

# Blogging to Quit Smoking: Sharing Stories from Women of Childbearing Years in Ontario

Nadia Minian<sup>1</sup>, Aliya Noormohamed<sup>1</sup>, Rosa Dragonetti<sup>1</sup>, Julie Maher<sup>2</sup>, Christina Lessels<sup>2</sup> and Peter Selby<sup>1,3–6</sup>

<sup>1</sup>Centre for Addiction and Mental Health, <sup>2</sup>Ontario Women's Health Network, <sup>3</sup>Department of Family and Community Medicine, University of Toronto, <sup>4</sup>Department of Psychiatry, University of Toronto, <sup>5</sup>Dalla Lana School of Public Health, University of Toronto, <sup>6</sup>Ontario Tobacco Research Unit.

## Supplementary Issue: Substance Use in Pregnancy

**ABSTRACT:** This study examined the degree to which the pregnant or postpartum women, in the process of quitting smoking, felt that writing in a blog about their smoking cessation journeys helped them in their efforts to become or remain smoke free. Five women who blogged for Prevention of Gestational and Neonatal Exposure to Tobacco Smoke (a website designed to help pregnant and postpartum women quit smoking) were interviewed about their experiences as bloggers. Participants were asked to complete an online survey, which had closed-ended questions regarding their sociodemographic and smoking characteristics. Once they completed the survey, semistructured qualitative interviews were conducted over the phone. Findings suggest that blogging might combine several evidence-based behavioral strategies for tobacco cessation, such as journaling and getting support from others who use tobacco. Being part of a blogging community of women who have experienced or are experiencing similar challenges can be therapeutic and help women gain confidence in their ability to quit smoking. In conclusion, blogging may help pregnant and postpartum women quit smoking by increasing their social support and promoting self-reflection.

**KEYWORDS:** smoking cessation, blogging, pregnant, postpartum

**SUPPLEMENT:** Substance Use in Pregnancy

**CITATION:** Minian et al. Blogging to Quit Smoking: Sharing Stories from Women of Childbearing Years in Ontario. *Substance Abuse: Research and Treatment* 2016;10(S1) 21–26 doi: 10.4137/SART.S34551.

**TYPE:** Original Research

**RECEIVED:** December 17, 2015. **RESUBMITTED:** March 06, 2016. **ACCEPTED FOR PUBLICATION:** March 09, 2016.

**ACADEMIC EDITOR:** Gregory Stuart, Editor in Chief

**PEER REVIEW:** Four peer reviewers contributed to the peer review report. Reviewers' reports totaled 1,276 words, excluding any confidential comments to the academic editor.

**FUNDING:** This study was funded by a CIHR Planning and Dissemination Grant, Institute Community Support (2014) and the Shoppers Drug Mart Life Foundation. The authors confirm that the funder had no influence over the study design, content of the article, or selection of this journal.

**COMPETING INTERESTS:** Authors disclose no potential conflicts of interest.

**CORRESPONDENCE:** Peter.Selby@camh.ca

**COPYRIGHT:** © the authors, publisher and licensee Libertas Academica Limited. This is an open-access article distributed under the terms of the Creative Commons CC-BY-NC 3.0 License.

Paper subject to independent expert blind peer review. All editorial decisions made by independent academic editor. Upon submission manuscript was subject to anti-plagiarism scanning. Prior to publication all authors have given signed confirmation of agreement to article publication and compliance with all applicable ethical and legal requirements, including the accuracy of author and contributor information, disclosure of competing interests and funding sources, compliance with ethical requirements relating to human and animal study participants, and compliance with any copyright requirements of third parties. This journal is a member of the Committee on Publication Ethics (COPE).

Published by Libertas Academica. Learn more about this journal.

