

# A SURVEY OF WOMEN'S ATTITUDES CONCERNING HEALTHY LIFESTYLE CHANGES PRIOR TO PREGNANCY

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## ABSTRACT

### Background

In recent years there has been a concerted effort to educate women of child bearing years on the benefits of a healthy lifestyle before becoming pregnant, to ensure the best possible conditions for their baby. This has included large-scale public health campaigns to make women aware of the benefits of taking folic acid prior to pregnancy.

### Objectives

To examine women's attitudes towards their health, focusing on lifestyle changes prior to pregnancy.

### Method

A telephone survey was conducted by Ipsos Reid with a sampling of 300 women between the ages of 18-44, who were recently (within 6 years) or currently pregnant. The women were asked about their lifestyle changes including their awareness and folic acid use prior to pregnancy.

### Results

70% of the women polled stated they made periconceptional lifestyle changes which included giving up alcohol, cutting down or quitting smoking, improving their diet and taking folic acid. However, only 51% of the women planning a pregnancy took folic acid prior to becoming pregnant. Health professionals were seen as the most effective information source in convincing women to make these health changes. 72% of the women who planned a pregnancy had also decided to breast feed their babies prior to becoming pregnant. The women also felt that men should also effect lifestyle changes.

### Conclusion

Women are concerned about their health decisions prior to pregnancy and are making changes accordingly. However, despite the many public health campaigns and women's knowledge about taking folic acid, more women planning a pregnancy should be taking folic acid.

**Key Words:** *Prenatal, periconceptional, pregnancy, lifestyles, folic acid*

In the past few years, the population at large has been encouraged to take charge of their own health with ever increasing amounts of information available to consumers. Consequently, women have become more aware of the importance of a healthy lifestyle when having a baby. When a woman opens a magazine, reads a newspaper, watches television, or logs on to the internet, she is bombarded with vast amounts of information, which can cause difficulty in making appropriate decisions

concerning her lifestyle prior to and during pregnancy. An important evidence-based discovery in recent years, is the periconceptional use of folic acid, which was proven in several randomized controlled trials help prevent neural tube defects (NTD).<sup>1,2,3</sup> This discovery led to public health initiatives around the world to promote the use of periconceptional folic acid including fortifying flour in several countries.

While these efforts have led to an increased awareness of the benefits taking folic acid prior to

pregnancy, surveys around the world have found that despite this significant increase in awareness of the benefits, between 80-90% across studies, the number of women who are actually taking folic acid periconceptionally range from only 30-50%.<sup>4,5,6</sup> An Irish study surveying families who had a child previously with an NTD, found that even in this population although most were aware of the increased importance, only 60% actually took folate periconceptionally.<sup>7</sup> In a study in British Columbia, Canada, 71% were aware of the benefits of folate but less than 50% actually used it periconceptionally.<sup>8</sup> A recent March of Dimes survey carried out in the US, found that only 31% of women between the ages of 18 and 45 who are not currently pregnant, take a daily multivitamin containing folic acid. This despite the fact that 80% of all women of childbearing age who were surveyed, stated that they were aware of the benefits.<sup>9</sup>

Other health changes prior to pregnancy that women have been less studied, however, there are several publications in the literature regarding this topic. A survey from the CDC found that 45% of all women reported using alcohol within 3 months of becoming pregnant with 1 in 20 consuming alcohol at moderate to heavy levels.<sup>10</sup>

Another US study examined women's exposure to occupational agents in the 1 year prior to the birth of their child.<sup>11</sup> A study from the Netherlands evaluated periconceptional counseling at an outpatient department and found that women were most often referred because of previous fetal abnormality, complicated obstetrical history and exposure to potentially teratogenic medication.<sup>12</sup>

There is little up to date information on the situation in Canada regarding this issue, so Best Start decided to carry out a survey in Ontario, the largest province in Canada. The primary objective of the survey was to examine women's attitudes towards their health prior to and during pregnancy. The secondary objectives were to examine such items as decisions regarding breastfeeding, the influence of health care providers, effectiveness of public health campaigns and comparing attitudes and practices in planned and unplanned pregnancies.

