ago in relieving labor and delivery pain. This undeniable relief is also very popular for women in labor. In Quebec, nearly 70% of all women giving birth demand the injection. It is the highest rate in Canada.

With the epidural, the contractions are sometimes felt as a mere pressure on the abdomen.

What is the epidural?

First, let's take a look at the point of injection. It is located in the spinal cord where the nerve roots (spinal nerves) relaying pain messages from the uterus to the brain are attached. The spine bathes in cerebrospinal fluid, inside the dura mater (the membrane that protects the spinal cord).

During the perfusion, the needle is inserted into the epidural space (epi=around, around dura mater). The medication is then injected through a catheter attached to the needle. The effect is felt after 15 to 20 minutes and lasts until delivery through a continuous perfusion of the drug in the catheter.

The liquid painkiller that subsequently diffuses in the epidural space is composed of a local anaesthetic (similar to the one used by the dentist) and a narcotic. "This narcotic increases the analgesic potential to eliminate or reduce pain" says Dr Christian Loubert, anaesthesiologist at the Maisonneuve-Rosemont Hospital. The local anaesthetic, however, doesn't only inhibit the pain signal transmission; it also disrupts the motor functions of the nerve. A higher dose can cause partial paralysis of the lower body. For this reason, anaesthesiologists have substantially reduced the dose over the past ten years, says Dr. Loubert.



The New York Times











Epidurals Do Not Prolong Labor

By Nicholas Bakalar

Oct. 10, 2017



Many obstetricians resist giving epidural anesthesia during the late stage of delivery because they believe it lengthens the duration of labor. But a clinical trial by Chinese researchers has found that it does not.



Québec Bad



Come and celebrate 75





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✓ Longer labors

✓ More medical interventions

✓ Double the risk of cesarian

 Reduced incidence of breastfeeding

mamanatural.com/epidural-side-effects/



halpers affect the pain of hirth naturally. However because Ditasin is synthetic and

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Hôpita Centre Maisonneuve-Rosemont



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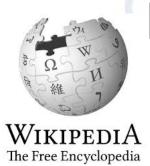
Walsh, a senior midwife and associate professor in midwifery at Nottingham University, argues that many women avoid experiencing the discomfort of childbirth because hospital maternity staff are too quick to offer an epidural or agree to a woman in labour's request for a pain-killing injection in her back to ease her suffering.

"A large number of women want to avoid pain. Some just don't fancy the pain [of childbirth]. More women should be prepared to withstand pain," he told the Observer. "Pain in labour is a purposeful, useful thing, which has quite a number of benefits, such as preparing a mother for the responsibility of nurturing a newborn baby."

Celebrity births, television portrayals of labour as a highly medicalised process and films such as Knocked Up have added to a culture where pain relief seems normal, even though labour pain is natural, healthy and temporary, he said.







Plan











- Recommandations
- Example





















JANUARY 15, 2013

Health Online 2013

35% of U.S. adults have gone online to figure out a medical condition; of these, half followed up with a visit to a medical professional

PCOGS PAPERS

www.AJOG.org

Google obstetrics: who is educating our patients?

Anjali J. Kaimal, MD; Yvonne W. Cheng, MD, MPH; Allison S. Bryant, MD, MPH; Mary E. Norton, MD; Brian L. Shaffer, MD; Aaron B. Caughey, MD, PhD

oversight. Seven of 10 Americans are now online, and according to a recent use survey, health and medical information queries comprise 45% of the searches performed on the major internet search engines. Traditionally, physicians have acted as the primary





Listening to Mothers III Pregnancy and Birth



Table 23. Before and during pregnancy: trends across Listening to Mothers surveys

Survey Item	<i>LTM 1</i> 2000-02	LTM II 2005	LTM III 2011-12
Base: all survey participants in respective year			
Pregnancy was unintended: wanted to be pregnant later or never wanted to be pregnant	38%	42%	35%
Had obese body mass index just before becoming pregnant	n.a.	25%	20%
Obstetrician-gynecologist was care provider most directly involved with prenatal care	77%	79%	78%
Family physician was care provider most directly involved with prenatal care	7%	8%	9%
Midwife was care provider most directly involved with prenatal care	13%*	9%	8%
Always or almost always saw same person for prenatal care	70%	73%	78%
Had zero to two ultrasound scans	n.a.	41%	30%
0.16			

pregnancy			
Used Internet as source of information about pregnancy and childbirth during pregnancy	n.a.	<mark>76%</mark>	97%
As came to end of pregnancy, hoped to exclusively breastfeed baby	67%	61%	54%

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70%

Available online at www.sciencedirect.com ScienceDirect

Procedia Computer Science

Procedia Computer Science 100 (2016) 347 - 354

Conference on ENTERprise Information Systems / International Conference on Project MANagement / Conference on Health and Social Care Information Systems and Technologies, CENTERIS / ProjMAN / HCist 2016, October 5-7, 2016

The influence of the web on health related decision-making processes: a survey with Portuguese women during pregnancy

Marta Ferraza*, Ana Margarida Almeidab, Alexandra Matiasc, Dan Farined

^a Portuguese Health Regulation Authority, 4100-455, Porto, Portugal bUniversity of Aveiro, Department of Communication and Art, 3810-193 Aveiro, Portugal * Medicine Faculty, Porto University, 4200 - 319 Porto, Portugal d University of Toronto, Toronto, ON M5S, Canada

ARTIGO ORIGINAL

Acesso a informações de saúde na internet: uma questão de saúde pública? Rev Assoc Med Bras 2012; 58(6):650-658

FELIPE AZEVEDO MORETTI¹, VANESSA ELIAS DE OLIVEIRA², EDINA MARIKO KOGA DA SILVA³

**Graduspik ein Floiderigke IMBA ein Economies Grotto ein Sodio pet Universidade Finderd de São Paulo (INFESP). Alzo de Caro de Poy-graduspiko de Programa de Medicina Interna e Ferspikotos. UNIFESP, Respondere pote Projeto Contrare Consumidores do Borol., São Paulo, SP, Brasil Medicina Contrare Consumidores do Borol., São Paulo, SP, Brasil Contrare Medicina Contrare Consumidores do Borol., São Paulo, SP, Brasil Contrare Paulo petro de Internacia de Caro Paulo, Especia Contrare Paulo Contrare Medicina do Contrare Paulo Paulo, SP, Brasil Contrare Paulo Paulo, SP, Brasil Contrare Paulo Contrare Contrare Paulo Paulo, SP, Brasil Contrare Paulo Contrare Paulo Contrare Paulo Paulo, SP, Brasil Contrare Paulo Paulo Paulo, SP, Brasil Contrare Paulo Contrare Paulo Paulo SP, Contrare Paulo Paulo Paulo Paulo SP, Contrare Paulo Paulo Paulo Paulo SP, Contrare Paulo Paulo Paulo Paulo Paulo SP, Contrare Paulo Paulo



Hôpital Maisonneuve-Rosemont Centre affilié à l'Université de Montréal



50%





Université de Montréal

95%

Almonjol and Almargabi, J Womens Health, Issues Care 2016, 5:3 http://dx.doi.org/10.4172/2325-9795.1000228



Journal of Women's Health, Issues & Care

Research Article

Online Health-information Seeking Behavior among Pregnant Women in Prenatal Clinics at King Saud Medical City, Riyadh

Alia Almoajel¹⁰ and Nada Almarqabi

Matern Child Health J (2016) 20:2502-2509

DOI 10.1007/s10995-016-2075-0

A SCITECHNOL JOURNAL

practices. Experts in health interventions and health policy became increasingly aware of human behavioral factors in quality health care provision. To respond to community perspectives and needs, health systems need to adapt their strategies, taking into account the findings of behavioral studies [4].

