Women and Birth 28 (2015) 21–24

Contents lists available at ScienceDirect

Women and Birth

journal homepage: www.elsevier.com/locate/wombi

ORIGINAL RESEARCH – QUANTITATIVE

Vaginal births after caesarean: What does Google think about it?

Nadia Bantan [a], Haim Arie Abenhaim [a,b,*]

[a] Department of Obstetrics and Gynecology, Jewish General Hospital, McGill University, Canada
[b] Centre for Clinical Epidemiology and Community Studies, Jewish General Hospital, Canada

ARTICLE INFO

Article history:
Received 22 May 2014
Received in revised form 9 October 2014
Accepted 11 October 2014

Keywords:
Information seeking behaviour
Internet
VBAC
Vaginal birth after caesarean

ABSTRACT

Aim: Vaginal birth after caesarean (VBAC) is a relatively safe alternative to repeat caesarean birth in the proper context. This important decision to undergo an elective caesarean versus VBAC is ultimately a decision of the mother. The purpose of our study was to assess the quality of online information in relation to VBAC collected using the most common search engine: Google.

Methods: The 10 most common hit sites for the keywords "VBAC" and "Vaginal birth after caesarean" were evaluated using the search engine Google. The quality of websites was rated based on the Silberg scale for accountability, the modified Abbott's criteria for presentation and the SMOG index for readability. The content of each website was compared to the Society of Obstetricians and Gynecologists of Canada (SOGC) guidelines for VBAC.

Findings: 13 out of 20 identified websites met the adequate criteria for accountability, with 85% of the websites indicating authorship. 11 websites were deemed aesthetically agreeable. The target audience, assessed by the readability score, was notably above the non-medical population with an average SMOG index score of 14.75. Only half of the websites contained recommendations, as detailed by the SOGC guidelines.

Conclusion: Almost all sites target a higher academic level, making it beyond the comprehension of the general population. Woman friendly web-assessment tools should be provided to enable pregnant women to take an active role in their decision making.

1. Introduction

As caesarean section rates rise a greater number of pregnant women with a history of prior caesarean are faced with the decision to attempt a natural birth or undergo an elective caesarean. Vaginal birth after caesarean (VBAC) is a relatively safe alternative to repeat caesarean birth in the proper context. This important decision to undergo an elective caesarean versus VBAC is ultimately the decision of the mother. An increasing number of women are seeking pregnancy related information from non-traditional sources such as the Internet. Online health information seeking can play an important role in decision making during pregnancy.[1] The purpose of our study is to evaluate the information available on the Internet pertaining to vaginal birth after a caesarean using the Google search engine.

2. Methods

We searched the keywords "VBAC" and "Vaginal birth after caesarean" using the Google search engine and evaluated the top 10 listed websites for each term. Videos, images, unrelated topics, and repeat sites were excluded. Sites were evaluated according to modified criteria previously designed to rate websites based on accountability using the Silberg scale; aesthetics using Abbott's criteria; and readability using the SMOG index. Site content was corroborated by the Society of Obstetricians and Gynecologists of Canada (SOGC) guidelines to highlight the principle safety issues raised (Table 1). A study by Foureur et al. noted significant differences in recommendations among six major national guidelines pertaining to VBAC published between 2004 and 2007. While the New Zealand Guidelines Group (NZGG) and the National Institute of Clinical Excellence (NICE) guidelines received the highest overall scores, the SOGC guideline was selected for our study as this is the predominant guideline used in Canada, the location for this study.[2]

Points were attributed for each element of the modified criteria found on the website. The total number of points for each website was tabulated. Using the Silberg score,[3] the sites were rated on a

* Corresponding author at: Department of Obstetrics and Gynecology, Jewish General Hospital, 5790 Cote-Des-Neiges Road, Pav H, Montreal, Quebec H3S 1Y9, Canada.
E-mail address: haim.abenhaim@gmail.com (H.A. Abenhaim).

http://dx.doi.org/10.1016/j.wombi.2014.10.004
1871-5192/

Table 1
Description of criteria used for scoring the webpages.

Silberg's accountability
1. Author's name listed
2. Author's credentials clarified
3. Author's affiliations identified
4. References cited, sources provided
5. Disclosure of conflict of interest
6. Date when site is created
7. Currency of website and date of last update
Abbott's aesthetics
1. Clear headings, subheadings, body and footer
2. Use or relevant graphics and sound
3. Minimal layering
4. Relevant links to external sites
5. No outside advertisements
6. Email/contact info/more info
SMOG readability score
As described by G.H. McLaughlin

