

**Pregnancy and Mental Health:
A Review of Popular Pregnancy Information Sources**

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Summary

The aim of this project was to examine the information being made available to Canadian women through popular pregnancy information sources. In particular, our research sought to identify information relating to mental health conditions and their treatment during pregnancy. The review sought to assess any gaps in information, as well as the extent of concordance or discordance between public information and current medical literature. 31 English- and French-language magazines and 10 English- and French-language websites were selected and reviewed. Very limited information on mental health conditions and treatment options during pregnancy was found in the sources surveyed. In particular, the review found a significant lack of information on risks related to psychotropic drug use in pregnancy. The information presented was often incomplete, and varied widely across sources. This inconsistency may create significant confusion for women seeking information about the treatment of mental health conditions during pregnancy. This report concludes with recommendations to promote the availability of more comprehensive and evidence-based public information in order to support women in making informed health care decisions.

Introduction

The use of medication during pregnancy is a complex and difficult issue, both because of the unique maternal-foetal relationship, and because of the lack of reliable research findings in this area. Tragic past experiences with thalidomide and DES have underlined the need for caution when assessing and interpreting the risks of drug use during pregnancy. It is well recognized that the developing foetus is affected by all manner of substances ingested by the mother, as many of these can easily cross the placental barrier. In most cases, exposures are particularly critical during the first trimester, when organ development occurs and teratogenic risk is highest. Nevertheless, some women may require treatment for ongoing serious health conditions or for new health problems encountered during pregnancy. The reality of unplanned pregnancy also means that women may conceive while taking medication, leading to accidental exposure.

Research on pregnant women raises a unique set of ethical concerns and constraints and this has resulted in a lack of reliable evidence on the safety and effectiveness of drug use during pregnancy. The result of this uncertainty is a difficult balancing act that requires respect for individual women's choices and circumstances. It further underscores the importance of providing accurate public information about potential risks and benefits of medications, and about the limitations of current knowledge.

A number of mental health problems may arise during or shortly after pregnancy. These include depression, postpartum depression, anxiety, insomnia, and postpartum psychosis. Women may also have ongoing mental health conditions such as depression, anxiety disorders, psychotic disorders and schizophrenia. In seeking treatment, pregnant women with mental health problems face difficult decisions regarding psychotropic drug use during pregnancy. As with all treatment decisions, the potential for harm, to either the

woman or the foetus, from drug exposure must be balanced against the potential for benefit in treating what may be a serious condition.

The lack of reliable evidence on the safety of drug use during pregnancy further compounds these difficulties. In the case of depression, a systematic review currently underway by Barbara Mintzes and Jon Jureidini has highlighted concerns about the evidence-base in relation to SSRI (selective serotonin reuptake inhibitor) antidepressant use during pregnancy. Significant controversy surrounds both the effectiveness and safety of this group of drugs in non-pregnant adults and in children. This class of drugs includes Prozac (fluoxetine), Paxil (paroxetine), Zoloft (sertraline), Celexa (citalopram), and similar alternatives. Mintzes and Jureidini's preliminary research found a degree of discordance between the full range of medical literature, and what appears to be the "common wisdom" about the use of these drugs during pregnancy. For example, review articles for family physicians often stress the danger of untreated depression in pregnancy.

In response to these concerns, the Women and Health Protection (WHP) Pregnancy and Mental Health project was developed to examine the information available to the Canadian public through popular pregnancy information sources. In particular, our research sought to identify the main messages that pregnant women are receiving from popular media on a range of mental health issues and treatment options in pregnancy. The project surveyed pregnancy-focused websites and magazines and was attentive to information provided about psychotropic drug use in pregnancy. Our objective was to determine the extent, if any, of the discordance between public information and current substantiated medical literature on this topic. Our starting assumption is that the availability of comprehensive and evidence-based information is a necessary prerequisite to supporting women in making informed decisions about drug use during pregnancy.

Methodology

Consultation with health providers

In developing this research study, informal discussion was undertaken with health providers in order to gain a sense of practical issues in this area, and concerns voiced by pregnant women. The primary researcher spoke with a convenience sample of 5 Canadian midwives, family doctors, obstetricians and social workers in order to hear their perspectives about mental health issues and antidepressant use during pregnancy. This information was later taken into consideration when developing the study objectives and the data collection tool.

Selection of magazines and websites

31 English- and French-language magazines and 10 English- and French-language websites were selected for review.

Magazines

The magazine titles were selected on the basis of their circulation rates in Canada and their relevance to pregnant women.^a Magazines targeting a female consumer audience and related to pregnancy were considered relevant. Canadian and American publications were included as these were both found to be available to – and popular with – a Canadian audience. We consulted with reference librarians at the Metro Toronto Reference Library as well as faculty within the University of Toronto’s Faculty of Information Studies to assist us in ensuring that our title selections were representative and appropriate. A quick scan of top titles was made to determine if mental health issues, in general, were covered. If they were not, these were deleted from our list of possible titles. Use was also made of periodical indexes (such as Ulrich's Periodicals Directory - www.ulrichsweb.com/ulrichsweb) to determine availability and circulation rates within Canada.

It is a distinctive feature of popular magazines about pregnancy that women’s interest in them is time-limited (i.e., they are not – for the most part – read for more than a period of one year). As a consequence, some publishers repeat the same article in subsequent years of a publication. This influenced our magazine selection decisions as we wanted to avoid analyzing issues of magazines with duplicate articles.

