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# FERTILITY CLINIC WEBSITES IN CANADA: HOW ARE WE DOING?

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## INTRODUCTION

Internet has become a primary source of fertility-related information for infertile couples. Unfortunately, the information provided there is often incomplete, inaccurate, confusing, and not accredited by an official organism. Several Internet information quality scores have been developed during the last decade, however they lack of comprehensiveness.

## OBJECTIVE

To conduct a quality assessment of the fertility clinic websites in Canada using a comprehensive scoring scale adapted from a solid literature review. (Figure 1)

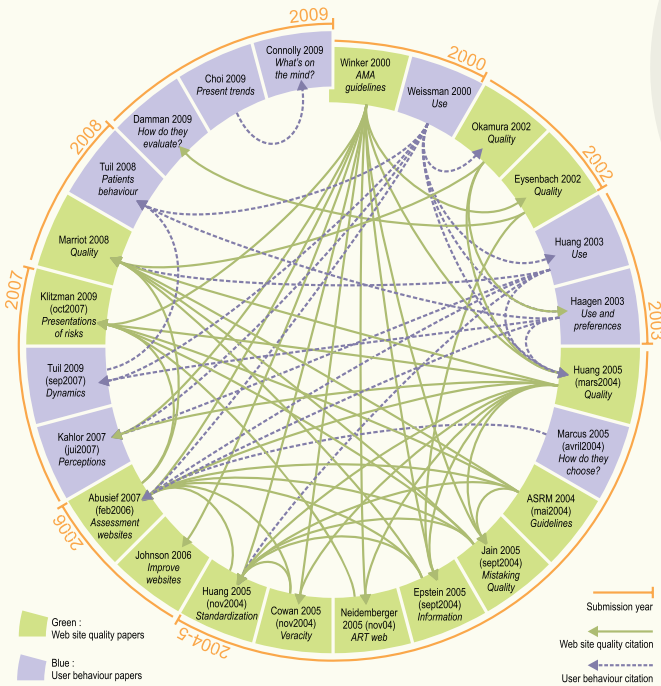


FIGURE 1. LITERATURE REVIEW

## MATERIALS & METHODS

A quality assessment of fertility clinic websites in Canada was performed in July 2010. In light of the literature, the assessment was based on three factors with different weights: Credibility (40%), Accuracy (30%), and Ergonomics (30%). The relation between the websites' quality and the practice setting (university hospital-sponsored centers, or private independent clinics), and the affiliation of the centers and clinics to the Canadian Fertility and Andrology Society (CFAS) were also evaluated.

## RESULTS

We identified sixty clinics offering fertility services in Canada. Nineteen of them did not have functional websites and were excluded from the analysis. Among the 41 websites evaluated, 32 were from private independent clinics and 9 from university hospital-sponsored centers. Twenty-nine were listed as In Vitro Fertilization (IVF) clinics in the CFAS website.

The mean weighed quality score of all websites was 55.1 (SD 18.9) out of 100. (Table 1) No substantial differences were seen between university hospital-sponsored centers and private independent clinics (54 vs. 58 points out of 100, p=0.61). However, the clinics listed on the CFAS website obtained a higher mean quality score compared to those non-affiliated (64 vs. 34 points out of 100, p<0.001).

Table 1. Websites overall quality

Evaluation criteria	Weighted score	Sites Web analysed (n=41)	Private Clinics (n=32)	Academic Clinics (n=9)	p Value	CFAS non affiliated (n=12)	CFAS affiliated (n=29)	p Value
<b>Credibility</b>	40	22.6 (10.4)	21.5 (9.6)	26.7 (12.6)	0.28	11.3 (6.3)	27.3 (7.9)	<0.001
<b>Accuracy</b>	30	16.5 (8.4)	15.9 (8.3)	18.3 (9.0)	0.49	7.5 (6.7)	20.2 (5.9)	<0.001
<b>Ergonomics</b>	30	16.0 (3.8)	16.7 (3.5)	13.6 (3.8)	0.04	15.2 (4.8)	16.4 (3.3)	0.43
<b>TOTAL</b>	100	55.1 (18.9)	54.2 (17.9)	58.5 (22.9)	0.61	34.0 (14.7)	63.9 (12.4)	<0.001

