219 BIRTH 32:3 September 2005

Episiotomy Rates Around the World: An Update

Ian D. Graham, PhD, Guillermo Carroli, MD, Christine Davies, BA, and Jennifer Mary Medves, RN, PhD

ABSTRACT: Episiotomy, the unkindest cut of all, persists despite clinical practice guidelines recommending its restrictive use. The purpose of this paper was to compile international statistics on the use of this practice and examine whether current guidance on the restrictive use of episiotomy was being followed. Methods: We searched government websites and the Internet, contacted colleagues for references, and checked the references of retrieved citations. **Results:** Statistics from around the world revealed overall high rates of episiotomy with a decreasing trend in some countries. Considerable variation occurs in the use of the operation by country, within countries, and even within the same professional provider group. **Conclusions:** *Greater efforts are needed than currently in place to reduce the episiotomy rate,* particularly in the developing world. (BIRTH 32:3 September 2005)

Over the past 20 years, evidence supporting the restrictive use of episiotomy has been disseminated. International acceptance of this approach to perineal management can be seen in policy statements and clinical practice recommendations issued by many prominent public health and professional bodies.

The World Health Organization recommends that episiotomy be used only for select indications (1-3). The Latin American Center for Perinatology and Human Development and the Pan American Health Organization recommend restrictive rather than routine use of episiotomy (4). The American College of Obstetricians and Gynecologists recommends that

Ian Graham is an Associate Professor in the School of Nursing at the University of Ottawa and Associate Director of the Clinical Epidemiology Program, Ottawa Health Research Institute, Ottawa, Ontario, Canada; Guillermo Carroli is Director of the Centro Rosarino de Estudios Perinatales, Rosario, Santa Fe, Argentina; Christine Davies is a research assistant in the Clinical Epidemiology Program of the Ottawa Health Research Institute, Ottawa; and Jennifer Medves is an Assistant Professor in the School of Nursing, Faculty of Health Sciences, Queen's University, Kingston, Ontario, Canada.

Address correspondence to Dr. Ian D. Graham, Associate Director, Clinical Epidemiology Program, Ottawa Health Research Institute, Ottawa Hospital, 1053 Carling Ave., ASB Room 2-008, Ottawa,

Canada K1Y 4E9.

episiotomy be used to aid in the management of delivery in some situations, but states that routine use of the procedure is not necessary (5). The American College of Nurse-Midwives recommends that episiotomy only be used to relieve fetal or maternal distress, or when the perineum is responsible for a lack of progress (6). The Society of Obstetricians and Gynecologists of Canada recommends that episiotomy only be used to expedite delivery in the case of fetal compromise or maternal distress and lack of progress (7). The Federal Department of Health in Canada also recommends that episiotomy only be used in the case of special fetal or maternal indications (8). The Royal College of Obstetricians and Gynaecologists in the United Kingdom recommends that routine episiotomy be abandoned and a policy of restricting use of episiotomy to specific maternal and fetal indications be adopted (9-10). Other organizations supporting the restrictive use of episiotomy include the Board on Global Health, a board of the U.S. Institute of Medicine, a component of the U.S. National Academy of Sciences (11), and Maternal and Neonatal Health, a USAID organization (12).

Although agreement about restricting the use of episiotomy is generally growing, no such consensus has emerged as to what constitutes an appropriate episiotomy rate. Based on their randomized controlled trial. Carroli and Belizán indicated that a rate above 30 percent could not be justified (13).

220 BIRTH 32:3 September 2005

Some have suggested a rate of 20 percent may be appropriate (14). Still others have suggested that it should be about 10 percent for primiparas and 5 percent for multiparas (15).

Methods

Interested in determining whether current guidance on the restrictive use of episiotomy was being followed, we set out to compile international statistics on the use of this practice. We located statistics by searching government websites and the Internet, contacting colleagues for references and checking the references of retrieved citations. We attempted to be comprehensive in our search, but statistics from some countries may have been missed.

Results

Although episiotomy is a common obstetrical procedure, statistics on its use are not always easily located. The haphazard way that statistics on episiotomy are often collected and reported, if they are collected and reported at all, indicates the lack of significance that has been placed on this operation by health officials. Furthermore, despite the wellknown relationship between parity and the use of episiotomy (primiparous women having higher episiotomy rates), episiotomy statistics by parity is not systematically collected in many countries. Because the fertility rate influences the episiotomy rate, and the resulting proportion of the population that is primiparous and multiparous, caution must be exercised when interpreting an episiotomy rate that is provided for the entire childbearing population.