## METHODS

The Best Start Resource Centre, in collaboration with other organizations including The Motherisk Program carried out this survey. Best Start is a not for profit organization supported by the Ministry of Health of Ontario, who supports organizations and individuals working to improve the health of women and families before, during and after pregnancy. The Motherisk Program is a counseling service for pregnant and lactating women and their health care providers, where information is given on the safety/risk of drugs, chemicals, radiation and infectious diseases.

A telephone survey, commissioned by Best Start and conducted by Ipsos Reid Healthcare took place from February 26<sup>th</sup> to March 5<sup>th</sup> 2002 in Ontario. Respondents who met the screening criteria (women between the ages of 18-44, who were recently (within 6 years) or currently pregnant), were included in the survey. They were recruited by random telephone dialing and enrolled if they fit the criteria, then interviewed by specially trained personnel who followed the principles of informed consent. The interviews took approximately ten minutes to conduct and consisted of open and close ended questions asking about lifestyle changes the women and her partner may have made prior to or during pregnancy. Demographics were also asked of the women, including marital status, education and socio-economic status (SES).

Analysis of the data was performed with descriptive statistics, in numbers and percentages. Differences in subgroups were analysed using the Chi Square test

## RESULTS

Out of the five hundred and thirty six women who fit the criteria and who were invited to complete the survey over the telephone, three hundred women completed the questionnaire, which was a 56% response rate.

**TABLE 1** Maternal Demographics

Characteristics	Total N=300	Planned Pregnancy N=212 (71%)	Unplanned Pregnancy N=88 (29%)
> 20 years	1%	0%	2%
20-29 years	37%	34%	45%
30-39 years	59%	63%	49%
>40 years	3%	3%	3%
High School only	27%	23%	36%
Post secondary (college)	44%	45%	41%
University degree	17%	18%	14%
Graduate degree	12%	14%	8%
Married or common-law	95%	99%	86%
Under \$40,000	33%	28%	45%
\$40,000 to \$60,000	37%	38%	36%
Over \$60,000	26%	31%	16%

The demographics of these women are listed in (table 1). There were only two statistically significant differences in the maternal characteristics:

1. the level of education between the women who planned a pregnancy and the ones who did not, with significantly more women who reported an unplanned pregnancy not having completed any post secondary education; (23% vs. 36% p=.027) and,
2. in the age range of 30-39 years, significantly more women reported a planned pregnancy compared to an unplanned pregnancy. (63% vs 49% p=0.03)

Most women (94%) believed that lifestyle changes including work factors, do have an effect on their babies health. One third of the women (31%) stated that they had made lifestyle changes before their pregnancies. The most common changes reported were: stopping alcohol consumption, quitting or cutting down smoking, improved eating habits and taking folic acid (Table 2). 58% of these women reported that they had made the changes more than three months prior to their pregnancies.

**TABLE 2** Lifestyle changes a woman can make before pregnancy to improve health of baby

N =300	%
Change diet	48%
Quit/cut down smoking	45%
Take folic acid	40%
Exercise	36%
Quit/cut down drinking	29%
Adopt healthier lifestyle	29%
Take vitamins	8%
Reduce stress	4%
See a physician	3%

**TABLE 3** Perceived effectiveness of information sources in helping women make changes prior to pregnancy

	1	2	3	4	5	6	7	8	9	10
Advice from health care provider									■	
Brochures from physician or pharmacist								■		
Books							■			
Media						■				
Advice from friend/relative						■				
Internet						■				

1 = not at all effective    10 = extremely effective

Health care professionals were seen as the most effective information source in convincing women to make these lifestyle changes (table 3), however only (54%) reported actually consulting someone in this category. Out of that number a higher ratio of women with unplanned pregnancies (62% vs. 50% of planned pregnancies) reported consulting their health care provider although it was not statistically significant.

When women were asked whether their partners could help, 92% felt that they could, suggested items such as the men also adopting healthier lifestyles, including attention to their smoking and alcohol habits. However, only 19% stated that their partners had actually made any of these changes. 51% of women who were planning a pregnancy and 15% of women who had unplanned pregnancies took folic acid prior to pregnancy.

Women were asked when they had made the decision to breast feed their baby and 69% stated that the decision had been made prior to becoming pregnant. A total of 83% of the women who were not pregnant at the time of the survey, reported that they breastfed their most recent baby and of these 60% breastfed for at least six months or more.