## Introduction

Smoking during pregnancy has adverse outcomes for the mother, the pregnancy, the fetus, and the baby. Smoking is a leading cause of death in women due to cardiovascular disease, including coronary heart disease, ischemic stroke, and subarachnoid hemorrhage,<sup>1–7</sup> as well as various cancers,<sup>8</sup> and chronic obstructive pulmonary disease.<sup>9,10</sup> For women who are pregnant, smoking increases the risk of having an ectopic pregnancy, abruption placentae, placenta previa, and a miscarriage;<sup>11,12</sup> it decreases the availability of oxygen to the fetus, increases the fetal heart rate, and reduces the breathing movement of the fetus.<sup>8</sup> Smoking during pregnancy also increases the following chances of a newborn baby: (1) being born prematurely, (2) having a low birth weight, (3) having difficulty in feeding, (4) having birth defects, including cleft lip/cleft palate,<sup>13,14</sup> and (5) dying of sudden infant death syndrome.<sup>15</sup> Smoking during and after pregnancy has also been associated with neurocognitive developmental problems as well as neurobehavioral disorders.<sup>10</sup>

Tobacco use during pregnancy is a global issue. Some high-income countries, including Canada, have guidelines in place for managing tobacco dependence in pregnancy.<sup>16</sup> Though smoking rates during pregnancy in Ontario have decreased by 23.5% from 1995 to 2010, approximately 10.6% of pregnant women in Ontario still smoke.<sup>17,18</sup> Smoking during pregnancy is shaped by socioeconomic, sociocultural, and psychosocial factors.<sup>19</sup> Data from the Better Outcomes Registry & Network (Ontario) showed that pregnant women who smoke are more likely to have a less formal education, a lower median family income, and be younger than pregnant women who do not smoke.<sup>18</sup>

If a pregnant woman stops smoking by the end of her second trimester of pregnancy, she is no more likely to have a low-birth weight baby than a woman who never smoked.<sup>20</sup> Seventy-five percent of pregnant women in Ontario who smoke want to quit,<sup>21</sup> but many do not find the support that they need for their efforts.<sup>21</sup> Despite their intentions and efforts to quit smoking, many pregnant smokers do not access



the public health venues for assistance due to low awareness of available supports and to stigma, shame, and guilt associated with smoking during pregnancy.<sup>22,23</sup> Stress has been identified as a major barrier to successfully quitting smoking among pregnant women.<sup>19</sup>

A thorough review of the literature conducted by Greaves et al (2011) found seven approaches as best practices for interventions designed to reduce or eliminate smoking during pregnancy. These approaches include interventions that are women centered, tailor to specific groups of women, reduce stigma, address relapse prevention, have a harm reduction approach, encourage social support, and address social issues integration.<sup>24</sup> In addition, research has shown that behavioral interventions are effective in helping pregnant women quit smoking.<sup>25</sup> Some researchers have postulated that journaling is an effective behavioral intervention for helping people quit smoking.<sup>26</sup> More generally, several psychologists have postulated that expressive writing has therapeutic properties.<sup>27–30</sup> While the experience and results of expressive writing have generally been measured when the writing is done in a personal diary, the emergence of online blogs presents an opportunity for interactive writing. A blog is a regularly updated website, typically run by an individual or small group, written in an informal or conversational style. A blog has discrete entries or *posts* and usually allows the readers to comment on these posts.<sup>31</sup> Blog sites provide an open space for experiences to be shared and are shown as an effective way to engage people.<sup>32–34</sup>

The few published studies that have examined the role of blogs in relation to smoking cessation, and online engagement with a smoking cessation campaign, have found that blogs can generate a considerable engagement among online audiences<sup>35</sup> and that there are distinctive therapeutic aspects to blogging for smokers.<sup>36</sup>

The purpose of this study was to examine the degree to which pregnant or postpartum women, in the process of quitting smoking, felt that writing in a blog about their smoking cessation journeys helped them in their efforts to become or remain smoke free. It was hypothesized that communicating the experience of quitting through a blog would provide the bloggers with the perceived psychosocial benefits.

## Methods

Prevention of Gestational and Neonatal Exposure to Tobacco Smoke (PREGNETS) is an online platform supported by the Centre for Addiction and Mental Health to provide support and informational resources to pregnant and postpartum women and their health-care providers. In an effort to provide a more accessible space for users to consume and exchange information, PREGNETS established a blog and invited women with the lived experience of pregnancy and tobacco use to become bloggers. Seven women participated as bloggers for the duration of 5–10 months.

Blogging responsibilities consisted of writing a blog post approximately twice a month for a five-month period.

Bloggers were encouraged to write reflection pieces about their experiences with smoking and pregnancy, reviews of services designed to address their needs, lists to summarize their experiences or motivations, or personal letters to express their feelings toward their support networks. Bloggers' drafted blog posts would undergo internal review by PREGNETS staff before being posted to the PREGNETS blog available to the public.

