Bed Rest and Activity Restriction for Women at Risk for Preterm Birth: A Survey of Canadian Prenatal Care Providers

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Abstract

Objective: To explore the practices of Canadian obstetricians, family physicians, and midwives in recommending bed rest or activity restriction for women at risk for preterm birth (PTB) and to assess the decisional conflict experienced by care providers when they recommend these therapies.

Methods: A self-administered mail survey of prenatal care providers was carried out using Dillman's Tailored Design Method. Analysis included descriptive statistics and analysis of variance.

Results: The survey was distributed to 1441 potential participants; of these, 1172 were eligible participants, and 516 (44.2%) completed the survey. For women at risk of PTB, 60 of 170 obstetricians (35%), 88 of 206 family practitioners (42.7%), and 30 of 140 midwives (21.4%) recommended bed rest in hospital; 110 of 170 obstetricians (64.7%), 144 of 206 family practitioners (69.9%), and 73 of 140 midwives (52.1%) recommended bed rest at home. These recommendations occurred despite the response from about two thirds of each professional group that the effectiveness of bed rest was in the fair-to-poor range in helping to prevent PTB. The mean score on the Provider Decision Process Assessment Instrument, measuring decisional conflict for all care provider groups, was 30 (SD 7.4) (possible score range 12–60). There were no significant differences in decisional conflict scores among provider groups (F [2,347] = 2.24; *P* = 0.11).

Conclusion: Care providers have been discouraged from routinely recommending bed rest for women at risk of PTB because of potential adverse side effects. This study demonstrates that most Canadian prenatal care providers have not been persuaded to incorporate these recommendations into practice. Except for women with multiple gestation, there is inconsistent practice in recommending bed rest and activity restriction. Additionally, Canadian prenatal care providers have some decisional conflict about using this therapy. These results provide some of the first Canadian perspectives on the practice of prescribing therapeutic bed rest for PTB.

Key Words: Bed rest, preterm birth, decisional conflict

Competing Interests: None declared.

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Résumé

Objectif : Explorer les pratiques des obstétriciens, des sages-femmes et des médecins de famille canadiens en ce qui concerne la recommandation d'un repos au lit ou d'une limitation des activités pour les femmes qui courent des risques d'accouchement prématuré (APT), ainsi qu'évaluer le conflit décisionnel que connaissent les fournisseurs de soins lorsqu'ils recommandent ces traitements.

Méthodes : Une enquête postale auto-administrée faisant appel à la *Dillman's Tailored Design Method* a été menée auprès de fournisseurs de soins prénatals. L'analyse comprenait la statistique descriptive et l'analyse de variance.

Résultats : L'enquête a été distribuée à 1 441 participants potentiels; 1 172 d'entre eux étaient des participants admissibles et 516 (44,2 %) ont rempli l'enquête. Pour ce qui est des femmes courant des risques d'APT, 60 des 170 obstétriciens (35 %), 88 des 206 médecins de famille (42,7 %) et 30 des 140 sages-femmes (21,4 %) ont recommandé un repos au lit à l'hôpital; 110 des 170 obstétriciens (64,7 %), 144 des 206 médecins de famille (69,9 %) et 73 des 140 sages-femmes (52,1 %) ont recommandé un repos au lit à la maison. Ces recommandations ont été formulées malgré le fait que près des deux tiers des membres de chacun de ces groupes professionnels aient mentionné que l'efficacité du repos au lit allait de « passable à faible » en matière de prévention de l'APT. Le score moyen du *Provider Decision Process Assessment Instrument,* lequel mesurait le conflit décisionnel pour tous les groupes de fournisseurs de soins, était de 30 (σ 7,4) (gamme de scores possibles : 12–60). Aucune différence significative en matière de scores de conflit décisionnel n'a été constatée entre les groupes de fournisseurs de soins (F [2,347] = 2,24; P = 0,11).

Conclusion : Les fournisseurs de soins ont été incités à ne pas recommander systématiquement un repos au lit aux femmes courant des risques d'APT, et ce, en raison des effets indésirables potentiels associés à cette pratique. Cette étude démontre que la plupart des fournisseurs de soins prénatals canadiens n'ont pas

été persuadés d'abandonner cette pratique. Exception faite du cas des femmes présentant une grossesse multiple, la pratique s'avère incohérente pour ce qui est de la recommandation du repos au lit et de la limitation des activités. De plus, les fournisseurs de soins prénatals canadiens connaissent un certain conflit décisionnel en ce qui a trait au recours à ce traitement. Ces résultats nous offrent le premier aperçu canadien en ce qui concerne la pratique de prescrire un repos au lit thérapeutique pour contrer les risques d'APT.