Recent studies reported that four in ten adults [5] and one in four adolescents [6] had searched for health information online. Recently, patients' use of medical information available on the Internet has en spreading rapidly in our country, as well as all over the world [7], According to The Saudi Communications and Information Technology Commission (CITC) website, the number of Internet

JECH Online First, published on September 26, 2013 as 10.1136/jech-2013-202584

J Epidemiol Community Health 2013;0:1-6.

Pregnancy e-health: a multicenter Italian cross-sectional study on internet use and decision-making among pregnant women

Fabrizio Bert, ¹ Maria Rosaria Gualano, ¹ Silvio Brusaferro, ² Elisabetta De Vito, ³ Chiara de Waure, ⁴ Giuseppe La Torre, ⁵ Lamberto Manzoli, ⁶ Gabriele Messina, ⁷ Tullia Todros, 8 Maria Valeria Torregrossa, 9 Roberta Siliquini

Midwifery 30 (2014) e26-e33

CrossMark

Contents lists available at ScienceDirect

Midwifery

journal homepage: www.elsevier.com/midw

Patterns of Internet Use by Pregnant Women, and Reliability

of Pregnancy-Related Searches

Deepa Maheswari Narasimhulu¹ · Scarlett Karakash¹ · Jeremy Weedon² · Howard Minkoff



Sources of information used by women during pregnancy to meet their information needs



Heather A. Grimes, RM, BHSc, GradDipClinEd, MMid (Lecturer in Midwifery) a.* Della A. Forster, Dip App Sci (Nurs), BHealthSci (Nurs), MMid, PhD (Professor of Midwifery and Maternity Services Research) b.c., Michelle S. Newton, Dip App Sci (Nursing), PG Dip App Sci (Health Education), MMid (Lecturer in Midwifery, Course Co-ordinator BNBM)d

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^d School of Nursing and Midwifery, Faculty of Health Science, La Trobe University, Bundoora 3086, Australia







1943-2018

- Higher socio-economic status
- Higher education level
- Primiparous
- Primary language : English







1943-2018

- Improvement of knowledge
- Empowerment
- Convenience
- Immediate availability
- Anonymity
- Social support







Matern Child Health J (2016) 20:2502-2509 DOI 10.1007/s10995-016-2075-0



Patterns of Internet Use by Pregnant Women, and Reliability of Pregnancy-Related Searches

Deepa Maheswari Narasimhulu $^1 \odot \cdot$ Scarlett Karakash $^1 \cdot$ Jeremy Weedon $^2 \cdot$ Howard Minkoff 1

Table 2 Internet search methodology

Variable	n	%
Internet access devices		
Computer	395	85
Tablet	160	34.4
Smartphone	312	67.1
Other	3	0.7
Browsing method		
Search engine	317	94.2
Specific website	90	26.8

The percentages summed exceed 100 % for internet access devices and browsing method as participants were allowed to pick more than one response

Almoajel and Almarqabi, J Womens Health, Issues Care 2016, 5:3 http://dx.doi.org/10.4172/2325-9795.1000228



Journal of Women's Health, Issues & Care

Research Article

A SCITECHNOL JOURNAL

Online Health-information Seeking Behavior among Pregnant Women in Prenatal Clinics at King Saud Medical City, Riyadh

Alia Almoajel1* and Nada Almarqabi1

practices. Experts in health interventions and health policy became increasingly aware of human behavioral factors in quality health care provision. To respond to community perspectives and needs, health systems need to adapt their strategies, taking into account the findings of behavioral studies [4].

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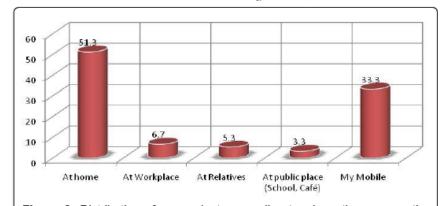


Figure 3: Distribution of respondents according to where they access the Internet.

Centre intégré universitaire de santé et de services sociaux de l'Est-de-l'Île-de-Montréal Québec TABLE 2





Access, Use, and Preferences for

Technology-Based Perinatal and	
Breastfeeding Support Among	
Childbearing Women	
Ill Padrko Dominoi DhD DN IRCLC	

Technology	Used in	Pregnancy
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Platform	Participants Using: N (% of Those Who Specified Using a Type of Technology; $n = 34$)	Ill Radtke Demirci, PhD, RN, IBCLC Susan M. Cohen, PhD, APRN, FAAN Maris Parker, MSW Ashleigh Holmes Debra L. Bogen, MD, FAAP, FABM The Journal of Perinatal Education, 25(1), 29–36 Specific Applications
Apps	<mark>85 (63)</mark>	Baby Connect, I'm Expecting, Pregnancy Companion, Sprout, Mobile Mom, Medela iBreastfeed, Fit Pregnancy, Baby Bump, BabyCenter/My Pregnancy Today, BabyGaga, The Bump, What to Expect, WebMD/WebMD Baby, Contraction Timer, Kickme-Baby Kicks Counter, commercial companies (e.g., Similac, Enfamil, Gerber)
Internet search engines Websites:	72 (54)	"Googling" questions
Pregnancy/parenting websites	49 (37)	Parents.com, Ask Dr. Sears, Just Mommies, KellyMom, Baby Bump, Baby Center/My Pregnancy Today, Baby Gaga, Everyday Family, The Bump, What to Expect, WebMD/ WebMD Baby, commercial companies (e.g., Pampers)
Professional organization websites	10 (8)	American Academy of Pediatrics, American Pregnancy Association, Mayo Clinic



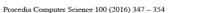






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The influence of the web on health related decision-making processes: a survey with Portuguese women during pregnancy

Marta Ferraz^{a*}, Ana Margarida Almeida^b, Alexandra Matias^c, Dan Farine^d

a Portuguese Health Regulation Authority, 4100-455, Porto, Portugal bUniversity of Aveiro, Department of Communication and Art, 3810-193 Aveiro, Portugal Medicine Faculty, Porto University, 4200 - 319 Porto, Portugal d University of Toronto, Toronto, ON M5S, Canada