**Recruitment of bloggers.** Bloggers were recruited by posting advertisements on the PREGNETS website, Facebook, and Twitter, as well as through health-care providers. In order to be eligible, women had to be pregnant, recently pregnant (within the last six months), or thinking about getting pregnant. They also had to be a current or recent smoker (self-reported having smoked at least 100 cigarettes in their lifetime), reside in Ontario, and have access to a computer. All applicants who applied, and were eligible, became PREGNETS bloggers.

**Blogging process.** The project coordinator set up a blog page using WordPress, which was then linked to the PREGNETS website. All bloggers participated in an online training, where they learned the logistics of how to post on the PREGNETS blog and reply to comments. The expectations of being a PREGNETS blogger were that each blogger should contribute approximately seven posts, each post should be related to smoking and/or pregnancy, and should be a minimum of 250 words. Bloggers could use a pseudonym on the blog, if desired.

Bloggers could determine how much personal information they wanted to share. When bloggers found it challenging to select a blog post topic, they worked with the project coordinator to brainstorm topics for their respective posts. The project coordinator reviewed and copy edited each blog post before posting it live.

Bloggers were compensated \$65 for each written blog post. Two bloggers were unable to complete the suggested seven posts, one of which stopped posting shortly after her baby was born. The other five bloggers contributed between nine and 20 posts.

**Design.** Five of the seven women who blogged for PREGNETS were available for a follow-up survey and interview. Participants were asked to complete an online survey, which had closed-ended questions regarding their sociodemographic and smoking characteristics. Once they completed the survey, they participated in semistructured qualitative interviews over the phone about their experiences as bloggers.

Ethics approval was obtained from the Centre for Addiction and Mental Health's ethics committee dealing with evaluation studies and quality improvement projects. Informed consent was obtained from each participant prior to the survey and interviews, and participant anonymity was ensured. Participants were reassured verbally at the commencement of the interview that they could choose not to discuss a particular



issue or could stop the interview at any time. Participants consented to have the interview audio recorded and to appear in reports and publications with the assurance that they would remain anonymous. This research complied with the principles of the Declaration of Helsinki.

Participants were between 25 and 44 years old and lived in Southern Ontario, Canada. At the time of their respective interviews, all participants were postpartum; however, three of the five participants had blogged while pregnant. Three participants were smoking at the time they were interviewed, and two participants reported being smoke free or having quit within the six months prior to their interview. Table 1 describes participants' characteristics in more detail.

**Interviews.** Each woman who blogged for PREGNETS was approached individually by email to participate in an interview; five bloggers were available for follow-up. At the time of the interview, all bloggers had finished blogging for PREGNETS: four participants had written their last post within a month of being interviewed and one participant had written her last post seven months before her interview. All interviews were conducted by a coordinator with whom the

bloggers did not have an existing relationship, to encourage an open, honest conversation. Interviews followed a flexible, semistructured schedule of open questions exploring reactions to the blogging process, feedback and support received during the blogging process, the impact (if any) of blogging on their smoking behaviors, and suggestions for the improvement of the blog or blogging process. Interviews lasted between 45 minutes and one hour.

**Data analysis.** All interviews were digitally recorded and transcribed verbatim. An inductive approach to qualitative analysis<sup>37</sup> was used to code the interviews. Two qualitative researchers (NM and AN) read the transcripts, identified important themes that emerged through interviews, and developed a conceptual map. This map was used to code all interviews by a third researcher (SK). The qualitative researchers (NM and AN) reviewed SK's coding results, discussed any disagreements, and came to consensus on final results.

## Results

Bloggging about their efforts to quit smoking may have helped participants reduce their smoking and/or be smoke free. Many of the challenges they faced during the process are also experienced by anyone trying to quit smoking; however, being pregnant or postpartum presented some unique issues for the participants. In a blog post, one participant wrote about her challenges finding support programs for new moms trying to live smoke free: "Please, I'm begging of all those reading this to prove me wrong. Find a program, in any city, that could be held up as a model for supporting pregnant women and new moms in quitting and staying quit."