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INTRODUCTION

In maternity care, the restriction of activity incorporating various levels of bed rest is a mainstay of treatment for pregnancy-related problems such as threatened PTB, vaginal bleeding, multiple gestation, gestational hypertension and hyperemesis.[1] In a United States study, more than 90% of obstetricians recommended bed rest to avoid miscarriage, preterm labour, and other pregnancy complications.[1] Eighteen percent of all women who deliver after 20 weeks' gestation in the United States each year are asked to rest in bed for at least one week, and some for much longer.[2] Goldenberg and colleagues[2] describe bed rest as one of the most commonly prescribed treatments to improve reproductive outcome.

Complications associated with bed rest include deterioration in muscle strength and balance, bone demineralization, weight loss, electrolyte imbalances, and fluid compartment shifts that can persist into the immediate postpartum period and beyond.[2,3] Pregnant women on bed rest may be at higher risk for the life-threatening complication of thromboembolism.[4] Quality of life for women and their families is also affected, because bed rest during pregnancy is associated with significant stress (including financial hardship) and alterations in mood states, such as dysphoria.[1,5–10] The associated hospitalization and/or antepartum home care, physical problems, and emotional stress lead to increased health care costs.

PTB is a major concern for providers of perinatal care. Although newer screening modalities, such as ultrasound measurement of cervical length and fetal fibronectin testing, have improved the ability of care providers to determine who is at risk for PTB,[11–15] it is still unclear what advice to give women about appropriate activity levels. A Cochrane review concluded that evidence is lacking for prescribing bed rest in hospital or at home to prevent PTB in women identified as being at high risk,[16] and providers have been discouraged from routinely recommending this practice because of potential adverse side effects.[2,16–17]

In summary, knowing more about prenatal care providers' recommendations for bed rest or activity restriction as a therapeutic intervention for women at risk for PTB, and their degree of decisional conflict about these recommendations, is important for the following reasons:

1. clinical practice guidelines or best practice summaries are not available;
2. the efficacy of activity restriction in prolonging gestation is unknown;
3. specific physiological and psychosocial side effects are known to be associated with bed rest;
4. significant health care costs and quality of life issues for women and their families can ensue from bed rest during pregnancy; and
5. the prevalence of activity restriction is potentially high, given that the PTB rate in Canada is 7.6% (i.e., approximately 25 000 babies per year).[18,19]

The purpose of this study was to explore under what conditions family physicians, obstetricians, and midwives recommend therapeutic bed rest or some level of activity restriction when a woman is at risk for preterm birth. More specifically, for these three groups of care providers, we wished to determine the following:

- Their beliefs about the efficacy of bed rest and activity restriction for women at risk of preterm birth;
- Their usual practices in recommending bed rest for women at risk of preterm birth;
- Their concerns about the side effects associated with bed rest; and
- Their level of decisional conflict when recommending bed rest for women at risk of preterm birth.