Table 1 presents episiotomy rates for the years 1995 to 2003 by selected regions and countries (16). Episiotomy rates that include *both* primiparous and multiparous women range from as low as 9.7 percent (Sweden) to 100 percent (Taiwan). Rates for *solely* primiparas range from 63.3 percent (South Africa) to 100 percent (Guatemala), demonstrating the overall greater likelihood that primiparas will undergo episiotomies. Episiotomy rates tend to be lowest in English-speaking and some European countries. In many parts of the world (e.g., Central and South America, South Africa, and Asia), episiotomy rates remain very high. For example, in much of Latin America, 9 of every 10 primiparas can still expect to receive an episiotomy (17).

Not only is there large variation in the use of episiotomy from country to country, often variation occurs within countries. In the United States the episiotomy rate varies from region to region. The highest rate in 2000 was in the Northeast, 38 percent, and the

lowest was in the West, 27 percent (18). The 2000–2001 episiotomy rate by Canadian province also revealed that the use of this surgery ranged from 3 percent (Nunavut) to 31 percent (Quebec) (19). Australian data from 2002 also reveal that the rate varied from 9.9 percent in the Northern Territory to 20.9 percent for the State of Victoria (20).

Similar observations about variation in the use of episiotomy have been made around the world. Within Ireland, total rates in 1998 varied between 7 and 47 percent. Rates for primiparas varied between 13.3 and 80 percent, whereas rates for multiparas varied between 2 and 40 percent (21). A study of 39 hospitals in the Netherlands found the 1995 episiotomy rate varied from 7.6 to 42.1 percent in spontaneous term deliveries (22). In Argentina, the total episiotomy rate for 1995 was found to range between a low of 33 percent and a high of 62.5 percent in different hospitals (23). Variation in episiotomy rates by hospital in Sweden was observed by Rockner et al in 1989 and 1995, although the variation was less in 1995 (24,25). A 1999 observational study of 4 hospitals in Shanghai, China, revealed that the episiotomy rate ranged from 65 to 93 percent (26). In England, little variation occurred in episiotomy rate by region; national statistics for 2002-2003 reveal the rate by region differed by only 3 percent (27).

Not only can episiotomy rates vary between and within countries, they can vary considerably within the same provider group in the same institution. In one study of 20 experienced labor ward midwives in Dublin, episiotomy rates by individual caregiver ranged from a low of 6 percent to a high of 84 percent (28). Similarly in England, Wilkerson studied 21 midwives in one hospital and observed huge variation among midwives, concluding that the variation suggested episiotomy was determined not by the condition of the mother or baby but by which provider was allocated to the case (29). In an observational study of 30 midwives in Denmark, the rate of episiotomies performed varied from less than 10 to more than 70 percent (30).

Discussion and Conclusions

This brief and selective review of episiotomy rates not only reveals overall high rates of episiotomy with a decreasing trend in some countries, but also considerable variation in the use of the operation by country, within countries, and even within the same professional provider group. Notwithstanding the limitations inherent in relying on official and unofficial statistics, these variations are not likely to be explained by differences in the childbearing population. This finding suggests that in many settings, use

BIRTH 32:3 September 2005 221

Table 1. Selected Episiotomy Rates Per 100 Vaginal Deliveries by Region and Country, 1995-2003

