Maternal Death: Scotland's Enlightenment

Introduction

It was only in the mid-twentieth century that maternal death ceased to be a prominent problem to women, families and healthcare providers in higher income countries; but it has, otherwise, been a tragic fact of life since time immemorial. When a woman who has been healthy enough to become pregnant dies, she leaves not only a motherless family but also a grieving social network. At the same time as maternal mortality rates have declined over recent centuries, the recording of these data and knowledge of the conditions leading up to them has gradually become more reliable. It may be that improving, first, calculation of these figures and, second, knowledge of the aetiology has facilitated midwives' and others' attempts to improve mothers' survival rates. We argue that an eighteenth-century publication marked a turning point in the presentation of reliable data and the uses to which it is put.

The artistic and literary depictions of the effects of maternal, formerly known as childbed, death have been discussed elsewhere (Mander & Marshall 2016a&b); so we seek to address in this paper how maternal death statistics have been publicised. We draw particularly on a little-known data source in the form of a popular, yet serious, Scottish publication which has been continuously in print since 1739. We follow these data through to the ground-breaking work of an early Scottish researcher, Alexander Gordon (1752-99), which long predated the better-known work by Ignaz Semmelweis (1818-1865). We conclude by relating the work on maternal death in eighteenth-century Scotland to current representations in the popular media.

In drawing attention to these data we are not seeking to analyse in detail the epidemiology, aetiology or pathology of maternal death. We endeavour, however, to draw attention to the fact that there was sufficient general interest in the problem of childbed death to warrant publication of these figures in a popular, non-professional, publication with a wide readership amongst the educated general public.

Background

It has long been recognised that giving birth can be 'an extremely dangerous business' (Marshall 1983:17) for both baby and mother. The extent to which others realised this and the extent of the danger are less certain, as well as being topics of some dispute. Gravestones may be used to learn about *when* a death occurred, but they tend not to mention the cause of death, particularly if the death was of a woman in childbed. Such explicit accounts are notable by their scarcity, with the following epitaph being a touching exception:

> Sacred also to the memory of Maria Hay, the beloved wife of Dr Thatcher, physician, Edinr.,
> an ornament to her sex & faithful to her God.
> She died with her infant son in the act of childbirth on the 23d July 1827.
> An event to be regretted & most sincerely to be deplored.
>
> (Brown 1867:160)

The creation of artworks, literature and contemporary documents marking the death of a woman in childbed has been familiar until relatively recently when, in the twentieth century, it became something of a taboo

topic (Mander & Marshall 2016a). But the twin issues of publicising childbed death in other ways and of quantifying the size of the problem have received less attention. The notable exception to the latter observation is found in the authoritative work of Irvine Loudon, a historical medical epidemiologist (1986; 1992).

Registration of deaths became required in Scotland in 1855, having been introduced in England and Wales in 1837. Prior to these dates, Loudon (1986:13-4) states, there were 'no reliable estimates before, at the earliest, the late eighteenth century' of the numbers of maternal deaths. He does, however, go on the recount some of the estimates for London, Somerset, Manchester and Northampton. The figures for annual average rates which are quoted, though, provide limited basis for comparison as the denominator varies, including per thousand births and per thousand baptisms. These difficulties are exacerbated by the recognition of 'wide annual variations' (Loudon 1986:14). Identifying the magnitude of the problem in Scotland is not assisted by that country tending to be neglected or else being subsumed under 'England and Wales' (Loudon 1992:22). In this paper, therefore, we attempt to correct this neglect by focussing on the Scottish situation. Of particular interest and significance are some developments during the mid-late eighteenth century, a period for which the term 'Scottish Enlightenment' was introduced in 1900 (Passmore 2001), but which didn't come into common use among Scottish historians until the mid-twentieth century.

The Enlightenment in Scotland comprised an intellectual and cultural movement which began in the latter part of the eighteenth century. The concept of 'Enlightenment' and the terminology has been criticised, first, for the suggestion of the previously unenlightened nature of Scottish society, which carried the mistaken implication that Scottish society was somehow lingering in the Dark Ages until then. Second, being an 'almost exclusively male enterprise' (Herman 2001: 15-18 & 303), featuring Adam Smith (1723-1790, Adam Ferguson (1723-1816) and David Hume (1711-1776) among others, has aroused further censure. Women's limited involvement, although Alison Cockburn (1712-1794) and Lady Nairne (Carolina Oliphant) (1766-1845) are significant exceptions, has been explained in terms of their being 'still tied down by family obligations' Marshall (1983:223). In association with Rousseau's ideas, as propounded in *Emile*, such obligations were elevated to ideal status during the Enlightenment (Passmore 2001). Women's education at this time was changing (Glover 2011) and their input into the Enlightenment is undergoing reappraisal (Sebastiani 2005).