One participant attributed her success reducing her smoking to her experience bloggging for PREGNETS: "I was smoking a pack or more a day. And now with PREGNETS [blog], I've been down to five or ten a day." Although other participants did not explicitly credit their progress to bloggging for PREGNETS, they described some of the benefits of bloggging, as they relate to helping them live smoke free or reduce their smoking. The central elements of the participants' experiences of bloggging are presented here under the following themes: opportunity for self-reflection, practical benefits of writing, connection to peers, and support from others.

**Theme 1: opportunity for self-reflection.** One of the most salient themes that emerged from the interviews was that the bloggging process provided an opportunity for all bloggers to reflect on their smoking behaviors, reevaluate their motivations for smoking, or reinforce their existing feelings about themselves. Through the bloggging process, one blogger learned more about herself and her behaviors in social situations: "I realized that, you know, that I was basically the bad influence – or that I was the influence – or I was- I was the only one of my groups of friends." Another blogger found that writing acted as a reinforcement tool for her quitting journey: "It reminded me of the things that I may have forgotten

**Table 1.** Participants' characteristics.

	# OF PARTICIPANTS
<b>Age</b>	
25–34	3
35–44	2
<b>Pregnancy status – when started bloggging</b>	
Pregnant	3
Had given birth within the previous 6 months	1
Had a baby/child(ren) older than 6 months	1
<b>Smoking status (self-reported) when started bloggging</b>	
Heavy smoker (more than 20 cigarettes per day)	1
Moderate smoker (11–19 cigarettes per day)	1
Light smoker (1–10 cigarettes per day)	0
.... Was not a smoker or had quit within the 6 months prior	3
<b>Smoking status at time of the interview</b>	
Heavy smoker (more than 20 cigarettes per day)	0
Moderate smoker (11–19 cigarettes per day)	1
Light smoker (1–10 cigarettes per day)	2
.... Was not a smoker or had quit within the 6 months prior	2
<b>Perception of blog effectiveness on smoking behaviors</b>	
Bloggging for PREGNETS helped reduce smoking	2
Bloggging for PREGNETS helped quit smoking	2
Bloggging for PREGNETS helped remain quit	1



about, and the things that I'm capable of doing...It just kind of reinforces um the things that I can do to be successful in this journey."

**Theme 2: practical benefits of writing process.** All bloggers enjoyed the writing process, some for different reasons than others. One blogger expressed how writing was a great way to keep her hands busy, when they would otherwise be looking to hold a cigarette. Others found therapeutic benefits of writing: "It was helpful to um write things out to kinda get it off my chest." Two bloggers explicitly mentioned enjoying the structure – focused writing topics, word count, and deadlines – provided by the blogging process: "Me writing it down, making these small goals for me would actually help me, you know? Um it's a day at a time and I have to work through all the little challenges instead of ignoring them. So it's made me actually um you know, you know... look at it head on." Another blogger compared her experience blogging for PREGNETS versus writing on her personal blog site: "It was completely different in the aspect of...I didn't have a sense of the things to write about with my other blog but with the PREGNETS blog, I wrote about my kids and quitting smoking all the time and it was amazing." Having a specific purpose for her writing helped this blogger feel a sense of accomplishment and enjoyment.

**Theme 3: connection to peers.** The majority of bloggers appreciated how the blog allowed them to read other women's stories and feel connected to others in similar situations as their own. Knowing other women's experiences and insights reassured them that they were not alone: "I know I haven't met them but I like reading some of the stuff and connect with them, I guess through the process of doing it, you know? Because then knowing that I wasn't alone doing it." Being a part of the PREGNETS blogging community exposed them to supports from peers that they likely would not have found on their own: "I might not have met this person before. But just- you know just having like that 'you know what, I understand what you mean' and 'you're doing a good job!' Just that I'm not alone in this whole process."

**Theme 4: support from others.** This theme refers solely to support received from individuals in the bloggers' lives – a partner, family members, friends, and/or PREGNETS staff – and not from commenters on their blog posts. The majority of bloggers expressed having at least one form of support, which they found encouraged them during the blogging process and through their quit journeys. Most bloggers appreciated having someone to read over their blog posts and offer feedback: "My spouse—I had a lot of input from him...he has a lot to say about what should be put in my blogs and he has read over a few of them and he said that they were good." Bloggers found it rewarding to be able to share their posts with friends and family: "As soon as I told my family that I was blogging for PREGNETS, they were like 'Give us a link! Give us a link!'"