seven point scale for accountability. As shown in Table 1, these criteria include: authorship, credentials and affiliation, cited references, disclosure, date of site creation, and currency. A point was given for each sub criteria present and the total was calculated, with a score higher than 4 considered sufficient for accountability. The presentation of the sites was assessed using a modified version of Abbott's criteria based on layout, relevant graphics, related links, minimum layering and advertisement, and presence of help line/contacts[4] (Table 1). A site received one point for each criterion present and the score was calculated out of a total of 6, with a score of 4 or more considered adequately appealing. The SMOG grading system is a formula created by G. Harry McLaughlin to estimate the years of education a person needs to comprehend a piece of writing.[5] It can be calculated manually by = 3+ square root of the number of words of three or more syllables per 30 sentences. For practicality purposes, G. Harry McLaughlin developed an online calculator where one can copy and paste a text for submission and have it graded.[6] Although the Flesch–Kincaid grade level is the most commonly used to calculate readability, the SMOG index has been shown recently to be the most suitable for health care application due to its consistency of results.[7] The International Adults Literacy Survey (IALS) reports that the average reading level for the Canadian population is grade 8 or 9 level.[8]

Finally, the contents of web pages were graded according to the SOGC guidelines on VBAC, where recommendations regarding contraindications, candidacy, risks and outcomes are outlined (Table 2). A single point was allocated for each suggested recommendation. With recommendations having more than one item, such as contraindications, risks, and special cases permitting VBAC, the point was given to the site if more than half of the items were mentioned. The overall score was 9, with a total of 5 or more considered reliable (Table 4). Ethics approval was not required for this study according to the Tri-Council Policy Statement as the information obtained online is publicly accessible and there is no reasonable expectation of privacy.

3. Results

A total of 20 websites were analysed using the criteria found in Table 1. The mean Silberg accountability score was 4.75 out of 7, with 13 sites receiving a score above the cut off mark (Table 4). The majority of sites showed clear authorship with more than half citing their references and sources. Thirteen sites listed their dates of creation including time of recent updates. Seventy-five percent of websites failed to disclose sponsorship, advertising, and potential conflicts of interest.

Eleven sites scored above the cut-off mark and were deemed aesthetically appealing. The mean modified Abbott score for

Table 2
SOGC content, 2005.

1.	In the absence of contraindications such: previous classical or inverted "T" uterine scar, previous hysterectomy or myomectomy entering the uterine cavity, previous uterine rupture, contraindication to labour, the woman's decline to a trial of labour after caesarean and request elective repeat caesarean section, a woman should be offered a trial of labour after caesarean.
2.	A woman planning for trial of labour should deliver in a hospital where timely caesarean section is available.
3.	Continuous electronic foetal monitoring is recommended.
4.	Oxytocin for induction of labour or augmentation is not contraindicated.
5.	Induction of labour using prostaglandin E2 (dinoprostone) should not be used except in rare circumstances, and prostaglandin E1 (misoprostol) is associated with higher risk of uterine rupture and should not be used.
6.	Special cases where labour after caesarean section is not contraindicated: postdatism, diabetes mellitus, multiple gestation, suspected foetal macrosomia, unknown previous uterine scar with likelihood of low transverse uterine incision, more than one previous caesarean section, and women delivering within 18–24 months of the previous caesarean section.
7.	Risks of caesarean section listed: febrile morbidity/infection, thromboembolic complication, bleeding and need of transfusion, and abnormal placentation.
8.	Risks of VBAC explained: uterine rupture, operative injury, and hysterectomy.
9.	Neonatal morbidity/mortality mentioned.

Table 3
Descriptive analysis of SMOG scoring for websites.

SMOG	Corresponding grade level	Verbal description
Minimum score	10.22	Fairly difficult
Maximum score	23.29	Very difficult
Mean score	14.75	Difficult

SMOG (simple measurement of Gobbledygook): a readability formula, by G. Harry McLaughlin, for estimation of years of education needed to understand a piece of writing.

Table 4
Accountability, aesthetics, readability and content individual scoring of sites.

	Percentage (%)
Accountability (Silberg's accountability)	
Author's name	85
Author's credentials	75
Author's affiliations	85
References cited, sources	70
Disclosure of conflict of interest	25
Date when site is created	65
Currency of website and date of last update	65
Mean score total (max = 7)	4.75
Aesthetics	
Layout, headings	85
Relevant links	55
Graphics and sounds	25
Minimal layering	75
No outside advertisement	60
Contact and more information	75
Mean score total (max = 6)	3.75
Content	
3 out of 5 contraindication listed	4
Delivery in a hospital	60
Continuous foetal monitoring	35
Use of oxytocin not contraindicated	45
Use of prostaglandin in IOL not recommended	30
4 out of 7 special cases can have TOLAC	25
2 out of 3 VBAC risks listed	75
3 out of 4 ERCS risks listed	60
Perinatal morbidity/mortality mentioned	80
Mean total score (max 9)	4.5

IOL, induction of labour; TOLAC: trial of labour after caesarean; ERCS, elective repeat caesarean, VBAC, vaginal birth after caesarean.