A crucial factor in the widespread development of the Enlightenment in Scotland was the unequalled literacy of Scottish people (Herman 2001:20). Following the laudable, if incompletely effective, intentions of the School Establishment Act (1616) to create a 'school in every parish', by the late eighteenth century about 75% of Scots could read. In association with this burgeoning literacy, the print media flourished. One example among many is a popular magazine which is still in print and which published the data on which we concentrate.

The *Scots Magazine*

Although its focus has changed, this magazine was first published in 1739 as a current affairs journal. Benchimol (2013) argues its crucial role in maintaining ideals of Scottish identity, which he regards as having been under threat following the Union of the Parliaments in 1707. Now "the oldest magazine in the world still in publication" (Scotsman 2015), it reported on the failure of the 1745 Jacobite Rebellion, led by Charles Edward Stuart, and the 2014 Independence Referendum. The *Scots Magazine* was originally one of a 'score of [Edinburgh-based] magazines and reviews' (Brown 2003:2), and claimed to provide:

> "a general view of the religion, Politicks, Entertainment etc in Great Britain and a succinct account of Publick Affairs Foreign and Domestic for the year MDCCXXXIX" (Editorial:1639) .

The Magazine's admirable aims were summarised on the title page in the form of a quotation from Cicero:

Ne quid falsi dicere audeat, ne quid veri non audeat

(Let him not dare to say anything that is false, nor let him dare say what is not true).

In the Preface to the first volume, the Magazine stated its primary readership to be "persons of every station". The content was largely 'scholarly', including essays focussing on topics such as the State of Europe. There were weekly poems, and letters relating to the theatrical stage and "Domestick Occurrences in Edinburgh", including an eclipse of the moon, smuggling, sea disasters, a major house fire and a workhouse to be endowed.

With its wide readership, the publication of this magazine was intended to provide an eclectic and enriching range of reading material. A scholar and early editor who was particularly enthusiastic to achieve these aims was William Smellie (1740-95); he edited the magazine from 1759 to 1765 (Brown 2002) before going on to edit the first edition of Encyclopaedia Britannica and publish William Buchan's 'Domestic Medicine'. Focusing on medical and technical journalism, Smellie was keen to share knowledge throughout all socio-economic classes. His enthusiasm appears to have verged on the evangelistic, with Elliott recounting Smellie's fervent belief in the 'Democratic access to knowledge' (1950:196). Such ideals would currently be recognised as 'the democratisation of learning' (Brown 2002:2).

The Data

As well as scholarly papers on the topics mentioned above, the *Scots Magazine* published statistics on causes of death of people buried in Greyfriars' and St Cuthberts' churchyards from the five main Edinburgh parishes in the form of 'Bills of Mortality' (see Table 1). Some London data were provided for comparison. In January 1739 the magazine listed Casualties, Burials and Causes of Death, including "Diseases [of] Old age (2), consumption (32), smallpox (28) … child-bed (3) … Killed by a fall (1) and stillborn (5)".

Table 1. Examples of Data in Bills of Mortality

Casualties in January 1739	
Drowned	4
Killed by Fall	1
Smothered	10
Burials in January 1739	
Men	18
Women	25
Children	72

As mentioned already, this paper does not seek to draw conclusions about the problem of maternal mortality, so our analysis of the published figures is brief. The analysis is further constrained by not knowing the definition of maternal death used; but it probably did not include antenatal death, as the woman would not be known to a midwife until the onset of labour. The data are likely to have been drawn from the Register of Interments which all churches, including Greyfriars and St Cuthbert's, were required to maintain. The data were published monthly for the thirty three years from 1739 to 1772; the reason for their discontinuation is uncertain, but we speculate that it may have related to the anticipated movement of population and, hence, burials in association with James Craig's design of the 'New Town' in 1766.