### DISCUSSION

To our knowledge, this the first survey in Ontario examining women's decision making surrounding life style health changes prior to pregnancy. Previous surveys have focused primarily on periconceptional folic acid use, but this is the first one to examine other aspects of lifestyle changes prior to pregnancy as well, including the decision

to breastfeed. We were surprised at the high number of reported planned pregnancies (71%) as it has been generally accepted in the western countries that at least 50% of pregnancies are unplanned.<sup>13</sup>

There could be different reasons for this, the main one being that this was a retrospective survey and the women were asked about pregnancies in the previous 6 years. They were not asked about terminations so there is a sampling bias that is women who chose to terminate their pregnancy probably had an unplanned pregnancy. The exception to this would be women who had a therapeutic abortion because of fetal diagnosis, when the baby was diagnosed with a birth defect, with the result a termination of a planned pregnancy. It could also be that Ontario women are more educated in this field and that the public health campaigns concerning preconceptional health are succeeding. As well, there could be a self selection bias of more women in this survey with a planned pregnancy.

In the case of taking folic acid prior to becoming pregnant, the number of women who were aware and who actually took it, has increased considerably since the last survey we carried out at Motherisk four years ago. At that time only 17% women in the general population took a folate supplement prior to becoming pregnant compared to the group who were counseled by the The Motherisk program of whom 71% did.<sup>14</sup> The results from this latest survey does suggest that counseling is effective. Many more women have been counseled in the last five years,<sup>14</sup> consequently many more women are aware and are taking preconceptional folic acid, even women whose pregnancies were not

planned as indicated by the results of this most recent survey (15%).

To our knowledge, it has not been previously documented that most women make the decision about breastfeeding before they have their baby, some even before they become pregnant. However, studies have documented the initiation of breastfeeding only immediately after birth and later. A survey was carried out in Ontario, where 1250 women completed a questionnaire in hospital post delivery. 82-96% indicated that breastfeeding had been initiated before leaving hospital. However, in a follow up survey of these same women, 13-24% had discontinued by 4 weeks post partum.<sup>15</sup> The decision to breastfeed has varied over the years, with women succumbing to the popular opinion of the day. The SES of the mother often dictates her decision, even today as evidenced in a recent study from England. Mothers with a lower SES level tended to breast feed less than women with higher SES levels. This is in contrast to 40 years ago when women with a higher SES level tended to bottle feed.<sup>16</sup>

Traditionally it has been felt that women who are better educated tended to make healthier lifestyle changes. However this did not prove to be the case in this survey as is evidenced in table 1. The vast majority of women regardless of their education level agreed that making healthy lifestyle changes prior to becoming pregnant would improve the health of their baby.

Despite the fact that health care professionals were seen as an effective information source, only half of the women actually consulted someone in this category and those who did were more likely to describe their most recent pregnancy as unplanned. This is probably because traditionally, women do not as a general rule, seek health care until they are actually pregnant. It is interesting to note that the internet is currently high on the list for getting information, which is confirmed by a report released in July 2002 from Statistics Canada that revealed half of all Canadian homes currently have access to the internet.

It was also interesting to note that women are expecting more from their husband/partner, in terms of making the same lifestyle changes, with most of them feeling that they could make at least one positive lifestyle change in their lives prior to pregnancy, to improve the health of their baby.

The main limitations of this survey, is that it is a fairly small sample size and there could be a bias because of the relatively low response rate. It also reports on a mixed group of women describing events that occurred from six years ago to the present time which would allow for recall bias of the women who were recalling the events from the relatively distant past. The results may have been more compelling if the survey had been standardized and all the women were interviewed while they were currently pregnant or planning a pregnancy.

In summary, this survey found that women in Ontario based on a randomized group across all SES levels, feel that changing their lifestyle behaviours prior to pregnancy is important to the health of their baby and that they are willing to make these changes. It does appear that women have been listening and taking notice of public health campaigns, although the periconceptional use of folic acid could be improved.

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**Websites:** *Best Start:* [www.opc.on.ca/beststart](http://www.opc.on.ca/beststart);  
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