

Learning from our Ethiopian colleagues: operative obstetrics for the generalist

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There are many rural communities in Canada where hospitals do not have physicians skilled in advanced maternity care, including the ability to perform cesarean delivery. In rural Canada, family physicians are the main providers of maternity care. There may be a need to expand available training for these rural physicians to gain advanced maternity skills to meet the needs of these communities.

Most Ethiopian women do not have access to cesarean delivery or to health professionals trained in maternity care. The Ethiopian Federal Ministry of Health is working to increase access to skilled maternity care, partly in an effort to meet the fifth target of the United Nation's Millennium Development Goals, which is to reduce the maternal mortality ratio by 75% by 2015 from the 1990 value.

THE ETHIOPIAN AND CANADIAN CONTEXTS

In Ethiopia, the maternal mortality ratio (expressed per 100 000 live births; calculated as the maternal mortality rate divided by the general fertility rate) is among the highest in the world, with a rate of 676/100 000.¹ One major contributing factor is a lack of access to skilled maternity care, including timely access to operative delivery for labouring women. Only 10% of women in Ethiopia deliver with a skilled attendant present.¹ Eighty-five percent of Ethiopia's population lives in rural areas,¹ where access to medical care is severely limited.

Canada has one of the lowest maternal mortality ratios in the world at

12/100 000.² Most Canadian women have access to skilled maternity care. However, in rural Canada access to maternity services is declining. In northern Ontario, between 1981 and 1997 there was a 500% increase in the number of communities that lacked elective obstetric care.³

Fewer Canadian generalists are skilled in advanced maternity care. There has been a high rate of attrition among physicians who provide maternity care in rural areas. Many reasons for this have been cited, including lack of confidence by providers, lack of advanced (i.e., operative) skills and retirement of senior staff with advanced skills.⁴ As a result, many women in rural Canada must deliver far from their homes. This can put their babies at risk for adverse outcomes, including increased perinatal mortality, morbidity and increased rates of intervention.⁵ Mothers delivering far from home also experience substantial social and financial stress.⁵

Good outcomes can be sustained in rural Canada without access to surgical obstetrics.⁶ However, maintenance of rural surgical and anesthesia capabilities is desirable in rural communities,⁴ and availability of local cesarean delivery is associated with a greater proportion of women delivering locally.^{6,7}

A study that compared 2 similar hospitals in rural British Columbia showed that the hospital with cesarean delivery services had more local deliveries and a lower rate of preterm delivery than the hospital without cesarean capabilities.^{7,8} A generalist surgeon in Wawa, Ont., states, "[h]aving physicians trained to perform cesarean sections in smaller

communities is essential for the ability to continue viable obstetrical programs in these communities. Studies have shown that the first step in losing these programs is the loss of cesarean section capability, which serves to undermine the confidence of the remaining practitioners” (Dr. Erle Kirby, personal communication: 2013).

TRAINING OF GENERALISTS IN ETHIOPIA

In Ethiopia, the Federal Ministry of Health is working to address the issue of limited access to surgical obstetrics. The ministry has started formal training in comprehensive emergency obstetrical care (CEmOC). Although the situations in rural Canada and Ethiopia are different, there are enough parallels for Canadians to learn from Ethiopia’s generalist training. CEmOC training is specifically geared to generalists obtaining skills to manage obstetric surgical emergencies. By the completion of training, it is expected that trainees will have performed at least 20 cesarean deliveries independently. Generalists are taught by CEmOC-trained generalists and their obstetrician–gynecologist (OBGYN) colleagues.

One such training program took place at a district hospital in Addis Ababa, Ethiopia, over a 3-month period (Oct. 15, 2012–Jan. 14, 2013). The hospital serves a catchment population of 424 603. There are an average of 3500 deliveries per year, of which about 720 are cesarean deliveries (unpublished data, 2013).

Two practising generalists were trained by 2 OBGYNs and 1 generalist who previously received CEmOC training to perform cesarean deliveries and other emergency obstetric surgical procedures.