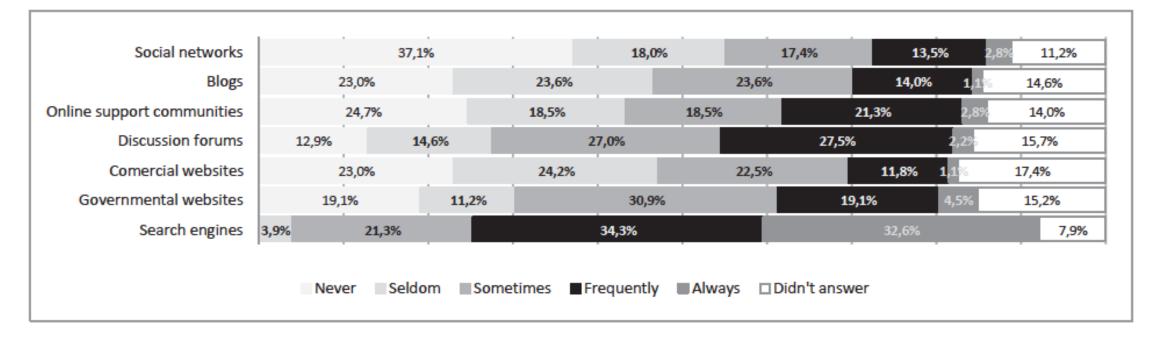


Fig. 1 Pregnancy information search locations



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Google obstetrics: who is educating our patients?

Anjali J. Kaimal, MD; Yvonne W. Cheng, MD, MPH; Allison S. Bryant, MD, MPH;

Mary E. Norton, MD; Brian L. Shaffer, MD; Aaron B. Caughey, MD, PhD

Am J Obstet Gynecol 2008;198:682.e1-682.e5.

TABLE 3

Distribution of sponsors of websites on the first page of search results (%)

Search Term (# of results retrieved)	Lawyer	OB/GYN	Other health professional	Government or educational institution	Commercial reference site	Nonprofit	Other
Birth Trauma (42)	48%	0%	29%	0%	10%	5%	10%
Cerebral Palsy (46)	52%	0%	9%	11%	15%	7%	7%
Shoulder dystocia (37)	43%	11%	14%	14%	14%	3%	3%
Cesarean section (35)	0%	3%	0%	17%	57%	0%	23%
Epidural (35)	0%	3%	17%	0%	26%	3%	49%
Forceps Delivery (26)	4%	8%	23%	8%	35%	0%	23%
			<i>P</i> < .001		<i>P</i> < .001	P < .05	

Kaimal. Google obstetrics: who is educating our patients? Am J Obstet Gynecol 2008.

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Sayakhot and Carolan-Olah BMC Pregnancy and Childbirth (2016) 16:65

BMC Pregnancy and Childbirth

history!

RESEARCH ARTICLE

Open Access



Internet use by pregnant women seeking pregnancy-related information: a systematic review

Padaphet Sayakhot* and Mary Carolan-Olah

Results: Seven publications met inclusion criteria and were included in the review. Sample size ranged from 182 – 1347 pregnant women. The majority of papers reported that women used the Internet as a source of information about pregnancy. Most women searched for information at least once a month. Fetal development and nutrition in pregnancy were the most often mentioned topics of interest. One paper included in this review found that women with higher education were three times more likely to seek advice than women with less than a high school education, and also that single and multiparous women were less likely to seek advice than married and nulliparous women. The majority of women found health information on the Internet to be reliable and useful.

and nulliparous women. The majority of women found health information on the Internet to be reliable and useful. **Conclusion:** Most women did not discuss the information they retrieved from the Internet with their health providers. Thus, health providers may not be aware of potentially inaccurate information or mistaken beliefs about pregnancy, reported on the Internet. Future research is needed to address this issue of potentially unreliable information.

Keywords: Pregnancy, Antenatal care, Information, Internet







Access, Use, and Preferences for Technology-Based Perinatal and Breastfeeding Support Among Childbearing Women

Jill Radtke Demirci, PhD, RN, IBCLC Susan M. Cohen, PhD, APRN, FAAN Maris Parker, MSW Ashleigh Holmes Debra L. Bogen, MD, FAAP, FABM

The Journal of Perinatal Education, 25(1), 29-36

Matern Child Health J (2016) 20:2502-2509 DOI 10.1007/s10995-016-2075-0



Patterns of Internet Use by Pregnant Women, and Reliability of Pregnancy-Related Searches

Deepa Maheswari Narasimhulu¹ • Scarlett Karakash¹ • Jeremy Weedon² • Howard Minkoff¹

- Fetal development
 - Nutrition during pregnancy
 - General pregnancy issues
 - Breastfeeding
 - Track pregnancy/labor indices
 - Peer support/advice
 - Ideas for baby names







ORIGINAL ARTICLE



www.obstetanesthesia.com

What's trending now? An analysis of trends in internet searches for labor epidurals

C.D. Sutton, B. Carvalho

Department of Anesthesiology, Perioperative and Pain Medicine, Stanford University School of Medicine, Stanford,
CA, USA

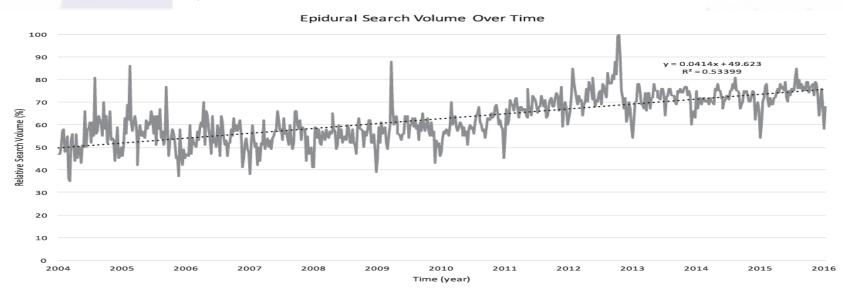


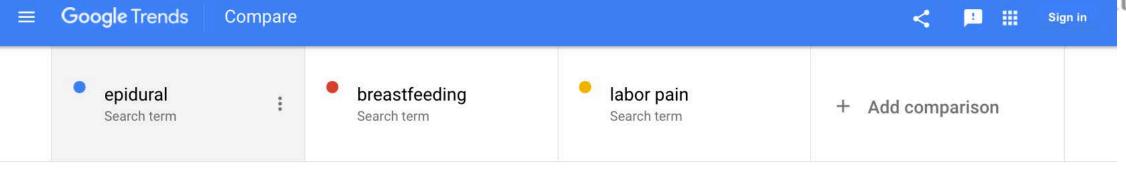
Fig. 1 Google search trends for epidurals. Search volume over time for input term [epidural], excluding non-obstetric-related epidural searches involving the words "cervical," "hematoma," "injection," or "steroid" in the United States from January 2004 to December 2015. Numbers represent search volume relative to the highest point on the chart, which is 100. This does not convey absolute search volume. Data source: Google Trends (www.google.com/trends)