Region	Country/Reference	Year	Primiparas %	Total %
North America	Canada (19) United States (18)	2000–2001 2000		23.8
Central and South America	United States (18) Argentina (38) Mexico (17) Panama (17) Colombia (17) Nicaragua (17) Bolivia (17) Paraguay (17) Honduras (17) Brazil (17) Peru (17) Dominican Republic (17) Uruguay (17)	2000 1996 1995–1998 1995–1998 1995–1998 1995–1998 1995–1998 1995–1998 1995–1998 1995–1998 1995–1998	65.3 69.2 81.8 86.2 86.3 90.8 91.5 92 94.2 94.4 94.9	32.7 28.5
	Chile (17) Chile (17) Ecuador (17) Guatemala (12)	1995–1998 1995–1998 2001	95.9 96.2 100 (estimate)	
Northern Europe	Sweden (39) Denmark (40) Finland (41)	1999–2000 2002–2003 2003		9.7 12 33.9
Western Europe	England (42) Scotland (40) Netherlands (43) Germany (40) Switzerland (44) Ireland (39) France (40) Italy (39) Turkey (45) Spain (46)	2002–2003 2002–2003 1995 2002–2003 2004 1999–2000 2002–2003 1999 1999–2000 1995		13 16.3 24.5 44.4 46 46 49.5 58 64 87.3
Eastern Europe	Bulgaria (47,48) St. Petersburg, Russia (49)	1997 1997	77.1	45.6 46.2
Asia	Nepal (50) China (26) Taiwan (32)	2003 2001 2002		42.9–67.3 82 100 (estimate)
Middle East	Israel (51)	2001		37.6
Oceania	New Zealand (52) Australia (20)	2001 2002		11 16.2
Africa	Burkina Faso (53) Nigeria (54,55) Botswana (56) Zimbabwe (57) South Africa (58)	1998 2001 1998–2000 1997–1998 2003	37 90 54	14 20 20.7 27 63.3–67.5

Source: Modified and used with permission from: Henderson C, Bick D, eds. Perineal Care: An International Issue. London: Mark Allan Publishing, 2004 (37).

of episiotomies is still not guided solely by clinical indications, as suggested by practice guidelines recommending the restrictive use of episiotomy. It is unclear what factors can best explain the large variation in episiotomy rates. Some scholars point to the prevailing notions in some cultures of birth as pathological (31) and other attitudes and beliefs about the nature of birth and women's bodies (16) as key causes for the high rates. Others have suggested it may be

due to the medicalization of childbirth (32) and the importation of the United States' reliance on episiotomy because it was considered more progressive or superior to traditional approaches of restricting its use (33,34). Although the current maternity care climate, as measured by mounting research evidence (35), supports restrictive use of episiotomy, more efforts to reduce the episiotomy rate are clearly needed, particularly in the developing world (36,37).

References

- World Health Organization. Appropriate technology for birth. Lancet 1985;326:436–437.
- World Health Organization. Care during the second stage of labour. In: Care in Normal Birth: A Practical Guide. 1996. Access at: http://www.who.int/reproductive-health/ publications/MSM 96 24/MSM 96 24 chapter4.en.html.
- World Health Organization. Managing Complications in Pregnancy and Childbirth. Section 3—Procedures. 2000. Access at: http://www.who.int/reproductive-health/impac/ procedures/episiotomy P71 P75.html.
- 4. Latin American Center for Perinatology and Human Development. Best Practices for Labor and Perinatal Care: A Special Award Program to Maternities that Provide High Quality Services for Mothers and Children. 2004. Access at: http://www.paho.org/English/CLAP/invpro14.htm.
- American Academy of Pediatrics and the American College of Obstetricians and Gynecologists. *Guidelines for Perinatal Care*. 4th ed. Washington, DC: Author, 1997.
- American College of Nurse-Midwives. *Unnecessary Episiotomies:* The Nurse-Midwifery Solution. 2004. Access at: http://www.midwife.org/prof/display.cfm?id = 87 (on file with authors).
- Society of Obstetricians and Gynaecologists of Canada. Clinical Practice Guidelines: Healthy Beginnings for Care During Pregnancy and Childbirth. Ottawa: Author, 1998.
- Health Canada. Family-Centred Maternity and Newborn Care: National Guidelines. Ottawa: Minister of Public Works and Government Services, 2000.
- Royal College of Obstetricians and Gynaecologists. Methods and Materials used in Perineal Repair (23). 2004. Access at: http://www.rcog.org.uk/resources/Public/pdf/perineal_ repair.pdf.
- Royal College of Obstetricians and Gynaecologists. Maternal Morbidity and Mortality—Study Group Recommendations. 2002. Access at: http://www.rcog.org.uk/index.asp?pageid=309.
- Board on Global Health, Institute of Medicine. Improving Birth Outcomes: Meeting the Challenge in the Developing World. Washington, DC: National Academies Press, 2003.
- Maternal Neonatal Health Program. Guatemala's Clinical Skills Training Fosters New Practices and Attitudes. 2004. Access at: http://www.mnh.jhpiego.org/news/guatcst.asp.
- Argentine Episiotomy Trial Collaborative Group. Routine vs selective episiotomy: A randomised controlled trial. Argentine Episiotomy Trial Collaborative Group. *Lancet* 1993; 342:1517–1518.
- Henriksen TB, Bek KM, Hedegaard M, Secher NJ. Episiotomy and perineal lesions in spontaneous vaginal deliveries. Br J Obstet Gynaecol 1992;99:950–954.
- 15. Reducing episiotomy (Editorial). Accoucher: A Newsletter for Primary Care in Childbirth 1994;1(Apr):3.
- Graham I, Davies C. Episiotomy: The unkindest cut that persists. In: Henderson C, Bicks D, eds. *Perineal Care: An International Issue*. London: Mark Allan Publishing, 2004.
- Althabe F, Belizán JM, Bergel E. Episiotomy rates in primiparous women in Latin America: Hospital based descriptive study. BMJ 2002; 324:945–946.
- Kozak LJ, Hall MJ, Owings MF. National Hospital Discharge Survey: 2000. Annual Summary with Detailed Diagnosis and Procedure Data. Vital Health Stat 13. 2002(153):1–194. Hyattsville, Maryland, National Center for Health Statistics, 2002.
- Health Canada. Canadian Perinatal Health Report 2003. 2003.
 Access at: http://www.phac-aspc.gc.ca/publicat/ cphr-rspc03/index.html.

