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Community obstetrics: a new look at group obstetrical care in rural communities

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Hypothesis: The decline in the number of rural family physicians who practise obstetrics will continue unless new systems for sustainable obstetric services are developed. It is suggested that a shared-call, group system would result in maintenance of this service in rural hospitals and an enhanced lifestyle for rural physicians. It is further suggested that this change can be made while maintaining, or even improving, patient satisfaction and obstetrical outcomes.

Objective:To examine satisfaction with obstetrical care in a shared-call group of general practitioner (GP) obstetricians in a rural setting.

Design: A group of 6 family physicians doing referred-care obstetrics in a rural community of 7000 is described. Survey data from patients, GP obstetricians and nurses were collected for the first 6 months of the shared-call group practice to assess satisfaction of all parties. Fetal and maternal outcome for the 6 months prior to the commencement and for the first 6 months of clinic operation was also evaluated.

Results: Patient acceptance was remarkable, with 100% of respondents rating their satisfaction with the delivery physician at 4 to 5 on a 5-point Likert scale. Ninety-four percent rated it between 4 and 5 on a 5-point Likert scale when asked if they would recommend the clinic to a friend. Physicians noted that the group practice was less disruptive, less stressful and more conducive to time off. Nurses enjoyed the increased involvement in patient care and pre-delivery planning. There was little obvious change in fetal and maternal outcome.

Conclusions: Rural group practice in obstetrics has a high degree of patient acceptance. It appears to be less stressful for the declining numbers of GP obstetricians and is supported by obstetrical nurses. Fetal and maternal outcome appeared to be relatively unchanged, as would be expected in the early phase of a new program and with little change in participating personnel.

Hypothèse : Le nombre de médecins de famille ruraux pratiquant l'obstétrique continuera de diminuer à moins que l'on mette au point de nouveaux systèmes pour dispenser des services d'obstétrique viables. On indique qu'un système de pratique de groupe à périodes de garde partagées permettrait de maintenir ce service dans les hôpitaux ruraux et améliorerait le style de vie des médecins ruraux. Il serait en outre possible d'apporter ce changement tout en maintenant, voire en améliorant, la satisfaction des patientes et les résultats obstétriques.

Objectif : Analyser la satisfaction à l'égard des soins obstétriques dans un groupe d'omnipraticiens (OP) obstétriciens partageant des périodes de garde en milieu rural.

Concept : On décrit un groupe de six médecins de famille qui dispensent des soins obstétriques à des patientes qui leur sont référées dans une communauté rurale de 7000 personnes. Pour évaluer la satisfaction de toutes les parties, on a réuni des données au moyen de sondages effectués auprès de patientes, d'OP obstétriciens et d'infirmières pendant les six premiers mois de la pratique de groupe à périodes de garde partagées. On a évalué aussi les résultats pour le fœtus et pour la mère pendant les six mois qui ont précédé l'ouverture de la clinique et les six mois qui ont suivi.

Résultats : L'acceptation par les patientes a été remarquable, car 100 % des répondantes ont évalué entre quatre et cinq, sur une échelle de Likert de cinq points, leur satisfaction à l'égard du médecin accoucheur. Lorsqu'on leur a demandé si elles recommanderaient la clinique à une amie, 94 % lui ont accordé une note variant entre quatre et cinq sur une échelle de Likert de cinq points. Les médecins ont signalé que la pratique de groupe était moins perturbatrice, moins stressante et plus propice aux congés. Les infirmières ont apprécié le rôle plus important qu'elles ont joué dans les soins aux patientes et la préparation de l'accouchement. Les résultats pour le fœtus et la mère ont présenté peu de changements évidents.

Conclusions : La pratique rurale de groupe rurale en obstétrique est très acceptée par les patientes. Elle semble moins stressante pour les OP obstétriciens, dont le nombre diminue, et les infirmières en obstétrique l'appuient. Les résultats pour le fœtus et la mère semblent relativement inchangés, comme on s'y attendrait au début d'un nouveau programme et vu que le personnel participant a peu changé.