ABBREVIATIONS

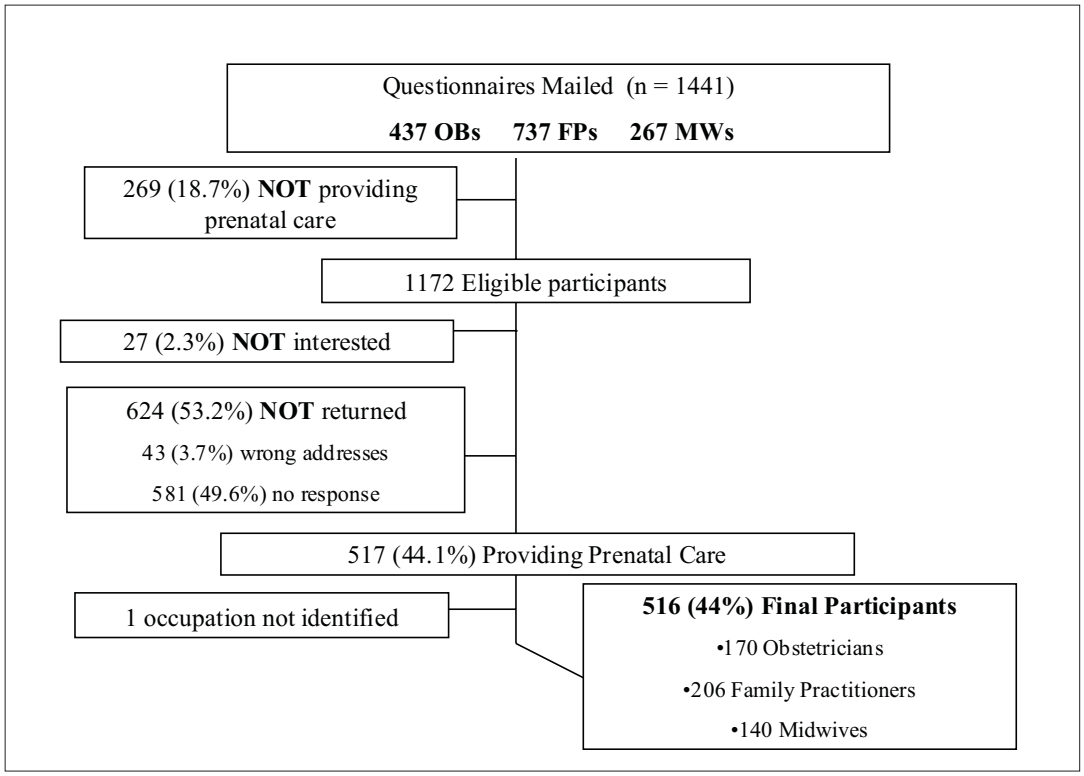
PDPAI	Provider Decision Process Assessment Instrument
PTB	preterm birth

METHODS

The study was approved by the University of Alberta Health Research Ethics Board. A mail survey of a stratified random sample of Canadian prenatal care providers (i.e., obstetricians, family physicians, and midwives) was conducted to assess practice with respect to prescribing bed rest and activity restriction as a therapy for women at risk of PTB and the level of decisional conflict in prescribing this therapy.

The physician mailing list was obtained from Scott's Directories 2004–2005 MD Select program. Only obstetricians and family physicians/general practitioners indicating an interest in obstetrics were included. The midwifery sample was obtained from the active registered member list of each

Figure 1. Response rate and usable data



OBs obstetricians; FPs family physicians; MWs midwives

of the provinces where midwifery was regulated in February 2005 (British Columbia, Alberta, Manitoba, Ontario, Quebec, and the Northwest Territories/Yukon).

Sample Size

The total estimated population from which a probability sample could be drawn for physicians was 3864. Methods to minimize sampling error include using probability sampling, having as large a sample size as possible, and ensuring that the sample will accurately reflect the diversity of practice that exists. To minimize sampling error, anticipated attrition and non-response, over-sampling was deemed necessary (i.e., 30% of all eligible physicians). Sampling 10% or more of a population can have a discernible effect on sampling error estimates.[20]

The physician sample was selected from six regions across the country (BC, Western Provinces, Ontario, Quebec, Atlantic Provinces, the North), stratified by proportion of practitioners in each region. Once the practice patterns and proportions were established, random sampling was performed. In areas where populations were small (i.e., PEI, the North) the total population was included. The total sample for the two physician groups was 1174. Midwifery numbers across the country are small, and it was therefore not possible to perform a proportionate stratified sampling procedure for this group. In each province except Ontario, the total population of midwives was surveyed. In Ontario, a random sample of all practising midwives (30%) was selected. The total midwifery sample was 267. The total survey sample was 1441.

Development and Testing of the Survey Instrument

An extensive review of the literature, the expertise of the research team, and a previous bed rest survey instrument[1] were used to develop a draft of the survey. The survey included questions about frequency in encountering women at risk of PTB, use of bed rest and activity restriction in different clinical scenarios, concerns about side effects, perception of women's compliance with their recommendations for bed rest or activity restriction, and general demographic information. The PDPAI[21] was included to assess decisional conflict. This instrument is a 12-item questionnaire that measures a health care provider's degree of comfort with a medical decision. All items are answered on a 5-point Likert-type scale, and responses range from strongly agree to strongly disagree.