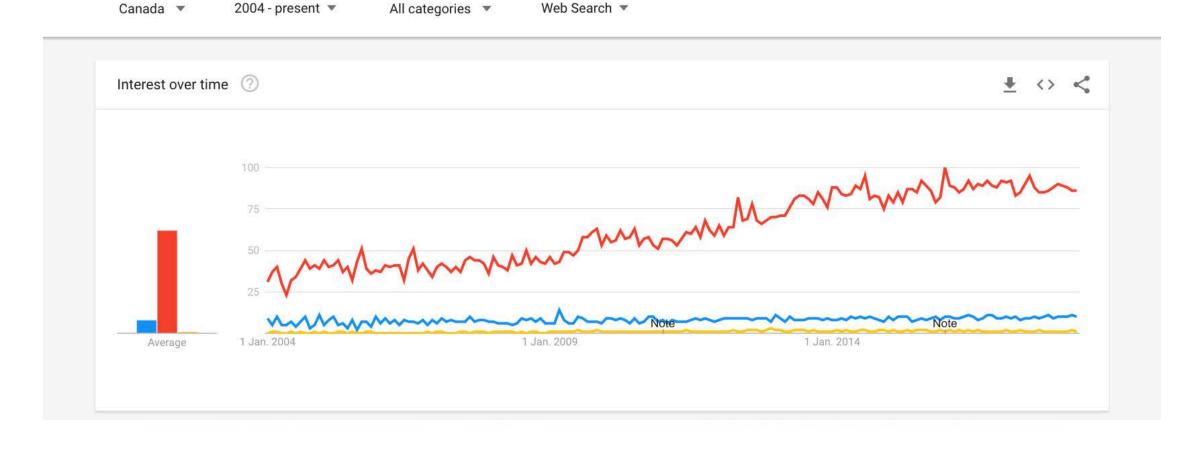
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1 Jan. 2009





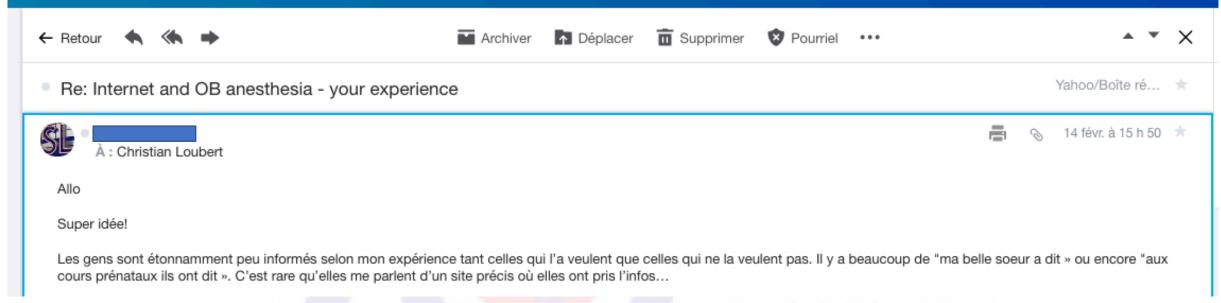








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Giving Birth With Epidural Analgesia: The Experience of First-Time Mothers



Ryoko Hidaka, RN, CNM, MSN Lynn Clark Callister, RN, PhD, FAAN The Journal of Perinatal Education, 21(1), 24–35

Coping with pain before opting for an epidural. All the participants had expected some discomfort, but they were unprepared for the intensity of the pain they experienced. Amy, whose labor was induced, described her pain in this way: "People told me that contractions are like very severe menstrual cramping, but these pains were like perforating the bowel, or [the] appendix rupturing." Other participants who





Survey of the Factors Associated with a Woman's Choice to Have an Epidural for Labor Analgesia

Anesthesiology Research and Practice Volume 2010, Article ID 356789, 8 pages doi:10.1155/2010/356789

Jennifer Harkins, 1 Brendan Carvalho, 2 Amy Evers, 2 Sachin Mehta, 2 and Edward T. Riley 2

Table 2: Multiple logistic regression analysis of factors associated with patients receiving epidural analgesia during labor.

Variable	Odds Ratio	95% CI	P-value
Partner preference			
Yes	25.1	5.2–122.0	<.0001
Undecided	11.4	22.9–45.6	.001
Prior epidural (yes/no)	9.0	2.5–32.5	.001
Language*	2.2	0.6-8.5	.264
Education [†]	0.9	0.6–1.4	.654
Insurance type**	0.7	0.1-4.0	.718
Age (years) [‡]	0.8	0.2–2.8	.752
Duration (hours) ^{††}	2.6	0.6-10.9	.192
Pitocin use (yes/no)	2.3	0.5–9.4	.263

Results were derived from a multiple logistic regression analyses comparing 243 patients who received a labor epidural to 59 patients who did not.

¹ University of South Florida College of Medicine, Tampa, FL 33612, USA

² Department of Anesthesia, Stanford University School of Medicine, Stanford, CA 94305, USA

^{*}Language (primary language English yes/no); †Education (primary, junior high, high school, university, post graduate); **Insurance type (Medical/Private); †Age (≥ or <35 years); ††Duration (<6 or ≥6 hours).







Come and celebrat

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Hindawi Publishing Corporation Anesthesiology Research and Practice Volume 2010, Article ID 356789, 8 pages doi:10.1155/2010/356789

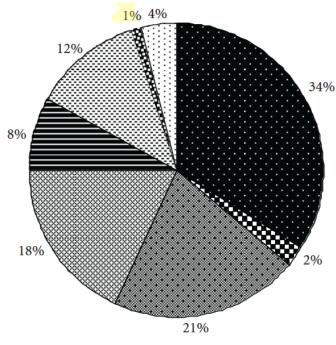
Research Article

Survey of the Factors Associated with a Woman's Choice to Have an Epidural for Labor Analgesia

Jennifer Harkins, 1 Brendan Carvalho, 2 Amy Evers, 2 Sachin Mehta, 2 and Edward T. Riley 2

Correspondence should be addressed to Edward T. Riley, edriley@mac.com

Received 29 January 2010; Accepted 16 April 2010



- Physician
- Midwife
- Family member/friend
- Personal experience
- Book/video/TV program
- Internet
- Other

Figure 2: The main sources of information use by women surveyed (n = 301) to learn about epidurals prior to going into labor.

¹ University of South Florida College of Medicine, Tampa, FL 33612, USA

²Department of Anesthesia, Stanford University School of Medicine, Stanford, CA 94305, USA



ORIGINAL ARTICLE

WILEY BIRTH

Patients' preferences for labor analgesic counseling: A qualitative analysis

Paloma Toledo MD, MPH^{1,2} | Javiera Pumarino BS² | William A. Grobman MD, MBA^{2,3} Cynthia A. Wong MD^{1,4} | Jane L. Holl MD, MPH^{2,5} | Romana Hasnain-Wynia PhD^{2,6}



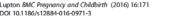
TIMING AND CONTENT OF ANTEPARTUM ANALGESIC COUNSELING

Thirty-five (78%) women reported discussing labor analgesia with their obstetric providers before delivery. The discussions occurred mostly in the second and third trimester

When asked about which sources of information were most heavily relied upon, 17 of the 45 respondents replied that it was their obstetric provider (obstetrician or midwife). Several women commented on the trustworthiness of their provider relative to other sources. For example, one patient stated:

conversation was not ideal, especially once they were experiencing pain. Furthermore, the women who were interviewed expressed a preference toward having their analgesic education from their obstetric providers rather than an anesthesiologist because they had an established relationship and trust with their obstetrician or midwife.