Another factor that challenged our decisions in magazine selection is the multiple routes through which women come to them. Some magazines about pregnancy are sold on newsstands; others are only distributed through doctors’ offices, prenatal classes, midwifery clinics, or offices of public health. Some are not stand-alone products but, for example, might accompany another publication within a plastic wrapper (e.g., the quarterly magazine, “Today’s Parent: Pregnancy and Birth” for some years was packaged jointly with the monthly publication, “Today’s Parent,” and sold on newsstands). In addition, we discovered that not all publishers of the magazine titles we selected carried back issues of their publications, leading us to seek them out from public libraries and archives, where we often found spotty collections, at best.

Given all these caveats and challenges, we were sometimes forced to make arbitrary, although nonetheless systematic, decisions about the titles we ultimately used. Once those decisions were made, back issues were not always available and we were left performing our analysis based largely on availability; issues we were able to secure were included for analysis. Back issues of each magazine title were obtained from public and university libraries and archives, health centres, bookshops and publishers. Issue dates ranged from April 2005 to March 2009. A total of 8 English-language magazines (comprising 19 issues) and 2 French-language magazines (comprising 12 issues) were selected. French-language magazines were included, despite lower circulation rates, in

^a There is another related category of popular publications for women that deals with mental health issues and pregnancy and that is the small class of magazines about infertility and getting pregnant. We chose not to look at this group of magazines (and websites) because this audience is sometimes targeted within general pregnancy magazines as well. In fact, it may have proved to be a rich source of information and might be considered by others interested in studying the issue.

order to ensure a representative sampling of popular magazines read by Canadian women. For a complete list of selected magazines, see Appendix 1.

Websites

The Google, Yahoo and MSN live search engines were used to generate a list of most frequently visited websites providing pregnancy and mental health information to Canadian women. The search terms used for English websites included “pregn” or “pregnant/pregnancy” and each of the following; “health,” “health information,” “depression,” “mental health,” “anxiety,” “sleep,” “drugs,” “medications,” “antidepressants,” “Paxil,” “Prozac,” “Effexor,” “Zoloft,” “moodiness.” This process was repeated by a second researcher to ensure that the sites found in the original search were representative of what a pregnant woman might encounter. A similar search was conducted for French-language websites.

The top 15 sites identified in the English and French searches were reviewed, as well as an additional 2 sites suggested by members of the project team and pregnant women. Sites were assessed on the basis of their intended audience, content and relevance. 10 websites were selected, including 8 English-language websites and 2 French-language websites. For a complete list of websites, see Appendix 2.

While our sources were identified using popular information-seeking strategies, it is difficult to determine how pregnant women find mental health information and which sources they are actually using. More direct research is needed to investigate information-seeking behaviour among women in Canada, and specifically among those who are pregnant. Current studies on this subject suggest that the routes by which individuals seek information vary considerably, and may be influenced by factors such as class, gender, ethnicity, access to resources and social capital.¹ With increasing accessibility, the internet has become an important source of health information – along with concurrent concerns relating to reliability – as studies show that patients regularly use the internet to collect information and make treatment decisions.²

Data gathering

A data gathering tool was developed to collect information relating to pregnancy and mental health from the selected sources. Due to differences in format, the tool was modified into separate grids for print and online material. Questions focused on 9 distinct areas, including magazine/website information, coverage of mental health issues, information about treatment options, information on the use of medications during pregnancy, information on the potential effects of mental health drugs, the balance between potential harm and the benefits of drug use, pharmaceutical advertising, safety advisories, and general coverage of mental health issues.

In terms of scope, the mental health conditions investigated included depression, anxiety, insomnia, substance use, phobias, bipolar disorder, mood disorders, psychotic disorders, ADD/ADHD, and schizophrenia. Any mention^b of these conditions, as well as

^b We included any mention of these conditions within the source analysed (e.g., ads, FAQs) not exclusively full articles.

information about mental health conditions, treatment options, and risks of treatment, was recorded. The main focus of the research was on the pregnancy period, although trends were recorded for any information found in the pre-conception period as well as the postpartum period, insofar as these related to the pregnancy period. For this reason, information on postpartum depression was also collected.

A pilot test involving 4 magazines and 2 websites was conducted in order to ensure that the data collected by all coders was consistent. Data gathering and coding was undertaken by the primary researcher and 3 research assistants. The research assistants were trained by the primary researcher and their trial analyses were reviewed before proceeding. Final data was collated and analyzed by the primary researcher.

Current Medical Literature

Recent studies have found an increase in the rate of antidepressant use during pregnancy, particularly in North America.³ Research in British Columbia has also suggested that women of childbearing age are among the most frequent users of SSRIs.⁴ In the context of unplanned pregnancy, early pregnancy exposure becomes a key area of concern for women.

Another area of concern is the expanding definition of depression. There is no question that severe clinical depression is a real and serious disease. However, sadness is a normal and healthy response to many life situations, as are stress and anxiety.⁵ Women are often overstressed because they play multiple roles and face systemic pressures, such as lack of childcare, inadequate housing, poverty, and violence.⁶ In addition, mood swings may occur as a result of normal hormonal changes that women experience in relation to life cycle events such as menstruation, pregnancy, lactation and menopause. Reports have noted that these normal emotional reactions to internal and external stressors have increasingly come to be labelled as medical disorders.⁷ As this type of labelling makes its way into popular information sources, women's understanding of their mental health and wellbeing is increasingly influenced.