Table 2. Credibility evaluation

Credibility criteria	Sites Web analysed (n=41)	Private Clinics (n=32)	Academic Clinics (n=9)	p Value	CFAS non affiliated (n=12)	CFAS affiliated (n=29)	p Value
<b>CFAS affiliation</b>	29 (70.7)	21 (65.6)	8 (88.9)	0.24	-	-	-
<b>IAAC nomination</b>	22 (53.7)	15 (46.9)	7 (77.8)	0.14	2 (16.7)	20.2 (5.9)	<0.01
<b>Ownership</b>	39 (95.1)	32 (100)	7 (77.8)	0.04	11 (91.7)	16.4 (3.3)	50
<b>Certification</b>	4 (9.8)	2 (6.2)	2 (22.2)	0.20	0 (0)	63.9 (12.4)	0.30
<b>Disclosure of policies</b>	22 (53.7)	16 (50.0)	6 (66.7)	0.47	4 (33.3)	63.9 (12.4)	0.17

Table 3. Accuracy evaluation

Accuracy criteria	Sites Web analysed (n=41)	Private Clinics (n=32)	Academic Clinics (n=9)	p Value	CFAS non affiliated (n=12)	CFAS affiliated (n=29)	p Value
<b>Success rates published</b>	26 (63.4)	19 (59.4)	7 (77.8)	0.44	3 (25.0)	23 (79.3)	<0.001
<b>Live birth rate reported</b>	6 (14.6)	5 (15.6)	1 (11.1)	1.00	0 (0)	6 (20.7)	0.16
<b>Success rates based on age</b>	25 (61.0)	18 (56.2)	7 (77.8)	0.44	1 (8.3)	24 (82.8)	<0.001
<b>Average number of transferred embryos</b>	13 (31.7)	8 (25.0)	5 (55.6)	0.11	0 (0)	13 (44.8)	0.01
<b>Updated success rates (&gt;=2007)</b>	23 (56.1)	17 (53.1)	6 (66.7)	0.71	1 (8.3)	22 (75.9)	<0.001
<b>IVF service offered</b>	35 (85.4)	27 (84.4)	8 (88.9)	1.00	6 (50.0)	29 (100)	<0.001
<b>ICSI service offered</b>	34 (82.9)	26 (81.2)	8 (88.9)	1.00	5 (41.7)	29 (100)	<0.001
<b>PGD service offered</b>	7 (11.1)	5 (15.6)	2 (22.2)	0.64	0 (0)	7 (24.1)	0.08
<b>General information about fertility</b>	34 (82.9)	27 (84.4)	7 (77.8)	0.64	8 (66.7)	26 (89.7)	0.16
<b>FAQ page available</b>	22 (53.7)	18 (56.2)	4 (44.4)	0.71	6 (50.0)	16 (55.2)	1.00

Table 4. Ergonomics evaluation

Ergonomics criteria	Sites Web analysed (n=41)	Private Clinics (n=32)	Academic Clinics (n=9)	p Value	CFAS non affiliated (n=12)	CFAS affiliated (n=29)	p Value
<b>Home page usability, mean (SD)</b>	6.6 (1.4)	6.8 (1.3)	5.9 (1.5)	0.12	6.2 (1.7)	6.8 (1.2)	0.25
<b>W3C HTML validation</b>	3 (7.3)	1 (3.1)	2 (22.2)	0.12	0 (0)	3 (10.3)	0.54
<b>W3C Links validation</b>	12 (29.3)	11 (34.4)	1 (11.1)	0.24	4 (33.3)	8 (27.6)	0.72
<b>W3C Style sheet (CSS) validation</b>	18 (43.9)	17 (53.1)	1 (11.1)	0.05	7 (58.8)	11 (37.9)	0.31
<b>W3C Accessibility validation</b>	14 (34.1)	11 (34.4)	3 (33.3)	1.00	4 (33.3)	10 (34.5)	1.00
<b>User's interaction tools</b>	10 (24.4)	9 (28.1)	1 (11.1)	0.41	2 (16.7)	8 (27.6)	0.69

## CONCLUSION

There is much room for information quality improvement of fertility clinic websites in Canada. Implementation of a "trustmark" mechanism is necessary. National academic societies or federal regulatory organisms, along with consumer organizations, should have among their responsibilities, the certification of websites on fertility services. This certification would assure the quality of information presented. Additionally, the patients' needs for continued communication and support during their treatment and the increasing tendency for social networking demand the implementation of web communication functions by fertility clinics.



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