BMC Pregnancy and Childbirth





RESEARCH ARTICLE

Open Access

The use and value of digital media for information about pregnancy and early motherhood: a focus group study

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Deborah Lupton

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- Detailed
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- Reassuring
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The use and value of digital media for information about pregnancy and early motherhood: a focus group study

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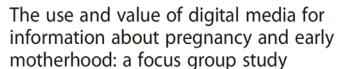
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The women appreciated immediate access to information from a wide variety of sources: 'For me who likes a lot of opinions, I can go to Google something and get 50 answers straight away, whereas I'd have to read 50 books to get the same information.' They noted that conducting an initial anline gearsh was aften have they were lad

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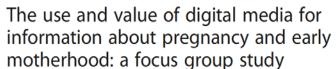
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Each day there's something different [on the app], either about your baby's development or it will show you a little picture of basically kind of a representation of what the baby looks like, how much it weighs, what its length is – all those kinds of things.



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It is really cool, so you can actually go, week 29 and have a look and see what your baby's doing and it'll give you like a rundown of what's happening in there. And then it also gives you a section on what's happening in your body, so what hormones are causing what. And then it gives you a rundown of symptoms that you might be having for that week, so it might be heartburn. [It has] everything!

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The use and value of digital media for information about pregnancy and early motherhood: a focus group study

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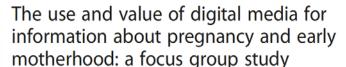
It's also nice to sit on the train and you've got all little tips and other mother's groups, and forums and stuff you can go on as well. And cute little articles about baby names or whatever. It's more of a distraction.

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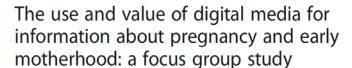
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- Regular
- Detailed
- Entertaining
- Customised
- Practical
- Professionnal
- Reassuring
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I just could not for the life of me remember — because I was breastfeeding, left breast, right breast. I didn't ever get really full, like completely, so I could never tell left, right, how long it was. You know, I was always wondering — is [the baby] getting enough milk? Because it was all new and you don't know what you are doing. The app was constantly just always there and it was really easy: it was just tap on, tap off.

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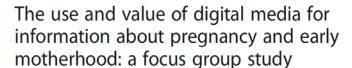
YouTube's really good. You can just go in and search, and then you find the video. And then it's a real live person saying "This is how I do it." And so it's quite good to watch. Because you can play it back, like several times, because you kind of feel bad when someone says "You swaddle it this way" and you're trying to take it in. And you're like, "Okay, I didn't get any of that!" But with a video you can do it at your own pace and go back, and see how they do it.



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Participant: It would be nice if there were an online doctor, one that you can chat to instantaneously.

Participant: Definitely!

Participant: But just a midwife or someone that's 24/7

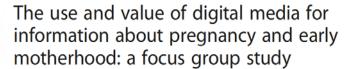
where you can just type in your question –

Participant: Or Skype, where you can actually chat

online with them.



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- Practical
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Participant: It puts your mind at ease, and you want to know that you're normal, and everything's normal, and you're going to have a normal pregnancy, you know.



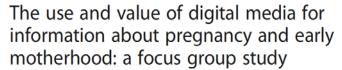


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tioned the Huggies app. While they found this app useful, they were aware that it was sponsored by a nappy company. They noted that they needed to be wary of the information that the app provided because of its 'hidden agenda,' as one woman put it, to market their products.

popularity. Compared to these kinds of websites, those online sources or apps that had government backing, such as health department websites for parents, were viewed as more trustworthy.





This research-based guide will help you develop intuitive health websites and digital tools that can be easily accessed and understood by all users — including the millions of Americans who struggle to find, process, and use online health information.



Foreword by Dr. Karen B. DeSalvo, MD, MPH, MSc



About Health Literacy Online: 2nd Edition

- 50% US citizens have limited literacy skills
- 90 % US citizens have limited health literacy skills





Figure 1.1

Gaze path of a reader who does not have limited literacy skills skimming



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a page. smokefree.gov **SmokefreeWomen** Relanships and Smoking Women quizzes... Relationships Quiz pattern you our partner? Take this quiz and see ationships and smoking Medications Secondhand smoke Weigh management Withdrawal Use the quit guide Find tools to help you quit Talk to an expert Quit Smoking Source: Colter, A., & Summers, K. (2014). Eye Tracking with Unique Populations: Low Literacy Users. In J. Ro-

Source: Colter, A., & Summers, K. (2014). Eye Tracking with Unique Populations: Low Literacy Users. In J. Romano Bergstrom & A. J. Schall (Eds.), Eye Tracking in User Experience Design (pp. 331–346). Waltham, MA: Morgan Kaufmann Publishers/Elsevier.

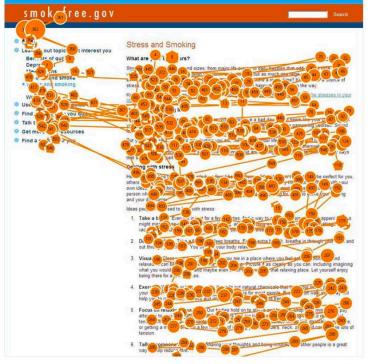






Figure 1.2

Gaze path of a user who has limited literacy skills reading (and rereading) every word.



Source: Colter, A., & Summers, K. (2014). Eye Tracking with Unique Populations: Low Literacy Users. In J. Romano Bergstrom & A. J. Schall (Eds.), Eye Tracking in User Experience Design (pp. 331-346). Waltham, MA: M organ Kaufmann Publishers/Elsevier.



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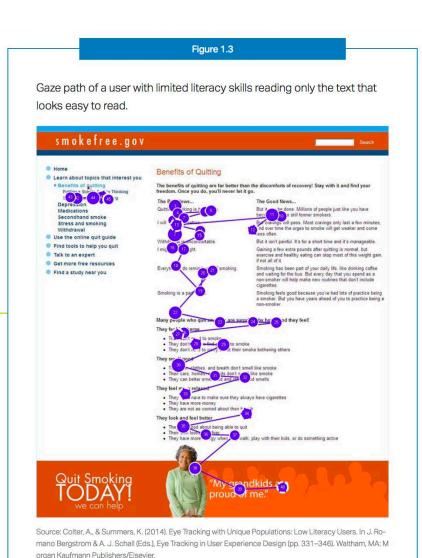


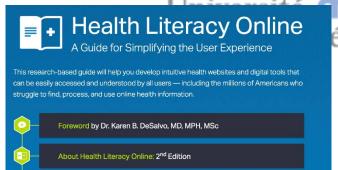
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Medicine (2017) 96:45





Readability of internet-sourced patient education material related to "labour analgesia"

Nilay Boztas, MD*, Dilek Omur, MD, Sule Ozbılgın, MD, Gözde Altuntas, MD, Ersan Piskin, MD, Sevda Ozkardesler, PhD, Volkan Hanci, MD

Table 2

The relationships of web sites between ranks, means of readability grade level, and number of Latin words (the first 300 words).