Risks

Recent studies have found increasing evidence of potential risks associated with SSRI antidepressant use during pregnancy. For example, newborns exposed to SSRI antidepressants in utero during the third trimester may suffer withdrawal symptoms at birth.⁸ These symptoms range from mild to severe, and include agitation, muscle rigidity, feeding difficulties, respiratory distress, seizures, and constant crying. Both Health Canada and the FDA have issued warnings about the use of SSRI antidepressants during the third trimester of pregnancy because of these findings.⁹

There is also evidence of a link between SSRI antidepressant use during pregnancy and a higher risk of birth defects, as well as potential long-term harmful health effects. Studies found an increase in the rate of cardiac malformations in infants whose mothers took Paxil (paroxetine) during early pregnancy.¹⁰ Antidepressant use has been linked to a higher rate of malformations generally,¹¹ to lower than average birth weight,¹² and to

higher rates of respiratory distress at birth.¹³ Persistent pulmonary hypertension of the newborn has been found in infants exposed to SSRIs in late pregnancy.¹⁴ Studies have also examined the potential risk of long-term developmental and behavioural effects.¹⁵ Health Canada safety advisories have been issued in relation to both the risk of cardiac malformations and the risk of persistent pulmonary hypertension of the newborn.¹⁶

Additional considerations

A range of studies have examined the effects of maternal stress and mental health on birth outcomes. Evidence has suggested that babies of severely depressed mothers seem to do less well than other babies. Untreated depression has been linked to obstetric complications and adverse outcomes such as a higher rate of caesarean sections, low birth weight, preterm birth, prolonged hospital stays, and feeding difficulties.¹⁷ It should be noted, however, that some studies, such as that by Lundy et al., compare women with depression to women without depression.¹⁸ One concern with this methodology is the failure to compare the effects of untreated depression with the effects of treated depression. A study by Oberlander et al. has addressed this question, comparing birth outcomes in women without depression, in women with untreated depression, and in women with treated depression.¹⁹ While birth outcomes for women with untreated depression were worse than those for women without depression, outcomes in the treated depression group were worse than those in the untreated group. Negative effects in infants exposed to SSRIs included low birth weight and respiratory distress. Oberlander's results call into question the assumption that because babies of mothers with a psychiatric diagnosis of depression do worse, on average, than babies of mothers who are not depressed, antidepressant treatment would improve outcomes. These findings underline the need for further research and careful interpretation of current literature in this area.

Other important considerations include suggestions of a link between postpartum depression and depression during pregnancy, as well as the risks of abrupt discontinuation of drugs. Studies have shown that depression in pregnancy increases the risk of postpartum depression.²⁰ Postpartum depression is a distressing experience for new mothers, and can adversely affect mother-infant interaction, infant attachment, and child development.²¹ Women discontinuing antidepressants have also been reported to experience withdrawal effects and face a risk of depression relapse.²² These data need further confirmation.

Concerns regarding effectiveness

The choice to treat depression in pregnancy with SSRIs, despite risks, rests on an assumption of benefit. Recent research, however, has questioned the effectiveness of SSRI antidepressants in treating depression. Two meta-analyses of anti-depressant trials both highlighted the limited evidence of effectiveness versus placebo, and the limited evidence of effectiveness in all but severe depression.²³ Gaps in information consequently exist in relation to both the safety and effectiveness of SSRI antidepressant use during pregnancy. Mintzes and Jureidini have asked: "rather than recommending use in pregnancy because of a lack of certainty about harm, should we not opt for caution and avoid additional exposure in pregnancy until we can be more certain about benefit?"²⁴

Treatment options

A range of treatment options exist to help women deal with depression. Alternatives to antidepressant use include psychotherapy, counselling, exercise, meditation²⁵, dietary change, and light therapy (seasonally). Advocates for the safer use of prescription medications have argued that public information on the treatment of depression, particularly information aimed at pregnant women, should include information about the pros and cons of treatment alternatives. They further advocate that it should also include any evidence of how treatment alternatives compare with one another, as well as an overview of what evidence is available and where there are important gaps.

The above considerations highlight a complex picture that is infused with significant grey areas and gaps in knowledge. This poses a challenge for popular pregnancy information services that seek to provide clear and helpful information to women. Nevertheless, in light of potential risks and questions about the benefit of antidepressants, women require accurate information in order to make informed decisions about drug use during pregnancy. This means that public information must include information about risks, benefits, treatment options, and limitations in current knowledge.

Consultation with health care providers:

A number of common issues surfaced in the discussions with health care providers. They cited a general lack of information on mental health issues and SSRI use during pregnancy. They noted that the most common question asked by pregnant women in relation to antidepressant use was “is it safe for my baby?” This underlines the centrality of interest in information relating to potential risks to the foetus. Health care providers also reported women’s common feelings of guilt and fear in relation to antidepressant use during pregnancy. One doctor suggested that “scaring pregnant women is the national sport.” Health providers stressed the importance of helping women to balance risks for themselves and their baby on a case-by-case basis. One midwife linked this process to empowerment, explaining that “you have to dance with a woman and her particular needs - empower her, acknowledge difficulties, and welcome who she is.”