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"Family physicians who practise obstetrics are becoming an endangered species." — Klein et al,1 October 1984

"Wherever feasible, women should give birth in their own community within the supportive circle of family and friends." — Joint Working Group of the SRPC, the CFPC Committee on Maternity

Care and the SOGC,2 June 1998

Introduction

Over the past 20 years there has been a well documented decline in the provision of rural obstetrical services.2,3 Most rural deliveries are attended by family physicians (FPs) or general practitioners (GPs), rather than obstetricians.4 Both the percentage of rural physicians who provide intra-partum obstetric service, and the number of rural hospitals that provide routine intra-partum service has declined, making access to intra-partum care for rural women and their families increasingly difficult. In Ontario, 11 of 35 rural hospitals stopped providing elective obstetrical service between 1988 and 1995.5 In the Grey and Bruce counties in southwestern Ontario, elective obstetrical services were provided by only 8 of 12 rural hospitals in 1996, and 3 more had stopped as of October 1999.

The midwestern Ontario town of Hanover is a good example of the decline in obstetrical services in rural areas. In the early to mid 1990s, all FPs in Hanover and neighbouring Chesley provided intra-partum obstetrical services to their own low-risk patients. Physicians practising in Chesley delivered babies at either the Hanover and District Hospital or the County of Bruce General Hospital in Walkerton. Physicians practising in Hanover delivered at the Hanover hospital. By January 2000, 6 of these 14 physicians had stopped providing intra-partum obstetric care. Two more were intending to stop intra-partum obstetrics by the end of 2000.

This example of the loss of obstetrical services in rural areas is likely to have an impact on patient care and outcomes. Hospitals where cesarean sections are done regularly even though pediatric and obstetric specialists are not on staff produce the best neonatal outcomes for low-risk deliveries available in Canada.6,7 Additionally, high outflow communities produce poorer obstetrical outcomes.8

Various forms of family practice group obstetrical care have been implemented successfully in a number of urban settings, including Calgary, Alta.,9 Brampton, Ont.,10 Port Moody, BC,11 and at least 1 rural setting.12 Patients report a high level of satisfaction with this mode of care delivery.10 It was believed that a group model of care delivery would have a number of benefits. It would decrease on-call demands on physicians, increase a sense of community support among GPs, stabilize the number of local deliveries and, ultimately, recoup some of the delivery transfers.

This paper examines a shared-call group obstetrical care model as developed in 1 rural medical community in southwestern Ontario to address the problem of declining obstetrical services in rural Canada.

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Methods

Hanover is a town of 7000 with a catchment area of 17 500. In 1999 there was a full-time complement of 9 FPs and 1 general surgeon. Five family doctors from Hanover and one from the town of Chesley (20 km to the north) formed an obstetrical group to provide care to the region. Cesarean sections are performed by one local general surgeon or, from time to time, a neighbouring general surgeon or GP surgeon. Hanover has 2 GP anesthetists, therefore most of the time cesarean sections are available. Vaginal births after cesarean (VBACs) are allowed only if a surgeon is immediately available. High-risk deliveries are referred to a secondary referral centre 80 km to the north or to a tertiary level referral centre 200 km to the south. Hanover is considered rural and underserviced. During the year ending Mar. 31, 2000, 101 babies were delivered in Hanover. Hanover is a teaching centre for rural medicine; it receives medical students, family medicine residents and other medical learners from several academic centres.

Hanover's group model hinges on physicians who take turns covering obstetrical call for a period of a week. During that time, they are on call for deliveries and for any other issues that arise when obstetrical patients present to the Hanover hospital. Once the baby has been delivered, care of the mother and child is transferred to the mother's FP, or postpartum and newborn care may be delivered by the doctor on call for obstetrics, as agreed to by the physicians. FPs may remain on call for their own patients if they so wish, but are not obliged to do so — the system is intended to provide "guilt-free signout." Patients with no family doctor are accepted for prenatal care, and efforts are made to help them find a family doctor in the appropriate community.

The second component of this care delivery model is an ante-partum clinic, which runs 1 afternoon a week at the hospital, on the obstetrical unit. Patients are referred into clinic by 20 weeks gestation if their FP does not provide intra-partum obstetrical care, or by 36 weeks if their FP is a member of the obstetrical group. When referrals into the clinic are made, physicians are asked to send all prenatal documentation. This documentation is then also available on the obstetrical unit at time of delivery. Group physicians start their week on call by conducting the clinic, and thus patients should have the opportunity to meet the delivering doctor prior to presenting in labour. The Hanover hospital supported the clinic by providing space, equipment, and a nurse and a volunteer to staff the clinic for 1 afternoon a week. The obstetrical nurses also book clinic appointments.

Satisfaction with model

Patients, GP obstetricians and obstetrical nurses were distributed questionnaires and asked to evaluate the new model of care from its inception in February 2000 to July 2000, using a 5-point Likert scale. Fetal and maternal outcomes were reviewed for the 6 months prior to and the first 6 months of the service.