	Commercial websites (n=22)	Personal websites (n=4)	Official institution websites (n=11)
Rank	$1,470,737.68 \pm 3,743,791.02$	4,483,529.28 ± 8,945,451.71	$571,261.00 \pm 1,782,970.41^{\dagger}$
Mean FRES	50.16 ± 11.32	$33.80 \pm 8.29^*$	47.29 ± 13.62
Mean FKGL	11.43 ± 2.30	$14.87 \pm 2.46^{*, \ddagger}$	11.83 ± 2.69
Mean SMOG	10.17 ± 1.57	$12.80 \pm 1.75^*$	10.58 ± 2.05
Mean Gunning FOG	14.12±2.43	17.92 ± 2.75*	14.73 ± 2.82
Number of Latin words	16.95 ± 5.69	$20.75 \pm 3.77^{\ddagger}$	14.27 ± 7.81

FKGL = Flesch-Kincaid Grade Level, FOG = frequency of Gobbledygook, FRES = Flesch Reading Ease Score, SMOG = Simple Measure of Gobbledygook.

^{*}P<.05; Personal sites when compared with commercial sites; Mann-Whitney U test.

[†]P<.05; Official institution websites when compared with commercial sites; Mann-Whitney U test.

 $^{^{\}ddagger}P$ <.05; Official institution websites when compared with personal sites; Mann–Whitney U test.

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ANESTHESIA & ANALGESIA November 2015 • Volume 121 • Number 5

Readability, Content, and Quality Assessment of Web-Based Patient Education Materials Addressing Neuraxial Labor Analgesia

Samir K. Patel, MD,* Elisa J. Gordon, PhD, MPH,† Cynthia A. Wong, MD,* William A. Grobman, MD, MBA,‡ Haley Goucher, MD,* and Paloma Toledo, MD, MPH*†





Table 1. Readability Scores of English-Language Web-Based Patient Education Materials

Readability indices	Mean score ± SD ^a	Comparison to sixth grade reading level (P value)
FKGL	9.1 ± 1.9	< 0.001
Gunning FOG	11.8 ± 2.1	< 0.001
SMOG	8.6 ± 1.4	<0.001

FKGL = Flesch-Kincaid Grade Level; Gunning FOG = Gunning Frequency of Gobbledygook; SMOG = Simple Measure of Gobbledygook.

^aScores represent a grade level (e.g., 12 = 12th grade, 13 = first year of college). For the sake of comparison, the readability scores of this manuscript's introduction section are FKGL, 14.6; Gunning FOG, 16.3; and SMOG, 12.8.





uéle The Flesch Reading Ease Score (FRES) formula:

- 206.835 (1.015 x mean sentence length (84.6 x mean syllable count per word).
- The Flesch-Kincaid Grade Level (FKGL) formula:
 - (0.39 x mean wordcount per sentence)+(11.8 x mean syllable count per word) 15.39
- The Simple Measure of Gobbledygook (SMOG) formula:
 - 3.1291+1.043 x $\sqrt{\text{[number of multi-syllabic words (30/ number of sentences]}}$
- The Gunning frequency of Gobbledygook (FOG) formula :
 - 0.4 x [mean number of words per sentence -100 (number of multi-syllabic words number of words |







* *



C Murphy (MBBS,FCARCSI)¹⁻², C Margarido (MD, PhD)¹⁻²

1.Division of Obstetrical Anesthesia, Sunnybrook Health Sciences Centre, Toronto 2. Department of Anesthesia, University of Toronto



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- Transparency was based on ownership, institutional affiliations, disclosure of sponsorship, advertising, year of posting, contact feedback, languages, and profit or nonprofit status.
- Content of website was assessed based on best evidence with regard to epidural analgesia and end points: risk of cesarean delivery, stage of labor for epidural catheter insertion and effects on breast-feeding. 3-5
- Design of each site was reviewed in terms of search function, index, link to other websites, discussion forums as a source of patient discussion and listed references.

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The LIDA Instrument

Minervation validation instrument for health care web sites

nervation

The LIDA Inst

Full Version (1.2) containing instructions

The Minervalidation tool evaluates the design and content of health web sites.

The tool measures three areas:

1. Accessibility

- a. Can your audience access your web site?
- b. Does your site conform to legal accessibility standards?
- c. Are your competitors ahead of you?
- d. Does your site reflect "best practice" in coding and relevant metadata?

2. Usability

- a. Can your users find what they need to know?
- b. Can they use your web site effectively?
- c. What does it cost people to use your web site?
- d. Do your site visitors return to use the site again and again?

3. Reliability

- a. Does your site keep up to date with the latest research?
- b. Does your site reflect best current knowledge?
- c. Do your users trust you to provide them with unbiased information?
- d. Does your site conform to the highest information quality standards throughout?
- e. Is your site harmful or dangerous?

* *



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HON was founded to encourage the dissemination of quality health information for patients and professionals and the general public, and to facilitate access to the latest and most relevant medical data through the use

The HONcode certification is an ethical standard aimed at offering quality health information. It demonstrates the intent of a website to publish transparent information. The transparency of the website will improve the usefulness and objectivity of the information and the publishment of correct data.

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provide quality, objective and transparent medical information tailored to the needs of the audience.

Sites applying for certification and sites already certified undertake to respect the HONcode and the requirements for certification.

HON cannot guarantee the accuracy of medical information presented by a site and its completeness at any given time, but possession of the HONcode seal allows a site to demonstrate its intention to contribute to quality medical information through the publishment of objective and transparent information.



HONcode is the oldest and the most used ethical and trustworthy code for medical and health related information available on Internet. The HONcode is designed for three target

The HON Foundation is a Non-Governmental Organization, internationally known for its pioneering work in the field of health information ethics, notably for the establishment of its code of ethical conduct, the HONcode.



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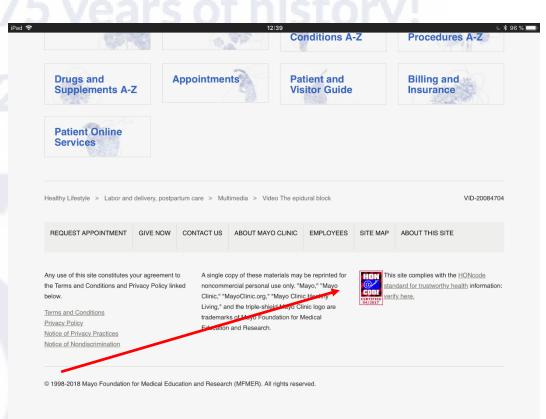
The HON Code of Conduct for medical and health Web sites (HONcode)	> Apply for certification
1. Authoritative	
Indicate the qualifications of the authors	> complete version
2. Complementarity	
Information should support, not replace, the doctor-patient relationship	> complete version
3. Privacy	
Respect the privacy and confidentiality of personal data submitted to the si	te by the visitor > complete version
4. Attribution	
Cite the source(s) of published information, date medical and health pages	
	> complete version
5. Justifiability	
Site must back up claims relating to benefits and performance	> complete version
6. Transparency	
Accessible presentation, accurate email contact	> complete version
7. Financial disclosure	
Identify funding sources	> complete version
8. Advertising policy	
Clearly distinguish advertising from editorial content	> complete version