- Laws P, Sullivan E. Australia's Mothers and Babies 2002.
 Perinatal Statistics Series 15. Sydney: AIHW National Perinatal Statistics Unit, 2004.
- Cuidiú. Preparing Together for Birth and Beyond: A Consumer Guide to the Maternity Services in Ireland. Dublin: Irish Childbirth Trust, 1999.
- Heres MHB, Pel M, Elferink-Stinkens PM, et al. The Dutch obstetric intervention study—variations in practice patterns. *Int J Gynaecol Obstet* 1995;50(2):145–150.
- Cravchik S, Munoz DM, Bortman M. Indications for episiotomy at public maternity clinics in Nequen, Argentina [Spanish]. Rev Panam Salud Publica 1998:4(1);26–31.
- 24. Rockner G, Olund A. The use of episiotomy in primiparas in Sweden: A descriptive study with particular focus on two hospitals. *Acta Obstet Gynecol Scand* 1991;70:325–330.
- Rockner G, Fianu-Jonasson A. Changed pattern in the use of episiotomy in Sweden. Br J Obstet Gynaecol 1999;106:95–101.
- Qian X, Smith H, Zhou L, Liang J, Garner P. Evidence-based obstetrics in four hospitals in China: An observational study to explore clinical practice, women's preferences and provider's views. *BMC Pregnancy Childbirth* 2001;1(1):1.
- Williams FL, du VF, Mires GJ, Ogston SA. Episiotomy and perineal tears in low-risk UK primigravidae. *J Public Health* Med 1998;20:422–427.
- Begley CM. Episiotomy rates may change after evidence based intervention. BMJ 2002;325:335.
- Wilkerson V. The use of episiotomy in normal delivery. *Midwives Chronicle Nurs Notes* 1984; Apr: 106–110.
- Henriksen TB, Bek KM, Hedegaard M, Secher NJ. Methods and consequences of changes in use of episiotomy. BMJ 1994;309:1255–1258.
- 31. Diniz SG, Chacham AS. "The cut above" and "the cut below": The abuse of caesareans and episiotomy in Sao Paulo, Brazil. *Reprod Health Matters* 2004;12(23):100–110.
- Yeh PS. Childbirth in Taiwan is certainly overmedicalized. *BMJ* 2002;325:103.
- Kitzinger S. Episiotomy. Controversy. Midwife Health Visitor Comm Nurse 1979;15(6):233–234.
- 34. Kitzinger S. Sheila Kitzinger's Letter from Europe: Obstetric metaphors and marketing. *Birth* 1999;26:55–57.
- Carroli G, Belizan J. Episiotomy for vaginal birth (Cochrane Review). In: *The Cochrane Library*. Issue 2. Chichester, UK: John Wiley, 2005.
- Maduma-Butshe A, Dyall A, Garner P. Routine episiotomy in developing countries: Time to change a harmful practice. *BMJ* 1998;316:1179–1180.
- 37. Henderson C, Bick D, eds. *Perineal Care: An International Issue*. London: Mark Allan Publishing, 2004.
- Belizán JM, Carroli G. Routine episiotomy should be abandoned. BMJ 1998;317:1389.
- Alran S, Sibony O, Oury JF, et al. Differences in management and results in term-delivery in nine European referral hospitals: Descriptive study. Eur J Obstet Gynecol Reprod Biol 2002;103(1):4–13.
- Wildman K, Blondel B, Nijhuis J, et al. European indicators of health care during pregnancy, delivery and the postpartum period. *Eur J Obstet Gynecol Reprod Biol* 2003;111(suppl 1):S53–S65.
- Finland, National Research and Development Centre for Welfare and Health. *Parturients, Births and Newborn Infants* 2003. 2003. Access at: http://www.stakes.info/files/pdf/ Tilastotiedotteet/T+26_04.pdf.
- 42. Department of Health. *NHS Maternity Statistics, England:* 2002–03. 2004. Access at: http://www.dh.gov.uk/assetRoot/04/08/08/23/04080823.pdf.