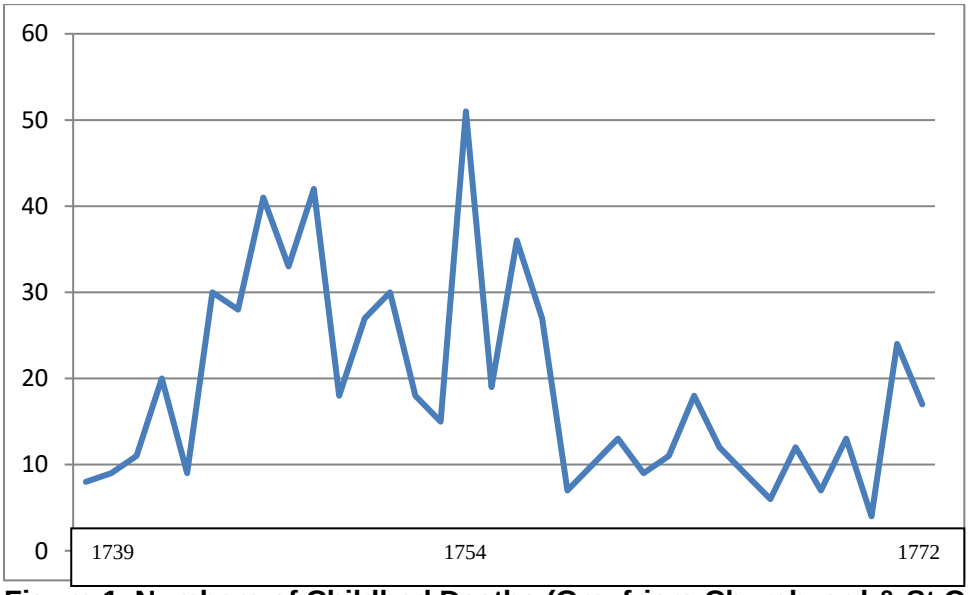

Figure 1. Numbers of Childbed Deaths (Greyfriars Churchyard & St Cuthbert's) by year

The data suggest that there is no correlation between stillbirths and childbed deaths. As our main focus of interest is on childbed deaths, we disregard the stillbirth data (Figure 1.).The baseline in this graph appears to be at about 10 deaths per annum. There is, however, a series of particularly 'bad' years from 1744 to 1757, with three exceptions, when the number of maternal deaths appears to rise, with a range of 27 to 51. These 'bad' years include two serious spikes, first in 1754 and a less serious spike in 1756/7. Thereafter the only marked deviation from the baseline is another less marked rise in 1771, the year before these data ceased to be published.

Visual inspection of the monthly data transcribed into a spreadsheet (not given here) suggests that there are more months with no deaths during the summer. The exceptions are during the years of 1750 and 1754 when the annual total of childbed deaths reached 27 and 51 respectively. In January of these years no

deaths were recorded, and in October and November of 1757 no deaths were recorded. These figures suggest that childbearing women may have been more resilient during the warmer summer months and less likely to succumb to the trauma, infection and haemorrhage which would have carried them off in less congenial weather. The incidence of plague or, more likely, cholera in the summer, though, might have outweighed any such advantage.

Despite the obvious limitations on our interpretation of these data, the unarguable fact remains that they were available in a popular, meaning non-professional, publication. This in itself indicates the enthusiasm of the publisher to share such knowledge, in the hope that the public may learn from it, and of the readership's interest in these tragic outcomes to childbirth.

Subsequent Developments

As mentioned already, ideas about childbearing and childrearing moved forward during the Enlightenment, based on the ideals of reason, science and freedom of thought. Another development, following the publication of these data, was the work on one cause of maternal death - puerperal fever. Alexander Gordon (1752-99) in Aberdeen researched and published his findings in 1795. He introduced the, then unacceptable, concept of the attendant possibly playing some part in the transmission of sepsis. Rejecting the possibility of airborne spread Gordon wrote:

> This disease seized such women only, as were visited, or delivered, by a practitioner, or taken care of by a nurse, who had previously attended patients affected with the disease. (1795:36)

Allocating numbers to the women who were infected, Gordon identified the movements of attendants from woman No 1 to No 2, from Nos 1 and 2 to Nos 5 and 6, from No 24 to Nos 25 and 26 and so on. The extent of the spread is clear from Gordon's report that:

> The midwife, who delivered Mrs K------, carried the infection to No 55 in Nigg … from whom it spread through the whole parish (1795:37)

On the basis of such observations, though he admitted the disagreeable nature of finding that he and his co-professionals were culpable, Gordon argued that puerperal fever was a communicable infection transmitted by attendants. Thus, Gordon's realisation of the contagious nature of puerperal fever predated the better-known findings of Semmelweis by forty years (Loudon 2005).

Twenty-first Century Popular Media

The existence of the childbed mortality data published in the *Scots Magazine* indicates, first, the enthusiasm of the editors to enlighten, by sharing the need for improvement in childbearing care with the eighteenth century general public. Second, the readership was clearly prepared to accept such information, which is apparent from the continuing publication of these data for more than thirty years.

While maternal mortality data are collected, analysed and published in the twenty-first century, the material tends to be directed towards a professional readership (MBRRACE-UK 2016). The popular media appear to be more cautious in their presentation of such material. Such caution is found in a popular introduction to the Scottish Enlightenment (Buchan 2003). In his references to the annual Bills of Mortality in the *Scots Magazine*, Buchan refers to the numbers of deaths from infections and stillbirths, but he omits to mention any childbed death figures (2003: 277 & 283).