The training included focused didactic classroom teaching sessions and teaching in the surgical theatre. The CEmOC-trained generalist and 2 OBGYN trainers shared teaching duties in the classroom and in surgical theatre. The 3 trainers were paid a small stipend (per diem) for their teaching duties.

During the 3 months of training, a total of 191 procedures were done in the maternity unit at the hospital. Table 1 lists the procedures performed by the generalists at each stage of training. There was 1 reported maternal death, from presumed abruptio placentae, during the training period. This maternal death occurred in the labour ward, not in the surgical theatre. There were no reported surgical complications during the training period.

The newly CEmOC-trained generalists are now performing cesarean deliveries independently. At 4 months after training, they have performed a

combined total of 76 cesarean deliveries independently, and there have been no reported surgical complications.

These generalists are performing a higher volume of cesarean deliveries than Canadian rural physicians would likely be performing after training. However, it does not appear that high volume is needed to maintain competence. It has been shown that if generalists acquire competence through skilled training, competence can be maintained with relatively few cases per year.^{9–11}

In addition to the CEmOC training for generalists in Ethiopia, a family medicine residency program was launched at Addis Ababa University in February 2013. The family medicine residents are being trained by specialty medical staff at Addis Ababa University with support from family doctors from the University of Toronto and the University of Wisconsin–Madison, and medical volunteers from Cuso International. Surgical management of obstetric emergencies is integrated into the curriculum. It is hoped that all family medicine residents will graduate with the skills to manage obstetric emergencies. This will add to the cadre of Ethiopian generalists who are skilled in advanced maternity care.

DISCUSSION

In Canada, it can be difficult for rural generalists to obtain training. Advanced maternity care training is not integrated into the curriculum for rural family medicine residents. Although third-year training

Table 1. Surgical procedures performed by Ethiopian generalists during operative obstetric training

Training period; procedure	No. of procedures	
	Generalist A	Generalist B
Initial 30 days of training*		
Cesarean delivery	33	28
Laparotomy	2	2
Hysterectomy	—	—
Second 30 days of training†		
Cesarean delivery	37	27
Laparotomy	—	—
Hysterectomy	3	—
Last 30 days of training‡		
Cesarean delivery	38	29
Laparotomy	4	1
Hysterectomy	—	—

*Generalist acting as surgical first assistant with trainer acting as primary surgeon.

†Generalist acting as primary surgeon with trainer acting as first assistant.

‡Generalist acting as primary surgeon independently; trainer in house.

programs exist, not all contain a surgical component, and generalists are not usually included as trainers in these programs.

A 1999 position paper from The College of Family Physicians of Canada, the Society of Rural Physicians of Canada, and The Society of Obstetricians and Gynaecologists of Canada stated, “[t]he disciplines of family medicine and obstetrics and gynecology need to design and deliver formal, accessible training programs for advanced maternity skills.”⁴

A recent joint position paper published in the *Canadian Journal of Rural Medicine* states that “[a]ccess to additional training in advanced skills, including cesarean section and obstetric anesthesia, is essential.”¹²

It would seem that if rural maternity care is to continue in Canada, rural practitioners will need training in advanced maternity care. There are, of course, many other reasons that maternity services in rural Canada are declining, including fear of maintaining competency in low-volume settings, perceived medicolegal risks and occupational stress,⁴ and these factors need to be addressed. Anesthesia and surgical nursing skills are also needed to support advanced maternity care in the rural setting. Training for these skill sets will also need to be addressed. However, if we lose skilled practitioners and do not train adequate numbers of new practitioners, there may be little hope of advanced maternity care continuing in rural Canada.

Our Ethiopian colleagues were trained by both specialists and generalists. Including generalists as trainers in Canadian programs may be one way for generalists to maintain confidence in their skills, improve relationships between specialists and generalists, and provide role models for other generalists.

CONCLUSION

The situation with regard to maternal care is vastly different in Ethiopia than in Canada. The need to address the maternal mortality ratio in Ethiopia is urgent, and this drives the need to train more health care workers in advanced maternity care and operative obstetrics.

However, the Ethiopian model of accessible, supportive and collaborative advanced maternity

training for the generalist may be one from which Canadians could learn.

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