Principles from Dillman's Tailored Design Method[22] were used to guide the development of the survey instrument. The instrument underwent expert review, content validity testing, revisions, French translation, and pre-testing.

Table 1. Demographic profile of participants

Variable	Obstetricians (n = 170)	Family physicians (n = 206)	Midwives (n = 140)
Mean age* (range)	46 (30–70)	46 (28–80)	44 (25–63)
Median number of years providing maternity care (range)	15 (1–40)	16.5 (1–48)	10 (1–45)
Gender† (%)			
Male	88 (51.8)	57 (27.7)	0 (0)
Female	80 (47.1)	149 (72.3)	138 (98.6)
Location (%)			
Urban	133 (78.2)	136 (66)	98 (70)
Small town	26 (15.3)	46 (22.3)	24 (17.1)
Rural	11 (6.5)	19 (9.2)	15 (10.7)
Isolated	0 (0)	5 (2.4)	2 (1.4)
Practice setting (%)			
Teaching hospital	88 (51.8)	46 (22.3)	24 (17.1)
Community hospital	76 (44.7)	94 (45.6)	41 (29.7)
Not associated with a hospital	2 (1.2)	24 (11.7)	15 (10.7)
Other	4 (2.4)	42 (20.4)	58 (41.4)

*Missing data for age: four obstetricians, one midwife

†Missing data for gender: two obstetricians, two midwives

Validity and Reliability

Face validity was deemed adequate through consensus of the research team, consultation with a focus group and input from an expert review panel. This panel also assessed content validity of the final draft using Lynn's Content Validity Index[23] with a pre-set percentage agreement (80%) to retain items in the survey instrument.

Dolan[21] reported that construct validity for the PDPAI was evaluated by testing for a negative correlation between the index score and measures of decision satisfaction: negative correlations ranged from–0.53 to–0.67. Cronbach alpha for the PDPAI was 0.90 in English[21] and 0.82 in French.[24]

Survey Distribution

The survey was administered by the Population Research Laboratory, University of Alberta. The prenatal care providers selected as the sample were contacted five times by first-class mail (introductory letter, first survey, reminder post-card, second survey, final survey). Postage-paid, pre-addressed return envelopes and a fax number were included with all questionnaires. English and French surveys were available.

Analysis

Data entry and analysis was conducted using the SPSS for Windows version 12 software package (SPSS Inc, Chicago IL). Groups were compared using Chi-square analysis or analysis of variance depending on level of measurement.

RESULTS

A flow chart of the survey distribution and 44% response rate (516 of 1172 eligible participants) is presented in Figure 1. In order to be eligible to participate, health care providers had to be offering prenatal care at the time of the survey. Two hundred sixty-nine of 1441 (18.7% of the sample) indicated they were no longer providing care and were deemed ineligible.

The survey completion rate by provider group was 170 of 358 obstetricians (47.5%), 206 of 547 family physicians (37.6%), and 140 of 263 midwives (53.2%). There were no significant between-group differences in mean age (F [2 510] = 2.68, P = 0.07). Each provider group in each region of the country (British Columbia, Western Provinces, Ontario, Quebec, Atlantic Provinces, and the North) was represented, except for the midwifery group. In 2005, midwives were not yet regulated in Atlantic Canada, and this region was not represented. The profile of respondents is presented in Table 1.

Table 2. Effectiveness of bed rest and activity restriction for preventing preterm birth

	Obstetricians		Family physicians		Midwives	
Rating	n	%	n	%	n	%
Bed rest						
Excellent/very good	12	7.1	35	17.0	13	9.3
Good	38	22.4	40	19.4	27	19.3
Fair/poor	117	68.8	131	63.6	96	68.6
Missing	3	1.8	0	0.0	4	2.9
Total	170	100.0	206	100.0	140	100.0
Activity restriction						
Excellent/very good	22	12.9	42	20.4	35	25.0
Good	56	32.9	48	22.3	43	30.7
Fair/poor	84	49.4	115	55.8	58	41.4
Missing	8	4.7	1	0.5	4	2.8
Total	170	100.0	206	100.0	140	100.0