Bloggers who had a smaller support network valued the feedback received from PREGNETS staff: "I think it's because

it's given me confidence in myself. Just getting to blog and just getting some great feedback from the PREGNETS coordinators and the people working there, as well as on my blog." Bloggers felt comfortable sharing their experiences with PREGNETS staff, who were found to be nonjudgmental and encouraging.

## Discussion

This study examined the degree to which women who were pregnant or postpartum and wanted to quit smoking felt that blogging about their cessation journey would help them to become or remain smoke free. Participants perceived the blogging process to help them reduce or quit smoking; their perceptions were supported by their reported smoking status, which appeared to decrease over the course of their experience blogging for PREGNETS. One explanation for these findings is that participants experienced some of the social and personal benefits of blogging that are found to influence smoking cessation.

Women who are pregnant face unique challenges when quitting or reducing smoking, including difficulty in accessing support groups because of childcare issues, and the stigma associated with smoking while pregnant. Yet support while quitting is highly recommended to increase the success rates for quitting. Interviews with participants uncovered that the blogging process fostered support from their family, friends, fellow bloggers, and PREGNETS staff. Social support is found to be among the most important factors of a successful smoking cessation intervention<sup>38</sup> and a known benefit of blogging.<sup>39,40</sup> As supported in the literature, receiving emotional support and encouragement as a result of blogging increased participants' sense of belonging and allowed them to feel part of a community.<sup>33,41</sup>

Journaling is a recommended strategy for individuals to reflect on their tobacco use and their quitting journeys. Even though blogging has distinct features to journaling, journals are often private while blogging is public, the participants of this study commented on how blogging served as an opportunity to reflect on their smoking behaviors and how their behaviors in social situations contribute to smoking. These findings are also consistent with the studies identifying self-evaluation and self-reflection as the benefits of blogging and contributors to smoking cessation effectiveness.<sup>42</sup>

Participants also appreciated the distracting nature of the blogging process. By keeping their *hands busy*, blogging acted as a distraction for participants when they may have otherwise had a craving. Engaging in distracting activities is a common coping strategy when faced with cravings to smoke.<sup>43</sup> The ease of use and regular availability of Internet-based smoking cessation interventions, including blogging, make them effective media for distracting individuals from nicotine cravings.<sup>44,45</sup>

The results of this study suggest that blogging as a part of an online community can help women who are pregnant or postpartum gain support and confidence needed to help them quit or reduce their smoking.



## Conclusions

Blogging combines various evidence-based behavioral strategies for tobacco cessation, such as journaling and getting support from others who use tobacco. Being part of a blogging community of women who have experienced or are experiencing similar challenges can be therapeutic and help women gain confidence in their ability to change. Since bloggers have recently completed their term blogging for PREGNETS, future research should follow-up with participants to understand whether the benefits of blogging uphold over time and identify what other factors play a role in their smoking behaviors. Additional research could investigate whether the readers of the blog – individuals who visit the blog but do not actively participate – experienced any benefits or changes in their smoking behaviors.

## Limitations

One limitation of this study was the small sample size, which was limited to the number of PREGNETS bloggers who were available for follow-up. A larger group would have allowed us to examine differences in the benefits of blogging among women who were pregnant versus those who were postpartum as well as differences between women who were still smoking versus those who had already quit. Although the majority of interviews took place a few weeks following each participant's final blog post, one participant had not blogged for PREGNETS in seven months, which may have resulted in recall bias when describing her experiences blogging. Another limitation is that all bloggers reside in Southern Ontario, despite PREGNETS recruitment efforts to achieve a representative sample across the province. Given the nature of the study, women were not randomized to write blog posts versus participate in another activity; thus, there is no comparison group. Also, financial incentives may have influenced women's opinions on the blog, increased their motivations to participate, or kept them engaged throughout the blogging process.

## Author Contributions

Conceived and designed the experiments: NM, PS, JM, CL. Analyzed the data: AN, NM. Wrote the first draft of the manuscript: NM, AN, RD. Contributed to the writing of the manuscript: PS, JM, CL. Agree with manuscript results and conclusions: NM, AN, RD, JM, CL, PS. Jointly developed the structure and arguments for the paper: NM, AN. Made critical revisions and approved final version: PS. All authors reviewed and approved of the final manuscript.