Finally, health providers raised practical difficulties, such as the need for harm reduction and the widespread lack of access to psychotherapy services. In some cases, depression may be linked to harmful behaviours, such as substance abuse, that may adversely affect maternal and child health. In these cases, different risks must be weighed in making treatment decisions or decisions to discontinue antidepressant use. In terms of treatment preferences, women have indicated a strong preference for psychotherapy over pharmacological options.²⁶ However, access to such services remains limited – both in terms of insurance coverage and service availability. One doctor maintained that half of the pregnant women on SSRIs in her care would not be on SSRIs if they had access to Cognitive Behavioural Therapy (CBT). These very real limitations affect women’s treatment options in a significant way.

The concerns expressed by health care providers highlight the importance of acknowledging women’s diverse circumstances and respecting women’s choices.

Results

Our review of pregnancy magazines and websites found very limited information on mental health issues and treatment options during pregnancy. In particular, the review found a lack of information on risks related to psychotropic drug use in pregnancy. In addition, the information provided by different sources was extremely varied. This combination of a lack of information and variability of what limited information there is suggests a potential for significant confusion among women seeking information about mental health conditions during pregnancy.

Coverage of mental health conditions

Mental health conditions were mentioned in 23 out of 31 magazines, and in 9 out of 10 websites. Depression and postpartum depression were the most commonly mentioned conditions, followed by anxiety, insomnia and substance abuse (smoking, alcohol, and illegal drug use). Less attention was paid to other mental health conditions such as ADD/ADHD, bipolar disorder, mood disorders, psychotic disorders, and schizophrenia. Table 1 shows the number of mentions per mental health condition in the magazines and websites surveyed. A mention is defined as any reference to the mental health condition in any text in the source.

Table 1: Mentions per mental health condition

Mental Health Condition	Magazines (n)	Websites (n)
Depression	9	9
Postpartum depression	12	7
Anxiety	6	5
Insomnia	3	3
Substance abuse	3	6
ADD/ADHD	0	2
Bipolar disorder	0	2
Mood disorders	0	4
Psychotic disorders/ postpartum psychosis	0	4
Schizophrenia	0	2
Number of sources where mental health conditions not mentioned at all	8	1

While the names of mental health conditions were often mentioned, there was a significant lack of information on what the conditions were, on the treatment options, and on the risks related to psychotropic drug use during pregnancy. None of the magazines surveyed provided comprehensive information on a single mental health issue. In magazines, very limited information on mental health conditions and treatment options was provided, and no information was provided on risks of psychotropic drug use. While the websites provided slightly more information, few provided comprehensive

information on mental health conditions, treatment options, and risks that might be associated with certain treatments. For example, with regard to depression, only 4 websites provided information on the condition, its treatment and treatment risks. Less information was provided on all other mental health conditions. Table 2 demonstrates the scope and coverage of mental health information in the magazines and websites surveyed. We did not assess the accuracy of the information presented, and the table below indicates only whether information was present or absent.

Table 2: Scope and coverage of mental health information

Mental Health Information	Magazines (n/%)	Websites (n/%)
Depression in pregnancy		
Condition mentioned	9 (29%)	9 (90%)
Information provided on the condition (symptoms, causes, etc.)	4 (13%)	5 (50%)
Information provided on treatment	4 (13%)	8 (80%)
Information provided on risks of treatment	0	6 (60%)
Information provided on condition, treatment AND treatment risks	0	4 (40%)
Postpartum depression		
Condition mentioned	12 (39%)	7 (70%)
Information provided on the condition (symptoms, causes, etc.)	9 (29%)	3 (30%)
Information provided on treatment	4 (13%)	2 (20%)
Information provided on risks of treatment	0	2 (20%)
Information provided on condition, treatment AND treatment risks	0	2 (20%)
Anxiety		
Condition mentioned	6 (19%)	5 (50%)
Information provided on the condition (symptoms, causes, etc.)	1 (3%)	0
Information provided on treatment	0	3 (30%)
Information provided on risks of treatment	0	3 (30%)
Information provided on condition, treatment AND treatment risks	0	0
Insomnia		
Condition mentioned	3 (10%)	3 (30%)
Information provided on the condition (symptoms, causes, etc.)	3 (10%)	1 (10%)
Information provided on treatment	2 (6%)	3 (30%)
Information provided on risks of treatment	0	2 (20%)
Information provided on condition, treatment AND treatment risks	0	0
ADD/ADHD		
Condition mentioned	0	2 (20%)

Information provided on the condition (symptoms, causes, etc.)	0	1 (10%)
Information provided on treatment	0	2 (20%)
Information provided on risks of treatment	0	2 (20%)
Information provided on condition, treatment AND treatment risks	0	1 (10%)
Bipolar disorder		
Condition mentioned	0	2 (20%)
Information provided on the condition (symptoms, causes, etc.)	0	0
Information provided on treatment	0	1 (10%)
Information provided on risks of treatment	0	1 (10%)
Information provided on condition, treatment AND treatment risks	0	0
Mood disorders		
Condition mentioned	0	4 (40%)
Information provided on the condition (symptoms, causes, etc.)	0	0
Information provided on treatment	0	1 (10%)
Information provided on risks of treatment	0	1 (10%)
Information provided on condition, treatment AND treatment risks	0	0
Psychotic disorders/ Postpartum psychosis		
Condition mentioned	0	4 (40%)
Information provided on the condition (symptoms, causes, etc.)	0	1 (10%)
Information provided on treatment	0	2 (20%)
Information provided on risks of treatment	0	2 (20%)
Information provided on condition, treatment AND treatment risks	0	1 (10%)
Schizophrenia		
Condition mentioned	0	2 (20%)
Information provided on the condition (symptoms, causes, etc.)	0	0
Information provided on treatment	0	0
Information provided on risks of treatment	0	0
Information provided on condition, treatment AND treatment risks	0	0

Understanding mental health conditions – information on causes

Information on mental health conditions themselves was limited. For example, 9 magazines and 9 websites mentioned depression during pregnancy, but only 4 magazines and 5 websites provided information on the symptoms and/or causes of depression. Where this information was provided, it was inconsistent across the sources: we found depression during pregnancy attributed to an array of causes ranging from hormonal or

biological causes, to genetic links, to external stressors such as stressful life events, lack of partner or family support, and work and financial difficulties. Table 3 demonstrates the range of information on causes of depression found in the magazines and websites surveyed.