BIRTH 32:3 September 2005 223

43. Pel M, Heres MH, Hart AA, et al. Provider-associated factors in obstetric interventions. *Eur J Obstet Gynecol Reprod Biol* 1995;61:129–134.

- 44. Schwappach DL, Blaudszun A, Conen D, et al. Women's experiences with low-risk singleton in-hospital delivery in Switzerland. *Swiss Med Wkly* 2004;134(7–8):103–109.
- 45. Karacam Z, Eroglu K. Effects of episiotomy on bonding and mothers' health. *J Adv Nurs* 2003;43:384–394.
- Garcia EM, Merino MJR, San Martin MLB. Episiotomy in the Hospital General Universitario in Alicante, Spain. Description and evaluation [Spanish]. *Enfermeria Clin* 1998;8(1):1–6
- 47. Dimitrov A, Nikolov A, Nalbanski B, et al. The results of the limited use of episiotomy in managing the second stage of labor. *Akush Ginekol (Sofiia)* 1997;36(1):3–4.
- 48. Dimitrov A, Nalbanski B, Nikolov A, et al. An analysis of the indications for episiotomy in current obstetrical practice. *Akush Ginekol (Sofiia)* 1997;36(1):1–3.
- Chalmers B, Muggah H, Samarskaya MF, Tkatchenko E. Women's experiences of birth in St. Petersburg, Russian Federation, following a maternal and child health intervention program. *Birth* 1998;25:107–116.
- Rana TG, Rajopadhyaya R, Bajracharya B, et al. Comparison of midwifery-led and consultant-led maternity care for low risk deliveries in Nepal. *Health Policy Plan* 2003;18:330–337.

- 51. Jakobi P, Lowenstein L, Sabo E, Weissman A. *Episiotomy: An Unkind and Unnecessary Cut*. Abstract no. 369, 5th World Congress of Perinatal Medicine, Barcelona, Spain, Sept 23–27, 2001. Access at: http://www.perinatology2001.com/listtitle.asp?id = 290 (on file with authors).
- Ministry of Health, New Zealand. Report on Maternity 2000 & 2001. Auckland: New Zealand Health Information Service, 2003.
- 53. Lorenz N, Nougtara A, Garner P. Episiotomy in Burkina Faso. *Trop Doct* 1998;28(2):83–85.
- Oyo-Ita A, Ekott M, Chiazor H, Meremikwu M. Better Birth Initiative—Calabar Project. Cochrane Colloquium, Lyon, France, Oct 9–13, 2001, Access at: http://www. biomedcentral.com/abstracts/COCHRANE/1/pb064.
- 55. Otoide VO, Ogbonmwan SM, Okonofua FE. Episiotomy in Nigeria. *Int J Gynaecol Obstet* 2000;68(1):13–17.
- Pfau R. Audit on Obstetrical Care in the Maternity Ward of Bamalette Lutheran Hospital, Ramotswa, Botswana. 20th Conference on Priorities in Perinatal Care in Southern Africa, 2001. Access at: http://www.perinatalpriorities.co.za/ dbfiles/Priorities20%20-%202001.doc.
- van den Bergh JE, Sueters M, Segaar M, van Roosmalen J.
 Determinants of episiotomy in rural Zimbabwe. *Acta Obstet Gynecol Scand* 2003; 82:966–968.
- Pattinson R, Howarrth G, Mdluli W, et al. Aggressive or expectant management of labour: A randomized clinical trial. BJOG 2003;110:457–461.