## REFERENCES

1. Prescott E, Hippe M, Schnohr P, Hein H, Vestbo J. Smoking and risk of myocardial infarction in women and men: longitudinal population study. *BMJ*. 1998;316(713):1043–7.
2. Burns D. The American Cancer Society cancer prevention study I: 12-year follow-up of 1 million men and women. In: Shopland DR, ed. *Changes in Cigarette-Related Disease Risks and Their Implication for Prevention and Control*. Rockville, MD: National Cancer Institute; 1997:13–42.
3. Njolstad I, Arnesen E, Lund-Larsen PG. Smoking, serum lipids, blood pressure, and sex differences in myocardial infarction: a 12-year follow-up of the Finnmark Study. *Circulation*. 1996;93:450–6.
4. Kawachi I, Colditz GA, Stampfer MJ, et al. Smoking cessation and time course of decreased risks of coronary heart disease in middle-aged women. *Arch Intern Med*. 1994;154:169–75.
5. Paganini-Hill A, Hsu G. Smoking and mortality among residents of a California retirement community. *Am J Public Health*. 1994;84:992–5.
6. Doll R, Fray R, Hafner B, Peto R. Mortality in relation to smoking: 22 years' observations on female British doctors. *Br Med J*. 1980;280:967–71.
7. Friedman GD, Tekawa I, Sadler M, Sidney S. Smoking and mortality: the Kaiser Permanente experience. In: Shopland DR, ed. *Changes in Cigarette-Related Disease Risks and Their Implication for Prevention and Control*. Rockville, MD: National Cancer Institute; 1997:477–99.
8. U. S. Department of Health and Human Services. *Women and Smoking: A Report of the Surgeon General*. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2001.
9. Milani RV, Myers J, Ries AL. Cigarette smoking and incidence of chronic bronchitis and asthma in women. *J Cardiopulm Rehabil*. 1996;16(4):260–1.
10. U.S. Department of Health and Human Services. *The Health Consequences of Smoking: 50 Years of Progress. A Report of the Surgeon General*. Atlanta, GA: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2014.
11. Abel E. Smoking and pregnancy. *J Psychoactive Drugs*. 1989;16:327–38.
12. Buznikov G, Chudakova I, Zvezdina N. The role of neurohumours in early embryogenesis. I. Serotonin content of developing embryos of sea urchin and loach. *J Embryol Exp Morphol*. 1964;12:563–73.
13. Little J, Cardy A, Munger R. Tobacco smoking and oral clefts: a meta-analysis. *Bull World Health Organ*. 2004;82:213–8.
14. Honein M, Rasmussen S, Reefhuis J, et al. Maternal smoking, environmental tobacco smoke, and the risk of oral clefts. *Epidemiology*. 2007;18:226–33.
15. U.S. Department of Health and Human Services. *The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General*. Atlanta, GA: Department of Health and Human Services, Centers for Disease Control and Prevention, Coordinating Center for Health Promotion, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2006.
16. World Health Organization. *WHO Recommendations for the Prevention and Management of Tobacco Use and Second-Hand Smoke Exposure in Pregnancy*. Geneva: World Health Organization; 2013.
17. Brown H, Wilk P. Changes in smoking during pregnancy in Ontario, 1995 to 2010: results from the Canadian Community Health Survey. *J Obstet Gynaecol Can*. 2014;36(10):878–84.
18. The Better Outcomes Registry & Network (BORN) Ontario. *Provincial Overview of Perinatal Health 2011–2012*. Ottawa, ON: BORN Ontario; 2013.
19. Greaves L, Barr V. *Filtered policy: Women and Tobacco in Canada*. Vancouver, BC: BC Centre of Excellence for Women's Health; 2000.
20. U. S. Public Health Service. *The Health Benefits of Smoking Cessation: A Report of the Surgeon General*. Washington, DC: U.S. Public Health Service, Office of the Surgeon General & Office on Smoking and Health; 1990.
21. Schwartz R, O'Connor S, Minian N, et al. *Evidence to Inform Smoking Cessation Policymaking in Ontario: A Special Report by the Ontario Tobacco Research Unit*. Toronto: Ontario Tobacco Research Unit; 2010.
22. Stone R. Pregnant women and substance use: fear, stigma, and barriers to care. *Health Justice*. 2015;3(2):1–15.
23. United Nations. Barriers to treatment access. *Substance Abuse Treatment and Care for Women: Case Studies and Lessons Learned*. New York, NY: United Nations Office on Drugs and Crime; 2004.
24. Greaves L, Poole N, Okoli CTC, et al. *Expecting to Quit: A Best Practices Review of Smoking Cessation Interventions for Pregnant and Post-Partum Women*. 2nd ed. Vancouver, BC: Centre of Excellence for Women's Health; 2011.
25. Lumley J, Chamberlain C, Dowsell T, Oliver S, Oakley L, Watson L. Interventions for promoting smoking cessation during pregnancy. *Cochrane Database Syst Rev*. 2009;8(3):CD001055.
26. Ames SC, Patten CA, Werch CE, et al. Expressive writing as a smoking cessation treatment adjunct for young adult smokers. *Nicotine Tob Res*. 2007;9(2):185–94.
27. Kerner E, Fitzpatrick M. Integrating writing into psychotherapy practice: a matrix of change processes and structural dimensions. *Psychotherapy*. 2007;44(3):333–46.
28. Pennebaker JW. Writing about emotional experiences as a therapeutic process. *Psychol Sci*. 1997;8(3):s162–6.
29. Davison KP, Pennebaker JW, Dickerson SS. Who talks? The social psychology of illness support groups. *Am Psychol*. 2000;55:205–17.
30. Pennebaker JW, Chung CK. Expressive writing and its links to mental and physical health. In: Friedman H, ed. *Oxford Handbook of Health Psychology*. New York, NY: Oxford; 2011.
31. Dearstyne BW. Blogs: the new information revolution? *InfManageJ*. 2005;39(5):38–44.