Table 3: Information on causes of depression

Causes of depression	Magazines (n=9)*	Websites (n=9)*
Biological/hormonal	3	5
Genetic	-	3
External (e.g., stressful life events, lack of partner or family support, work and financial difficulties).	4	6
No information	5	4

** Some articles mentioned more than one cause.*

Treatment options

Information on a range of treatment options was found in the magazines and websites surveyed. Pharmacological treatments were the most commonly mentioned. Information was also found on non-pharmacological alternatives, such as psychotherapy/counselling, support groups, lifestyle changes (diet and exercise), light therapy, acupuncture, homeopathy, Omega 3 supplements, St-John's Wort, aromatherapy, and reflexology. However, the information on these options was more limited and less frequent. In general, there was more information on treatment options on websites and less in the magazines surveyed. With regard to depression in particular, medication was the most common treatment option mentioned. Information on alternative options was mentioned, but less information about the full range of alternative treatment options for depression was provided. Tables 4 and 5 demonstrate the range of treatment options mentioned in magazines and websites by mental health condition.

Table 4: Range of treatment options covered in magazines by mental health condition

Mental health condition	Pharmacological	Non-pharmacological										
	Medication	Psychotherapy / Counselling	Support groups	Lifestyle (diet, exercise)	Light therapy	Acupuncture	Homeopathy	Omega 3 supplements	St-John's Wort	Aromatherapy	Reflexology	Other
Depression (n=9)	5	1	-	-	3	1	1	3	-	-	-	-
Postpartum depression (n=12)	2	-	3	-	-	1	1	-	-	-	-	2
Anxiety (n=6)	-	-	-	-	-	-	-	-	-	-	-	-
Insomnia (n=3)	-	-	-	1	-	-	-	-	-	-	-	2
ADD/ADHD (n=0)	-	-	-	-	-	-	-	-	-	-	-	-
Bipolar disorder (n=0)	-	-	-	-	-	-	-	-	-	-	-	-
Mood disorders (n=0)	-	-	-	-	-	-	-	-	-	-	-	-
Psychotic disorders/ postpartum psychosis (n=0)	-	-	-	-	-	-	-	-	-	-	-	-
Schizophrenia (n=0)	-	-	-	-	-	-	-	-	-	-	-	-

Table 5: Range of treatment options covered in websites by mental health condition

Mental health condition	Pharmacological	Non-pharmacological										
	Medication	Psychotherapy / Counselling	Support groups	Lifestyle (diet, exercise)	Light therapy	Acupuncture	Homeopathy	Omega 3 supplements	St-John's Wort	Aromatherapy	Reflexology	Other
Depression (n=9)	7	6	1	3	-	-	-	2	1	1	1	2
Postpartum depression (n=7)	2	1	-	2	-	-	-	1	1	-	-	1
Anxiety (n=5)	4	3	-	-	-	-	-	-	-	-	-	2
Insomnia (n=3)	3	1	-	2	-	1	-	-	-	1	-	2
ADD/ADHD (n=2)	2	1	-	-	-	-	-	-	-	-	-	-
Bipolar disorder (n=2)	1	-	-	-	-	-	-	-	-	-	-	-
Mood disorders (n=4)	1	-	-	-	-	-	-	-	-	-	-	-
Psychotic disorders/postpartum psychosis (n=4)	2	-	-	-	-	-	-	-	-	-	-	1
Schizophrenia (n=2)	-	-	-	-	-	-	-	-	-	-	-	-

Use of medication in pregnancy - risks

Very limited information was found on the risks of using medication in general during pregnancy. Of the magazines and websites surveyed, only 4 magazines and 7 websites mentioned the possibility of risks associated with the use of medications generally during pregnancy.

In the 5 magazines and 7 websites that discussed depression and antidepressant use during pregnancy, a marked lack of information on risks was noted. All 5 magazines that discussed or recommended antidepressant use did not mention any associated risks. With regard to websites mentioning or recommending antidepressant use, the risk information provided by websites was limited and generally not comprehensive. Seven websites mentioned the risk of withdrawal symptoms in newborns, 5 mentioned the risk of birth defects generally. Only 3 websites mentioned the risk of cardiac malformations and only 2 mentioned the risk of persistent pulmonary hypertension of the newborn. No specific information was provided on pre-conception risks or exposure during early pregnancy. Table 6 provides an overview of the risks associated with the use of antidepressants in pregnancy in the magazines and websites surveyed.