Table 3. Recommendation of bed rest for women at risk of preterm birth

Prescription	Obstetricians (n = 170)	Family physicians (n = 206)	Midwives (n = 140)
Bed rest at home (%)	110 (64.7%)	144 (69.9%)	73 (52.1%)
Bed rest in hospital (%)	60 (35.3%)	88 (42.7%)	30 (21.4%)

Effectiveness of Bed Rest and Activity Restriction

Respondents were asked to rate on a 5-point scale the effectiveness of bed rest and activity restriction in preventing PTB. About two-thirds of each professional group responded that the effectiveness of bed rest was in the fair-to-poor range (Table 2). A small number of providers (5%) clarified their response by commenting that, while they believed bed rest may not work, it is "the only thing we have" or that it made women "feel better." More providers in each group rated activity restriction as good for preventing PTB compared with bed rest, but 41% to 55% still rated it as fair-to-poor. Many providers noted that asking women to slow down could be useful.

Use of Bed Rest for Women at Risk of Preterm Birth

Less than one-half of respondents in all three provider groups prescribed hospital bed rest, with family practitioners being most likely and midwives least likely to do so (Table 3). Many more providers (52% to 70%) recommended bed rest at home.

Forty-seven of 170 obstetricians (27.6%), 47 of 206 family physicians (22.8%), and 60 of 140 midwives (42.9%) never recommended bed rest, either in hospital or at home, so were not asked to respond to the clinical scenarios. The remaining respondents (123 obstetricians, 159 family physicians, and 80 midwives) were asked to complete questions to further explore circumstances under which they prescribe bed rest.

Because decisions about prescribing bed rest would likely depend on the clinical situation, respondents were asked to respond to seven different clinical scenarios occurring at three gestational ages (24, 28, and 32 weeks) (Figure 2). Cervical changes, as opposed to other risk factors, such as contractions or a previous history, were associated with more providers prescribing bed rest at all gestational ages in both singleton and multiple pregnancies.

To further explore recommendations for the type of bed rest or activity restriction, participants were asked to consider three other clinical scenarios in more detail (Figure 3). Decisions about restricting activity in each of these scenarios are reported in Table 4. Again, the twin pregnancy scenario led to more recommendations for activity restriction. Only one respondent indicated he or she would not ask this woman to restrict her

Figure 2. Clinical scenarios at 24, 28, and 32 weeks' gestation

Previous preterm birth at 26 weeks' gestation but no signs and symptoms of preterm labour now

History of preterm prelabour rupture of membranes (PPROM) in 2 pregnancies (28 and 32 weeks)—no cervical changes or contractions now

Twin pregnancy—no complication

Twin pregnancy—increased uterine activity, but a long closed cervix

Twin pregnancy with evidence of cervical change, but no contractions

Singleton pregnancy with cervical changes, but no contractions

Feeling very stressed at work, occasional contractions, no cervical changes, no history of preterm birth

Figure 3. Detailed clinical scenarios

Scenario 1

A woman with a previous PTB at 31 weeks' gestation at a routine prenatal visit at 28 weeks with occasional contractions. She works in an office that she feels is a moderately stressful environment. She has a stable family environment and good support. A follow-up appointment and an ultrasound are scheduled.

Scenario 2

A woman is pregnant for the first time with twins at 26 weeks' gestation and admitted to the hospital with contractions. Cervical length has shortened from 25 mm to 10 mm. Fetal growth and biophysical parameters are normal. If everything stays stable for a few days, she will be discharged home and her activity level needs to be determined.

Scenario 3

A primigravid woman reports regular tightenings and back pain (x 2 days) at 30 weeks with palpable contractions and normal cervical length.

activity. In Scenarios 1 and 3, there was less agreement on what should be done, with family physicians and midwives more likely than obstetricians to recommend activity restriction.

Concerns about Side Effects of Bed Rest

Respondents were asked to indicate their concerns about potential side effects associated with bed rest. The five areas of greatest concern are presented in Table 5; these were consistent across provider groups.

With regard to side effects, 76 of 123 obstetricians (61%), 114 of 159 family physicians (71.7%), and 39 of 80 midwives (48.8%) reported that they do not routinely recommend any sort of exercise program for those women for whom they recommend bed rest. Further, 67 of 123 obstetricians (54.5%), 63 of 159 family physicians (39.6%), and 19 of 80 midwives (23.5%) do not routinely recommend any sort of social support.