32. Yang SU, Kang M. Measuring blog engagement: testing a four-dimensional scale. *Public Relations Rev.* 2009;35(3):323–4.
33. Brant C, Dalum P, Skov-Ettrop L, Tolstrup J. “After all – it doesn’t kill you to quit smoking”: an explorative analysis of the blog in a smoking cessation intervention. *Scand J Public Health.* 2013;41(7):661–5.
34. Toscano S, Montgomery R. The lived experience of women pregnant (including preconception) post *in vitro* fertilization through the lens of virtual communities. *Health Care Women Int.* 2009;30(11):1014–36.
35. Kornfield R, Smith K, Szczypka G, Vera L, Emery S. Earned media and public engagement with CDC’s “tips from former smokers” campaign: an analysis of online news and blog coverage. *J Med Internet Res.* 2015;17(1):e12.
36. Graham C, Rouncefield M, Satchell C. Blogging as ‘therapy’? Exploring personal technologies for smoking cessation. *Health Informatics J.* 2009;15:267–81.
37. Boyatzis R. *Transforming Qualitative Information: Thematic Analysis and Code Development.* Thousand Oaks, CA: Sage; 1998.
38. U.S. Public Health Service. A clinical practice guideline for treating tobacco use and dependence: 2008 update. A U.S. Public Health Service report. *Am J Prev Med.* 2008;35:158–76.
39. Shahab L, McEwen A. Online support for smoking cessation: a systematic review of the literature. *Addiction.* 2009;104:1792–804.
40. Cohen S. Social relationships and health. *Am Psychol.* 2004;59:676–84.
41. Westmaas J, Bontemps-Jones J, Bauer J. Social support in smoking cessation: reconciling theory and evidence. *Nicotine Tob Res.* 2010;12:695–707.
42. Cobb N, Graham A, Abrams D. Social network structure of a large online community for smoking cessation. *Am J Publ Health.* 2010;100:1282–9.
43. Shiffman S. Coping with temptations to smoke. *J Consult Clin Psychol.* 1984;52(2):261–7.
44. Frisby G, Bessell T, Borland R, Anderson JN. Smoking cessation and the internet: a qualitative method examining online consumer behavior. *J Med Internet Res.* 2002;4:E8.
45. Burri M, Baujard V, Etter J. A qualitative analysis of an internet discussion forum for recent ex-smokers. *Nicotine Tob Res.* 2006;8(suppl 1):S13–9.