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- Incomplete or inaccurate info
- Lack of editorial control
- Lack of regulations and legal control
- Commercial interest
- Breaches of patient privacy
- Violation of patient / Health Care provider boundaries







194



- Improve quality of the info:
 - Pool individual doctor resources
 - Update you website frequently
 - Obtain / look for / refer to HONcode accreditation

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- Make your website attractive
 - Make it smartphone-friendly
 - Use multiple social medias
 - Use videos, figures
 - Offer material in multiple languages
 - Address educational material to the patients Partner

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- Improve Readability
 - Short words, short sentences, short paragraphs
 - Put simple info at the beginning
 - 6th grade or less
 - Figures and Tables

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- Increase the visibility of the info
 - Make it reachable in one click
 - Use Search Engine Optimization (SEO) strategies
 - Offer standardized medical material to commercial sites

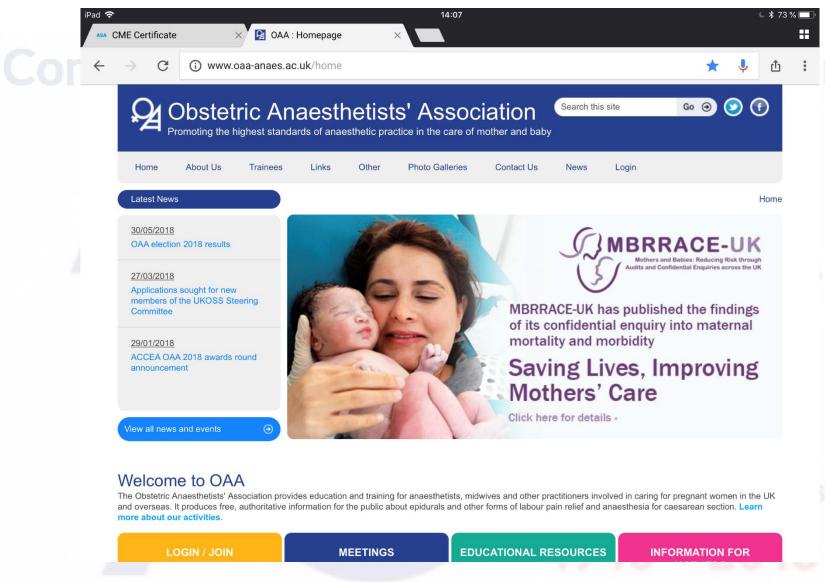
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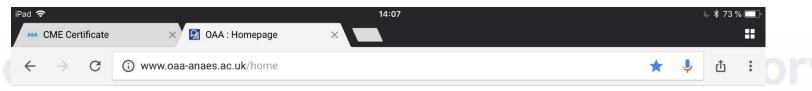




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Welcome to OAA

The Obstetric Anaesthetists' Association provides education and training for anaesthetists, midwives and other practitioners involved in caring for pregnant women in the UK and overseas. It produces free, authoritative information for the public about epidurals and other forms of labour pain relief and anaesthesia for caesarean section. Learn more about our activities.



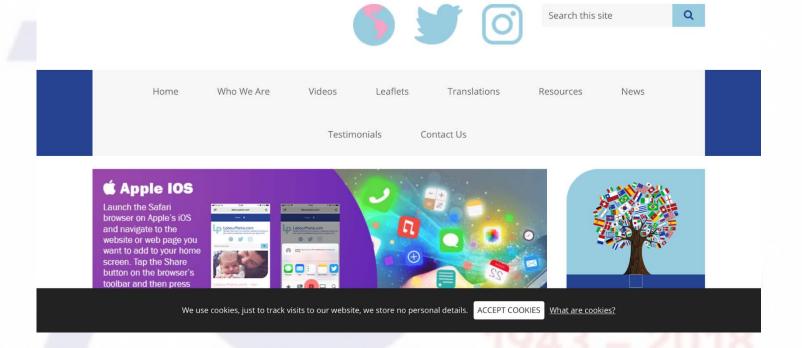


















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PAIN RELIEF IN LABOUR Our frequently asked questions



C-SECTION Our frequently asked questions



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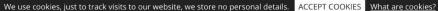












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Birthing partner information

Caesarean Section

The aim of this leaflet is to let you know what to expect if your partner has a caesarean birth. If you would prefer not to go into theatre, your midwife will be happy to support your partner instead.

1 My partner has gone to theatre, what happens now?

We'll give you theatre clothes to wear. You can bring your camera (or phone) with you. There will be some routine safety checks with the whole team. You or your midwife will support your partner whilst she has the spinal injection or is given more anaesthetic into her epidural. Her anaesthetist will check this is working well before anything more is done.

2 What should I expect to happen in theatre?

You can sit next to your partner so that you can give her your



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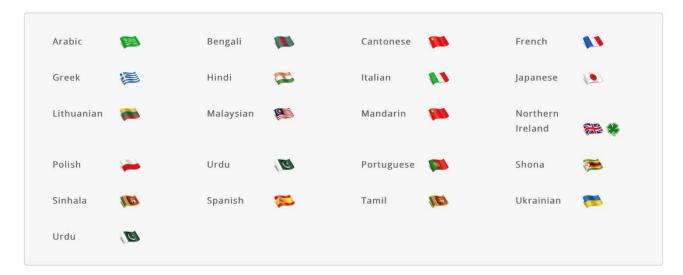
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International Journal of Obstetric Anesthesia (2013) 22, 119–123 0959-289X/\$ - see front matter © 2012 Elsevier Ltd. All rights reserved. http://dx.doi.org/10.1016/j.ijoa.2012.11.003





www.obstetanesthesia.com





ORIGINAL ARTICLE

A qualitative analysis of parturients' perspectives on neuraxial labor analgesia

P. Toledo, a,b J. Sun, F. Peralta, W.A. Grobman, C.A. Wong, R. Hasnain-Wynia R.

^a Department of Anesthesiology, ^b Center for Healthcare Equity/Institute for Healthcare Studies,

ver high-quality care.¹⁹ Our study found that only a small number of women who declined analgesia did so out of a desire for an unmedicated childbirth or a perceived lack of need. Instead, we found that the majority of women avoided neuraxial analgesia because of fears or concerns, many of which reflected poor understanding of the procedure.

^c Department of Obstetrics and Gynecology, ^d Division of General Internal Medicine, Northwestern University Feinberg School of Medicine, Chicago, IL, USA





ORIGINAL ARTICLE

WILEY BIRTH ISSUES IN PERINATAL CARE

Come and

Patients' preferences for labor analysis counseling: A qualitative analysis

Paloma Toledo MD, MPH^{1,2} | Javiera Pumarino BS² | William A. Grobman MD, MBA^{2,3} Cynthia A. Wong MD^{1,4} | Jane L. Holl MD, MPH^{2,5} | Romana Hasnain-Wynia PhD^{2,6}



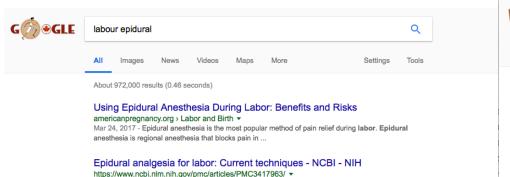
4 | SOURCES OF INFORMATION USED BY PATIENTS

Women mentioned several sources of information that were used to obtain information on labor pain relief options, including their obstetric providers, family and friends, birthing classes, and the media (i.e., Internet, books, magazines, and television). The Internet was the most frequently mentioned source (44%). The degree to which women used the information from the Internet varied. Some respondents were self-described "light-users" of Internet-based information. One









Epidural - BabyCenter Canada

https://www.babycenter.ca/a542571/epidural ▼

by M Silva - 2010 - Cited by 37 - Related articles

review, we trace the history of the use of epidural ...