Table 6: Risks associated with the use of antidepressants in pregnancy

	Magazines (n=5)	Websites (n=7)
Withdrawal symptoms	-	7
Birth defects generally	-	5
Cardiac malformations	-	3
Respiratory problems	-	1
Persistent pulmonary hypertension	-	2
Low birth weight	-	-
Long-term developmental or behavioural effects	-	3
Specific reference to pre-conception risks/ exposure during early pregnancy	-	-
Other	-	1 (addiction), 1 (miscarriage), 1 (central nervous system toxicity)

Safety advisories

Safety advisories have been issued by Health Canada in relation to SSRI antidepressant use during pregnancy. These advisories have highlighted the risk of neonatal withdrawal symptoms, the risk of cardiac malformations associated with paroxetine exposure during pregnancy, and the risk of persistent pulmonary hypertension of the newborn.²⁷

A significant lack of reference to Health Canada safety advisories was found in the sources surveyed. In all the sources reviewed, only 3 websites mentioned Health Canada safety advisories. One of these was the Health Canada website itself. Of the remaining two mentions, one site included a critical mention of a Health Canada advisory warning regarding the risk of cardiac malformations linked to paroxetine exposure. This site questioned the evidence upon which the advisory was based. The other site mentioned Health Canada safety warnings relating to withdrawal symptoms and congenital defects.

The Risk/benefit Balance

Nine magazines and 9 websites mentioned depression during pregnancy. Of these, 5 magazines and 7 websites discussed antidepressant use. Our review of these sources sought to identify the main recommendations relating to antidepressant use during pregnancy. This can be understood as the position taken on the balancing of risks versus benefits of antidepressant use during pregnancy. The results indicate a range of positions in the information surveyed, with an emphasis on the recommendation of medication.

Table 7 indicates the range of positions taken by different sources on the risk/benefit balance of antidepressant use during pregnancy. The first category, “Better to take medication,” includes a range of recommendations, from the assertion that it is better to

take antidepressants because they are very safe, to the position that it is better to take medication in the event of severe depression.

Table 7: Positions taken on balancing risks versus benefits of antidepressant use during pregnancy

	Position taken			
	Better to take medication	Non-pharmacological options recommended	Non-pharmacological options recommended as first step, medication only if necessary	No position taken
Magazines (n=5)	4	-	1	-
Websites (n=7)	5	1	-	1

Decision-making process

Many of the sources surveyed recognized that psychotropic drug use during pregnancy is a decision to be made by individual women with the help of their doctors or midwives. Most identified important roles for both women and health care providers in this decision-making process. In some cases, however, language surrounding this decision making was described as patronizing and directive.

Pharmaceutical advertising and sponsorship

Our analysis looked at whether advertising by pharmaceutical manufacturers might in any way influence content within the sources studied^c. Our review of pharmaceutical advertising found that conflict of interest was not a major issue in the magazines and websites surveyed. No pharmaceutical advertising for mental health drugs was found. In the magazines surveyed, some pharmaceutical advertisements for prenatal vitamins, infant fever, colic and teething medications, and the rotavirus vaccine were found. In the websites surveyed, some pharmaceutical advertisements for baby soothing products and medications were found.

Discussion

Our results reveal a significant lack of information on mental health issues and treatment options during pregnancy. The review found a marked lack of information on the risk of medications in general during pregnancy, as well as a lack of information on the risk of psychotropic drug use and antidepressant use in particular during pregnancy. Information on mental health issues, treatment options and risks was extremely varied across sources.

^c In this research, we did not consider whether conflict of interest might also be an issue for supplement or other non-pharmaceutical manufacturers. Our interest was exclusively in prescription drugs.

This wide variation and lack of information suggests significant confusion for women seeking information about mental health issues during pregnancy.

Information on mental health conditions

Both the lack of information on mental health conditions and the lack of consistency in the information provided suggest the need for more and clearer publicly available information on depression and other mental health conditions. In particular, given concerns relating to the expanding definition of depression, women need clear information that allows them to distinguish normal hormonal changes, mood changes, and reactions to life events from clinical depression. Cases of depression can range from mild to severe and women suffering from depression need to be informed about the range of potential symptoms, as well as the range in depression severity. Frequent references to external causes of depression highlights the need for social supports for women, particularly those who are pregnant. Stressors such as economic difficulties, violence and abuse, and lack of partner or family support may trigger depressive symptoms and clinical depression. However, these causal links suggest important underlying social problems that require broader remedies, programs, and prevention efforts at a societal level.

Treatment options

Where treatment options were mentioned, pharmacological treatments were the most commonly recommended. Information on alternative treatments and therapies was more limited and less frequent. With regard to depression in particular, medication was the most common treatment option mentioned, while less information was provided about the full range of alternative treatments options. (Psychotherapy, counselling, support groups, lifestyle changes such as diet and exercise, and alternative therapies remain important options that women should be aware of.) More substantive research is needed to assess the effectiveness of alternative treatment options. Nevertheless, given the risks associated with psychotropic and antidepressant use, in particular during pregnancy, alternative therapies may offer options to consider that involve less risk. The results of our review suggest a need for more public information on treatment options for mental health conditions generally, as well as more public information on alternative and non-pharmacological treatment options.

Use of medication in pregnancy - risks

Very limited information was found on the risks of using medication in general – that is, the use of any kind of medication - during pregnancy. Of all the sources surveyed, only 4 magazines and 7 websites associated risks with the use of medications in general during pregnancy.