Patients

During the first 6 months of operation of the group practice, questionnaires were distributed to all postpartum women prior to discharge. Questionnaires were completed anonymously. Patients were asked to rate their satisfaction with their attending physician and if they would recommend the clinic to a friend. There was an open-ended "comments" section. Data collected included complications arising during the pregnancy or delivery.

Physicians

The 6 participating physicians were surveyed at the beginning of the clinic's operation and again 6 months later. They assessed their satisfaction with respect to time off, stress, remuneration and the disruption of their practice.

Nurses

Obstetrical nurses were surveyed at the end of 6 months of operation of the clinic. They commented on their satisfaction with both the previous solo and present group physician practice. Their questionnaire also included an open-ended "comments" section.

Fetal and maternal outcome

Fetal and maternal outcome was evaluated for the 6 months prior to the commencement and for the first 6 months of clinic operation. All charts were reviewed for intra-partum transfers, cesarean sections, VBACs, repeat cesarean sections, infants with low Apgar scores, neonatal transfers, use of a vacuum extractor or forceps, and premature deliveries.

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Results

Demographics

The first 6 months of group practice saw 57 deliveries and 3 intra-partum transfers. This time frame included the period when the neighbouring town of Walkerton was involved in the well known E. coli water contamination crisis. During the acute phase of this crisis the Hanover obstetrical group physicians teamed up with the Walkerton medical staff to do all regional

deliveries in Hanover. Patients who would have delivered in Walkerton in the normal course of events are excluded from the database.

Patient surveys

Thirty-five of 57 patients responded to the questionnaire, for a response rate of 61%. Their satisfaction with physician care is shown in Figure 1 and Figure 2.

Patients indicated a high level of satisfaction not only with their own care but also with their confidence in recommending this system of care to their friends. They were generous in writing about their experiences and presented a surprisingly high level of satisfaction with and appreciation of those providing their obstetrical care.

Generally, patients felt physicians were knowledgeable about their history and helpful with advice. They felt the clinic was well organized and flowed well. They appreciated the opportunity to meet the nurses and physicians before delivery, and this seemed to allay their anxieties about being delivered by a physician other than their family doctor. ("One concern I had about the clinic was the possibility of being delivered by someone other than my own doctor. ... Once the clinic began, my worries were put to rest. I felt that I was in good hands no matter who I saw.")

Patient concerns included the logistics of conducting an outpatient clinic on the obstetric labour ward and the fact that this might be disconcerting for clinic patients and embarrassing for patients in labour. One patient stated she might have preferred being delivered by a female physician; the system does not offer this option. Finally, it was acknowledged that, in a perfect world, the patient's own family doctor would attend at her delivery.

Physician surveys

The response rate was 100%. Four major areas were surveyed: physician satisfaction with time off, stress, remuneration and disruption of practice. All are compared between solo and group obstetrical practice. Results are presented in Figure 3, Figure 4, Figure 5, and Figure 6.

There is a definite trend toward increased satisfaction in group practice, time off is improved, and with greater organization comes a decrease in stress levels. This reflects a general confidence in their peers amongst medical staff and a sense of support for each other. The obstetrical group practice is less disruptive to general medical practice overall. However, discontent with remuneration remains.

Physicians' reasons for participating in the obstetrical group included enhanced coverage for time off and the belief that this approach was likely to preserve intra-partum obstetrical care in the community.

Concerns were expressed about the medicolegal aspects of group practice; this concern was sufficient to dissuade one physician from continuing the practice of obstetrics. There was also the

expected concern about loss of continuity of care for patients.

Nurse surveys

Nurses' comments were mostly positive Figure 7. They covered 6 issues.

- Physician availability and coverage: The nurses knew better who to call, although there was some initial confusion about whether to contact the FP or the GP obstetrician on call. There were some occasions when no physician was immediately available, but these times were fewer than before. It was noted that when the GP obstetrician is also on call for the emergency department (ED) this can cause problems, and it was suggested a second physician be called to cover ED during deliveries.
- Involvement in prenatal care: Nurses appreciated the opportunity to be involved in prenatal care. The opportunity for ante-partum contact enabled them to build earlier rapport with patients and to be more aware of their concerns and issues.
- Physician–patient relationships: Although the ideal situation is for patients to be delivered by their own family doctors, it was acknowledged that this is no longer feasible. Nurses felt that the prenatal clinic helped patients get to know the delivering physicians and reduced the number of occasions in which patients are delivered by a "covering doctor" they had not met. In general, their impression was that patients were happy with the group practice model.
- Preservation of services: Nurses were supportive of the group obstetrical practice as a way to preserve obstetrical services in the community.
- Paperwork: The extra paperwork involved in receiving and keeping ante-partum charts complete and in order was seen as something of a burden.
- Physical space: The space in which the clinic operates was felt to be suboptimal, and nurses were concerned with trying to meet dual responsibilities for ante-partum clinic patients and day surgery patients recently moved into one end of the obstetrical unit space.