Epidural for labour pain relief | pros and cons | Medela

History · Combined spinal-epidural ... · Side effects and complications · Technique

https://www.medela.ca > Breastfeeding for Moms > Advice > Hospital and birth ▼

What is an epidural? Epidural anaesthesia is a popular method of pain relief during labour. Medela explains the pros and cons of having an epidural.

Dec 8, 2010 - Epidural analgesia is an extremely effective and popular treatment for labor pain. In this

Labor and Delivery, Analgesia, Regional and Local: Overview ...

https://emedicine.medscape.com/article/149337-overview ▼

Nov 13, 2015 - Laboring patients must be educated about the different available methods of labor analgesia. Many pharmacological and nonpharmacological ..

Epidurals for pain relief in labour | Cochrane

www.cochrane.org/CD000331/PREG_epidurals-pain-relief-labour ▼

May 21, 2018 - Epidurals are widely used for pain relief in labour and involve an injection of a local anaesthetic into the lower region of the back close to the ...

Neuraxial analgesia for labor and delivery (including instrumented ...

https://www.uptodate.com/.../neuraxial-analgesia-for-labor-and-delivery-including-ins... ▼

Apr 27, 2018 - This topic will discuss the indications, common techniques, and drugs used for neuraxial labor analgesia. The pain pathways applicable to ...

Explainer: what is an epidural for labour? - The Conversation

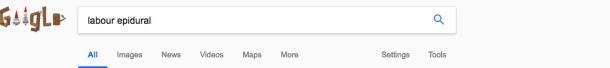
theconversation.com/explainer-what-is-an-epidural-for-labour-64870 -

Oct 31, 2016 - Epidurals were developed for pregnant women to address the severe pain of labour. In Australia approximately one in three pregnant women ...

Epidural - BabyCentre UK

https://www.babycentre.co.uk/a542571/epidural ▼

Jump to At what stage of labour should I have an epidural? - You can usually have an epidural at any point in your labour (Sng et al 2014, NICE ...



About 1,100,000 results (0.89 seconds)

Using Epidural Anesthesia During Labor: Benefits and Risks

american pregnancy.org > Labor and Birth -

Mar 24, 2017 - Epidural anesthesia is the most popular method of pain relief during labor. Epidural anesthesia is regional anesthesia that blocks pain in ...

Epidural - BabyCenter Canada

https://www.babycenter.ca/a542571/epidural ▼

Pain relief in labour: An epidural is an injection into the small of your back, using a curved, hollow needle. The anaesthetic deadens the nerves which are ...

How is an epidural put in ... · What are the disadvantages ...

Epidural analgesia for labor: Current techniques - NCBI - NIH

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3417963/ -

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Dec 8, 2010 - Epidural analgesia is an extremely effective and popular treatment for labor pain. In this review, we trace the history of the use of epidural ...

History · Combined spinal-epidural ... · Side effects and complications · Technique

Epidural analgesia in labour | BJA Education | Oxford Academic

https://academic.oup.com/bjaed/article/4/4/114/308005 ▼

by E McGrady - 2004 - Cited by 38 - Related articles

Aug 1, 2004 - Abstract. Since epidural analgesia was introduced four decades ago for pain relief in

labour, controversy has persisted about its effect on the ...

Abstract · Effect of epidural analgesia ... · Epidural technique

Epidural for labour pain relief | pros and cons | Medela

https://www.medela.ca > Breastfeeding for Moms > Advice > Hospital and birth ▼ What is an epidural? Epidural anaesthesia is a popular method of pain relief during labour. Medela explains the pros and cons of having an epidural.

Labor and Delivery, Analgesia, Regional and Local: Overview ...

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www.cochrane.org/CD000331/PREG_epidurals-pain-relief-labour •

May 21, 2018 - Epidurals are widely used for pain relief in labour and involve an injection of a local anaesthetic into the lower region of the back close to the ...

Explainer: what is an epidural for labour? - The Conversation

theconversation.com/explainer-what-is-an-epidural-for-labour-64870 ▼

Oct 31, 2016 - In Australia about one in three pregnant women in labour has an epidural for this reason. A specialised medical doctor who has training and ...

Epidural - BabyCentre UK

https://www.babycentre.co.uk/a542571/epidural v

Jump to At what stage of labour should I have an epidural? - You can usually have an epidural at any point in your labour (Sng et al 2014, NICE



ANESTHESIA & ANALGESIA November 2015 • Volume 121 • Number 5



Readability, Content, and Quality Assessment of Web-Based Patient Education Materials Addressing Neuraxial Labor Analgesia

Samir K. Patel, MD,* Elisa J. Gordon, PhD, MPH,† Cynthia A. Wong, MD,* William A. Grobman, MD, MBA,‡ Haley Goucher, MD,* and Paloma Toledo, MD, MPH*†

Table 2. Content Analysis of	72 Web-Based Patient
Education Materials	

		Percentage addressing
		each Item (95%
	Content Items	confidence Interval)
	Descriptions	
	What is an "epidural?"	100% (95%-100%)
	How is the epidural procedure performed?	100% (95%-100%)
	Benefits of neuraxial analgesia	100% (95%-100%)
	What is a "spinal?"	97% (90%–100%)
	How is a spinal procedure performed?	94% (86%–98%)
	Alternative analgesic modalities	68% (56%–78%)
	Adverse effects and complications	
	Postdural puncture headache	92% (83%–97%)
	Hypotension	92% (83%–97%)
	Drug toxicity/allergy	46% (34%–58%)
	Effect of epidural analgesia on labor	42% (30%–54%)
	Nerve damage	38% (26%–50%)
	Dizziness	36% (25%–48%)
	Infection	33% (23%-45%)
	Back pain/soreness	22% (13%-33%)
	Bleeding	19% (11%–30%)
	Epidural fever	15% (8%–26%)
	Contraindications	14% (7%–24%)
	Nausea/vomiting	14% (7%–24%)
	Shivering	14% (7%–24%)
	Paralysis	11% (5%–21%)
	Pruritus (itching)	10% (4%–19%)
	Epidural analgesia failure	8% (3%-17%)









DOI: 10.1111/birt.12292

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ORIGINAL ARTICLE

Patients' preferences for labor analgesic counseling: A qualitative analysis

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I guess my midwife would be the person who I [would go to] if I had serious questions. That is where I would get my final answer from, because you can't always trust those blogs and stuff like that ...