Decisional Conflict Related to Recommending Bed Rest

Respondents were asked to consider the last woman at risk of PTB for whom they had recommended bed rest, and then complete Dolan's PDPAI.[21] Scores could range from 12 to 60, with higher scores reflecting higher levels of decisional conflict.

The mean score on this questionnaire for all care provider groups was 30 (SD 7.4), with no significant differences among provider groups ($F [2\ 347] = 2.24$, $P = 0.11$). The breakdown of scores by group for the PDPAI is presented in Figure 4. While no group had scores of 50 or greater, 29 of 156 family physicians (18.6%) scored between 40 and 49, compared with three of 118 obstetricians (2.5%), and six of 76 midwives (7.9%).

DISCUSSION

This exploratory, descriptive study demonstrated that large numbers of Canadian obstetricians, family physicians, and midwives continue to prescribe bed rest and activity restriction as prevention strategies for PTB, despite experiencing some level of decisional conflict and acknowledging a lack of confidence in the efficacy of the treatment.

A number of contradictions between the evidence and current practice were noted. There is an obvious inconsistency between the care providers' recommendations for bed rest and their belief about its effectiveness. It would be informative to explore whether they believe bed rest or activity restriction at home is more easily attainable or less stressful for women and therefore recommend it more often. It would also be useful to know if a lack of hospital resources influences this decision.

Table 4. Care providers who use activity restriction: their recommendations in three clinical scenarios

	Restrict activity*			No activity restriction*		
Scenario	OB (n = 123) n (%)	FP (n = 159) n (%)	MW (n = 80) n (%)	OB (n = 123) n (%)	FP (n = 159) n (%)	MW (n = 80) n (%)
1	67 (54.5)	109 (68.6)	57 (71.2)	54 (43.9)	48 (30.1)	20 (25.0)
2	121 (98.3)	152† (95.6)	69† (86.3)	1 (0.8)	—	—
3	61 (49.6)	109 (68.6)	46 (57.5)	60 (48.8)	48 (30.2)	32 (40.0)

*Missing data:

Scenario 1: 2 obstetricians, 2 family physicians, 3 midwives

Scenario 2: 1 obstetrician, 2 midwives

Scenario 3: 2 obstetricians, 2 family physicians, 2 midwives

†7 family physicians and 9 midwives in Scenario 2 indicated they didn't answer this because they don't manage twins—they refer to a specialist.

Note. Excludes the 47 obstetricians, 47 family physicians and 60 midwives who stated they never recommend bed rest either in hospital or at home.