Fetal and maternal outcome

Fetal and maternal outcomes are summarized in Table 1. There is little obvious change in fetal and maternal outcomes to date. This is to be expected, with no change in obstetrical personnel. An interesting side effect is an increased interest in reducing our cesarean section rate. Plans are underway to develop better protocols for induction of labour, perhaps coupled with more effective pain relief models (i.e., in-house epidurals).

Overall advantages and disadvantages

The Hanover group practice highlighted a number of overall advantages and disadvantages to group obstetrical practice. These are illustrated in Table 2.

Discussion

Attempts to determine patient satisfaction with obstetrical care have been fraught with difficulty.13,14 In our study the questions were open-ended and patient anonymity was maintained, therefore allowing for negative comments to surface.

Consumer satisfaction may be the result of clinic design. The shared-call group system increased contact between nurses and patients and decreased the chance of a patient meeting the attending physician for the first time at delivery, thus addressing part of the continuity-of-care problem. It may be perceived as a positive effect on the part of the local caregivers to maintain and enhance a service deemed valuable by pregnant women. Certainly it has generated more discussion around obstetrical care in our community. All of these areas have been previously shown to have a positive effect on patient satisfaction.13,14

Overall, physicians found the group practice to be less disruptive, less stressful with better time off, and more supportive for new physicians. Nurses preferred the group practice, had greater involvement with patients and therefore were better able to predict their needs. They also found that the doctors were more predictable. Patients were generally pleased. They liked getting to know the physicians and nurses and appreciated the work involved in maintaining an obstetrical program in their community.

Fetal and maternal outcomes appeared to be relatively unchanged as would be expected in the early phase of a new program and with little change in participating personnel. Our cesarean section rate remained stable, a little under the regional average. With respect to other measurable outcomes there seems little change, taking into account the small number of patients.

It is acknowledged that one of the weaknesses of studying populations in rural communities is the inherently small sample sizes. In addition, the short time span of the study allows us to comment on trends only. However, this is balanced by the expected high response rates by the providers, which is likely the result of their feeling of "ownership" of this model of care and by their interest in its outcome. The Walkerton water contamination crisis, although adding somewhat to our workload during the time of the survey, also proved an excellent opportunity to show how 2 small neighbouring communities can come to each other's aid in a time of need. It is our opinion that it did not adversely affect any of the study parameters.

How does our study compare with previous studies? Shapiro,10 looking at an urban model of shared deliveries among GP obstetricians, showed an 88% satisfaction with delivery care and 79% of women delivered willing to choose such a system again. Our study would compare favourably in this rural setting. Osmun and colleagues,12 reporting on a group obstetrical practice in a rural setting, showed initial resistance by patients to shared obstetrical care. This has not been

our experience.

Some additional points are worth noting. With respect to remuneration, the system has the potential to be revenue neutral for participating physicians because those who hitherto had a large obstetrical practice still have the opportunity to attend their patient's delivery even if they are not the physician on call. However, there is a generalized discontent when it comes to remuneration. There certainly is little financial incentive to provide obstetrical services. Group practice in rural communities needs better funding, including an on-call stipend for a group style of service provision.

For the new doctors in town there was an unexpected benefit: the clinic established a routine and a review process that was encouraging and supportive. It allowed them to practise intra-partum obstetrics even though they may not have had a significant patient load to contribute to the group. Regular meetings were established to develop protocols and guidelines; these were well attended by nursing and medical staff alike and thus created a supportive environment for new staff.

Not surprisingly, group practice stimulated meetings to discuss protocols and methods of practice. It is hoped that by developing protocols (e.g., for induction of labour) using best evidence and shared expertise, improvements to fetal and maternal outcome can be expected in the future.

Our study indicates that rural group practice in obstetrics has a high degree of patient acceptance. It appears to be less stressful for the declining numbers of GP obstetricians and is supported by obstetrical nurses.

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