A further serious concern is the marked lack of information specifically on the risks of psychotropic and antidepressant use during pregnancy. As outlined in the introduction to this report, a variety of risks have been associated with SSRI antidepressant use during pregnancy. Health Canada has issued safety advisories regarding the risk of neonatal withdrawal symptoms, the risk of cardiac malformations associated with paroxetine exposure during pregnancy, and the risk of persistent pulmonary hypertension of the

newborn.²⁸ None of the magazines surveyed included any reference to these risks. All 5 magazines that discussed or recommended antidepressant use during pregnancy failed to mention associated risks. While some risk information was provided by websites, this information was found to be limited and generally not comprehensive. Information on risks was patchy, extremely varied, and confusing. Seven websites mentioned the risk of withdrawal symptoms in newborns and 5 mentioned the risk of birth defects generally. Only 3 websites mentioned the risk of cardiac malformations and only 2 mentioned the risk of persistent pulmonary hypertension of the newborn. In view of Health Canada's warnings regarding these specific risks, there appear to be important gaps in public information on the risks of antidepressant use during pregnancy. Furthermore, no specific information was provided on pre-conception risks or exposure during early pregnancy, which may be a key area of concern for women.

Information on risks was identified as the number one question asked by pregnant women. The health providers that we spoke with in our initial consultation cited "is it safe for my baby?" as the most common question asked by women considering antidepressant use during pregnancy. As such, this question should be prioritized, rather than avoided, by media sources providing information to pregnant women. Our review suggests that in terms of public information, women currently face confusing and mixed messages regarding the safety of mental health drugs during pregnancy. Accurate and comprehensive public information remains critical to women seeking to make informed decisions about mental health treatment during pregnancy.

Safety advisories

Safety advisories have been issued by Health Canada in relation to SSRI antidepressant use during pregnancy. These advisories have highlighted the risk of neonatal withdrawal symptoms, the risk of cardiac malformations associated with paroxetine exposure during pregnancy, and the risk of persistent pulmonary hypertension of the newborn.²⁹ The purpose of these advisories is to inform the public of safety concerns. Popular media sources, such as the magazines and websites that we surveyed, constitute an important source of information for pregnant women. It is of significant concern that these sources do not accurately reflect important health warnings issued by the national health body. Improved reference to Health Canada safety advisories in popular pregnancy information sources would help to ensure that women remain fully informed about drug risks that may be relevant to their decision making.

The Risk/benefit Balance

Our review noted a range of positions on the risk/benefit balance with respect to antidepressant use during pregnancy, with a bias toward the recommendation of medication. The variety of positions across sources highlights the confusion and multiple messages that women face. Some advocate a need to respect this balancing of risks versus benefits as a process that each woman must do on an individual basis. This decision may be informed by personal circumstances, severity of depression, sources or absence of external support, success with counselling or other methods, availability of alternative options, and personal needs and preferences.

Decision-making process

Many of the sources surveyed recognized the use of psychotropic drug use during pregnancy as a decision to be made by individual women with the help of their doctors or midwives. Most identified important roles for both women and health care providers in this decision-making process. In some cases, language surrounding this decision making was described as patronizing and directive. This approach is troubling, as information being made available to the public serves an important function of empowering women to make healthy and informed decisions. These cases, although in the minority, highlight the need to ensure that women's health information remains woman-centered and respects women's individual choices.

Pharmaceutical advertising and sponsorship

Conflict of interest was not identified as a major concern in the magazines and websites surveyed. No pharmaceutical advertising for mental health drugs was found.

Conclusion

Our findings suggest that popular media sources provide very limited information on mental health conditions and treatment options during pregnancy. A key concern is the marked lack of information on the risks of medication in general during pregnancy, as well as the lack of information on the risks of psychotropic drug use and antidepressant use in particular during pregnancy. The majority of sources surveyed failed to reflect Health Canada safety advisories relating to antidepressant drug use during pregnancy. Given past experiences of teratogenic effects, as well as the limitations of current evidence on psychotropic drug use during pregnancy, caution and full information about risks remain important.

Our review also indicated that information on mental health conditions, treatment options and risks was extremely varied across sources. This wide variation and lack of clarity suggest significant confusion for women seeking information about mental health conditions during pregnancy. Popular media sources constitute an important source of information for pregnant women, and consequently carry an obligation to provide accurate and comprehensive information on the health conditions that they address.

Ultimately, popular pregnancy information sources serve a fundamental role in supporting and empowering women to make informed health decisions. This study has identified a number of important gaps in public information relating to mental health issues, treatment, and drug risks during pregnancy. We hope that this knowledge can be used to generate awareness, motivate changes and ensure more comprehensive access to information about psychotropic drug use during pregnancy.

WHP Recommendations

Recommendations regarding public information

Our review has highlighted the need for more comprehensive public information on mental health conditions, treatment options and risks of drug use during pregnancy.