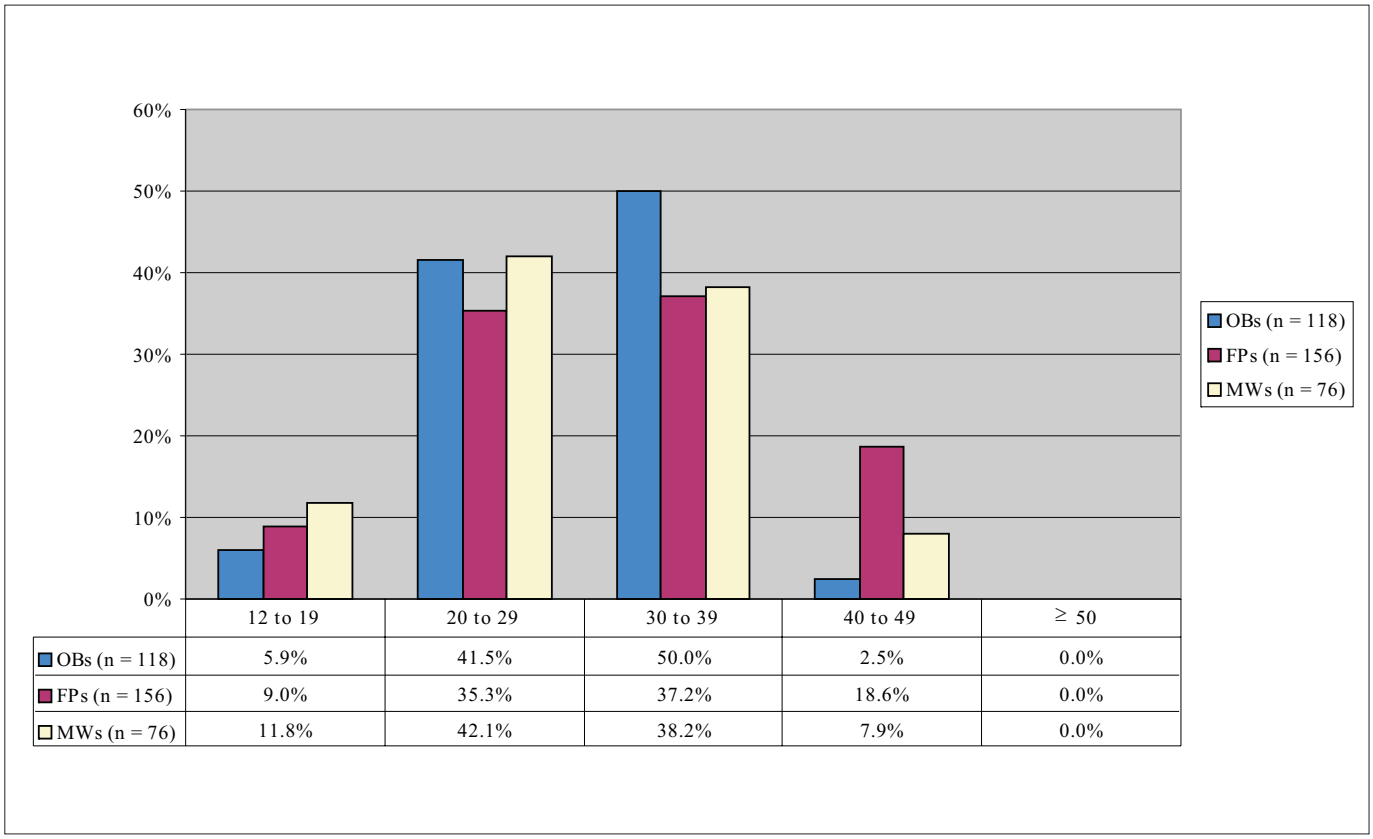
Table 5. Rankings of concerns about bed rest

	% with any concern about side effects					
	OB (n = 123)		FP (n = 159)		MW (n = 80)	
Side effect	%	Rank	%	Rank	%	Rank
Deep vein thrombosis	85.4%	1	81.8%	1	76.3%	4
Stress	70.7%	4	72.3%	4	77.5%	3
Depression	74.1%	2	73.7%	3	83.9%	1
Sleep disturbances	60.2%	5	55.4%	5	72.5%	5
Economic problems	74.0%	3	74.2%	2	82.5%	2
Muscle atrophy	38.1%	6	37.1%	6	37.5%	8
Change in bone mass	25.2%	9	20.8%	9	21.4%	10
Cardiovascular deconditioning	32.6%	8	30.9%	8	38.9%	7
Fatigue	35.7%	7	36.5%	7	46.3%	6
Weight loss	24.3%	10	21.3%	10	26.3%	9

Note. Sample includes only those care providers who use bed rest as a therapy. It does not include those care providers (47 obstetricians, 47 family physicians and 60 midwives) who indicated that they never recommended bed rest in hospital or at home.

Another contradiction is related to side effects of bed rest. There is objective evidence of maternal muscle atrophy[25] and antepartum weight loss.[26] Maloni and Schneider[25] found evidence of difficulty with muscular deconditioning and mobility for six weeks post partum in up to 50% of women on bed rest. Yet more than one half of care providers were not very concerned about muscle atrophy and one half to three-quarters were not at all or somewhat concerned about weight loss. Although it is rare, deep vein thrombosis concerned physicians most. Perhaps this is because physicians have more experience than midwives with adult cardiovascular complications and the associated morbidity and mortality. While not discounting the seriousness of this problem (the Canadian Special Report on Maternal Mortality and Severe Morbidity cites a rate of pulmonary embolism of 0.16 per 1000 deliveries from 1991 to 2001 and a death rate of 0.85 per 100 000 live births from 1997 to 2000),[27] the incidence is low. Therefore, it appears that either providers are not aware of research evidence about all physiological side effects, or they discount it. Consequently, few providers routinely recommended any rehabilitative exercise program for women on bed rest.

Figure 4. PDPAI score ranges by discipline



	12 to 19	20 to 29	30 to 39	40 to 49	≥ 50
OBs (n = 118)	5.9%	41.5%	50.0%	2.5%	0.0%
FPs (n = 156)	9.0%	35.3%	37.2%	18.6%	0.0%
MWs (n = 76)	11.8%	42.1%	38.2%	7.9%	0.0%

OBs obstetricians; FPs family physicians; MWs midwives

For mothers actively caring for a newborn or resuming family responsibilities, the side effects of bed rest can be difficult. Although the exact incidence of these complications is not known, Maloni[3] describes problems women face after various periods of bed rest. They "tire easily, have muscle weakness, deep muscle soreness, shortness of breath, dizziness, difficulty concentrating, decreased stamina, difficulty with ambulation and return to activities of daily living," all while caring for a newborn. These symptoms do not resolve quickly and are incremental with the degree of activity restriction imposed.[28] Data are lacking about recovery duration or permanent damage. In a previous study, health care providers were described as believing that women would recover quickly from any adverse effects associated with bed rest because of their relative young age and health status.[25]

Clinical practice may differ from research recommendations because health care providers have learned to place different values on certain practices.[29] For physicians, this may be related to the influence of their mentors or their tolerance for uncertainty. To reduce uncertainty about the best response to a particular issue, there is a tendency to "do as your colleagues do."[1,28] Alternately, Schroeder[30] hypothesized that care providers believe that the risk, in the case of high-risk pregnancy, is primarily for the fetus. Since there did not seem to be any harm to the fetus during bed rest, care providers could justify prescribing it.

For future research on bed rest/activity restriction outcomes, prevention of PTB with this therapy is probably not the most appropriate end point. Obviously, the outcome for a baby at 26 weeks' gestation is very different from that at 35 weeks. Every day gained at the earlier gestational ages can make a difference in outcome; from 24 to 28 weeks' gestation, survival rates increase approximately 3% with each added day of gestational age.[31] Future research should focus on whether bed rest has any role by itself or in conjunction with other therapies in helping to delay birth in women with preterm labour, thereby improving outcome.

Little published information to assist with interpreting decisional conflict scores is available.[21] Dolan concluded that higher scores meant more discomfort with the decision. Family physicians may delay making difficult decisions by bringing the patient back for another appointment or may pass the responsibility to another provider through consultation.[32] Exploring decisional conflict when recommending bed rest during lower and higher ends of preterm gestation, in multiples, or for women with shortened cervical length

or a positive fetal fibronectin would help. Exploring care providers' disclosure of decisional conflict about recommending bed rest and whether they inform women about the evidence to support or refute the practice is a direction for future research.

Limitations

A 44% response rate may not be representative of the population of Canadian maternity care providers. The response rate is similar to that reported for other studies of Canadian health care providers who are required to make difficult decisions, including a survey on vaginal birth after Caesarean section at term[33] and a study of external cephalic version for breech presentation.[34] The characteristics of respondents may have differed from non-respondents. More informative results might have been obtained by having all participants (i.e., including those who reported that they never prescribed bed rest) answer the questions related to activity restriction. It is important to note that participants were asked only about bed rest in situations related to PTB, not other prenatal complications.

Defining the terms "strict bed rest," "modified bed rest," and "activity restriction" at the beginning of the survey may have been of benefit to the providers by helping to improve clarity of the concepts.

The PDPAI scale is relatively new, and, despite good support for reliability, there is very little published literature that can be used to inform investigators about how to interpret the data from the instrument.

CONCLUSION

This is one of the first surveys examining the extent to which bed rest and activity restriction are prescribed for women at risk of PTB in Canada. Our results provide an important perspective on current practice from a large representative sample of three groups of maternity care providers. The literature review for this paper demonstrated that evidence is lacking for prescribing bed rest in hospital or at home to prevent PTB in women identified as being at high risk, and care providers have been discouraged from routinely recommending this practice because of potential adverse side effects. Results from this study indicate that most Canadian prenatal care providers have not been persuaded to incorporate these recommendations into practice and that they have some degree of decisional conflict about recommending this therapy. Learning more about this inconsistency between evidence and practice would be helpful. In addition, prospective trials to determine the efficacy of this practice are needed.

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