- Health Canada should provide guidance and draft a document with comprehensive information on this topic. This document should be developed in consultation with a wide range of individuals and groups, including pregnant women, midwives, doctors, social workers and other health care providers. The guidance should include information on a range of mental health conditions, including depression, anxiety, ADD/ADHD, bipolar disorder, mood disorders and psychotic disorders. It should include information on a range of treatment options, including pharmacological and non-pharmacological alternatives. Non-pharmacological treatment options may include psychotherapy, counselling, lifestyle changes (diet and exercise), meditation, light therapy, and alternative therapies. The guidance document should include a comprehensive and evidence-based summary of current knowledge regarding risks associated with psychotropic drug use during pregnancy. This document should be aimed at and made accessible to pregnant women.
- Information in popular pregnancy information sources, that is websites and magazines aimed at pregnant women, should be monitored and assessed at regular intervals to ensure that all sources of funding and conflicts of interest are transparent. In particular, information relating to the use of medication during pregnancy should be subject to review to ensure that it corresponds with current Health Canada guidance on drug risks and safety. Consideration should be given to the development of a ‘quality seal’ for sources and sites that meet appropriate criteria.
- The issue of risks associated with the use of medication during pregnancy has been identified as a key area of concern for women. Information on this topic should be prioritized in relevant public information that deals with the use of medication during pregnancy. The provision of comprehensive and accurate information on the risks of medication in general, as well as psychotropic and antidepressant use in particular, should be prioritized to the extent that this information is available. Information on any risks associated with the use of natural therapies during pregnancy should also be made available.
- Health Canada safety advisories that relate to the safety of medications during pregnancy should be made more accessible to women. This may be achieved by broader distribution, by including this information in health information made available at antenatal clinics, and by arranging for safety advisories to be more broadly publicized. The latter may be promoted through the development of communications strategies aimed specifically at popular pregnancy information

sources. Pharmacists should be engaged in a more active role in publicizing and disseminating safety advisories.

- Health Canada guidance on women's health issues, including issues related to pregnancy and mental health, should promote the role of women as decision-makers. Health Canada should ensure that information on the use of medications during pregnancy is presented in a woman-centered manner that respects individual women's choices.

Recommendations regarding the creation of a pregnancy exposure registry web listing

- Health Canada should establish a website or page dedicated to the topic of medication use during pregnancy. This site should include lists of all ongoing pregnancy exposure registries and information for women about the use of medication during pregnancy. Pregnancy exposure registries are conducted by pharmaceutical manufacturers, academic institutions and non-profit organizations. A pregnancy exposure registry is a prospective observational study that examines foetal risk from medication exposure during pregnancy. Pregnant women already taking medication are enrolled and foetal outcomes are reported, with follow-up periods to record any birth defects or developmental abnormalities that are detected later in life. The US FDA Office of Women's Health has developed a similar website that includes a website list of all known ongoing pregnancy exposure registries. A Canadian equivalent would assist researchers, health care providers, and women in accessing comprehensive information on the use of specific medications during pregnancy.³⁰

Recommendations regarding access to mental health services and treatment

- There is a pressing need to improve women's access to mental health services and non-pharmacological treatment options, such as psychotherapy and counselling. In consultation and co-operation with provincial ministries of health, Health Canada should commission research to examine mental health needs in pregnancy, and mental health service issues across Canada. This research should be developed in consultation with a wide range of individuals and groups, including pregnant women, midwives, doctors, social workers and other health care providers. The aim of the research should be to explore regional differences and needs, to identify gaps in service provision, and to recommend changes to improve the provision of mental health services for pregnant women. Health Canada should work collectively with provincial and territorial governments to improve access to mental health services, particularly psychotherapy and counselling.

Recommendations regarding the need for broader social programs and intervention

- Health Canada should work with other federal government departments and provincial and territorial governments to develop social programs and

intervention strategies to address social causes of women's distress and poor mental health. These causes include poverty, sexual violence, domestic abuse, inadequate housing, lack of childcare, lack of support, discrimination, and social inequalities. Pregnant women experiencing mental health problems related to social stressors should be given priority access to support programs and interventions.

- Health Canada should commission research into these social problems, and organize a Canada-wide conference where researchers, health and social care providers, and government representatives could meet to discuss challenges, share strategies and develop recommendations for federal and provincial/territorial initiatives to address these issues.
- Finally, the Mental Health Commission of Canada should apply a gender-based analysis to all its work and integrate particular considerations relating to women in pregnancy.

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Appendices

Appendix 1: Selected Magazines

Pregnancy for the Well Rounded Woman

Issues: Nursery 2008
February 2009
March 2009

Parents Canada: Expecting

Issues: Spring 2008

Parents Canada Expecting: A Pregnancy Guide

Issues: Spring 2008
Fall 2008

Parents Canada: C'est pour quand?

Issues: Hiver 2006
Hiver 2007
Hiver 2008
Été 2008

Today's Parent Pregnancy

Issues: Fall 2008
Spring 2008
Winter 2008

Fit Pregnancy

Issues: June/July 2008
October/November 2008
February/March 2009

Today's Parent: Pregnancy and Birth

Issues: Winter 2006
Autumn 2007
Winter 2007

Pregnancy

Issues: August 2008
October 2008
November 2008

Mom-to-be

Issues: Fall/Winter 2009

Parents

Issues: Avril 2005
Mars 2006
Avril 2007
Février 2008
Juin 2008
Août 2008
Octobre 2008
Décembre 2008

Appendix 2: Selected Websites

BabyCenter Canada: www.babycentre.ca/

Motherisk: www.motherisk.org/women/index.jsp

Women's Health Matters: <http://womenshealthmatters.ca/>

Centre for Addiction and Mental Health (CAMH): www.camh.net/

Health Canada: www.hc-sc.gc.ca/index-eng.php

Public Health Agency of Canada (PHAC): www.phac-aspc.gc.ca/

Baby Zone: www.babyzone.com

Massachusetts General Hospital Centre for Women's Mental Health:
www.womensmentalhealth.org

Meilleur départ: www.sante-avant-grossesse.ca/

Maman pour la vie: www.mamanpourelavie.com/

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