The reluctance of relatively serious publications to mention maternal death manifested itself in an otherwise admirable editorial (Guardian 2017) on domestic abuse. Demonstrating the accepted link between domestic abuse and childbearing, the editor states that '[domestic abuse] is a leading cause of foetal death' (2017:26). Such a statement reflects the modern media's inability to recognise and articulate the well-established role of domestic abuse as a cause of maternal death (MBRRACE-UK 2016:26). This modern inability contrasts markedly with the *Scots Magazine's* preparedness to publish childbed mortality data in the eighteenth century.

The more popular televised dramas and fly-on-the-wall documentaries, such as 'One Born Every Minute', 'Highland Midwife' and 'Call the Midwife', are similarly cautious. Because 'Call the Midwife' represents childbearing at a time when maternal death was more frequent than currently, it is surprising that the only example of such a death was quite tangential to the main story-line. The production team are wary of the plot being too shocking for twenty-first century sensibilities and avoid material likely to cause serious distress to viewers (Coates 2017).

The country, though, which has the most significant media presence in the twenty-first century, the United States of America, appears to give no attention in the popular media to its relatively high maternal mortality rate. This rate puts the USA figure (14:100,000 births) at almost double that in the UK (9: 100,000 births) (WHO 2016). Thus, the media may be used to disguise disagreeable realities as well as revealing them.

In the Republic of Ireland, however, maternal death is being brought to the attention of the public in a quite different way. The Elephant Collective is adopting a number of strategies to involve the public in its campaign for legislative change to institute inquests following maternal deaths (CKI 2017).

Discussion and Conclusion

As with certain other childbearing-related topics (Fleming et al 2016), it is clear that publicising, or even mentioning, the death of a mother currently verges on being taboo (Mander 2001). Such unspoken proscription contrasts markedly with public displays of grief and mourning at the demise of certain celebrities. In spite of its forbidden status, there were a number of publishers and scholars in Enlightenment Scotland whose contribution to knowledge and understanding of childbed death has passed widely under-reported. This may have allowed the perception that women were not involved with or affected by the Enlightenment. The data which we have described almost certainly contributed to the burgeoning interest in the problem of maternal death and the subsequent research into puerperal fever. Thus, the understanding of causation and an eventual improvement in maternal death rates became possible. We have shown the

likely benefits to women in general, and childbearing women in particular, of the work of these two early Scottish scholars. These luminaries of the Scottish Enlightenment valued the sharing of unpalatable knowledge to an extent which does not exist among the twenty-first century media.

References

Benchimol A 2013 For "the PROSPERITY OF SCOTLAND": Mediating National Improvement in the Scots Magazine, 1739-49 Studies in Scottish Literature 39:1 Article 10 pp 82-103 Accessed 0817 http://scholarcommons.sc.edu/ssl/vol39/iss1/10

Brown J 1867 The Epitaphs and Monumental Inscriptions in Greyfriars Churchyard Edinburgh Edinburgh J Moodie Miller

Brown S 2002 William Smellie and Natural History: Dissent and dissemination pp 191-214 Ch 7 in Withers CWJ Wood P (Eds 2002) Science & Medicine in the Scottish Enlightenment Tuckwell Press E Linton

Brown S 2003 Printing for the People Folio 6:2-5 Accessed 0817 http://www.nls.uk/media/22685/folio06.pdf

CKI 2017 The Elephant Collective Community Knowledge Initiative Accessed 0817 https://cki.nuigalway.ie/organisation/view/336

Buchan J 2003 Capital of The Mind London John Murray

Coates T 2017 Personal Communication

Editorial 1639 Title Page The Scots Magazine Vol 1 January

Elliott 1950 The Early Scots Magazine Modern Language Quarterly June 11:2 189-96

Fleming V Iljuschin I Pehlke-Milde J Maurer F Parpan F 2016 Dying at Life's Beginning: Experiences of parents and health professionals in Switzerland when an '*in utero* ' diagnosis incompatible with life is made Midwifery 34:1 23–9

Glover K 2011 Elite Women and Polite Society in Eighteenth-Century Scotland Woodbridge Boydell Press

Gordon A 1795 A Treatise on the Epidemic Puerperal Fever of Aberdeen London: GG and J Robinson.

Herman A 2001The Scottish Enlightenment: The Scots Invention of the Modern World London Fourth Estate

Loudon I 1986 Deaths in Childbed from the Eighteenth Century to 1935 Medical History, 30: 1-41

Loudon I 1992 Death in Childbirth: an international study of maternal care and maternal mortality 1800-1950 Clarendon Press Oxford.

Loudon I 2005 Semmelweis and his thesis Journal of the Royal Society of Medicine 98:555

Mander R 2001 Death of a Mother: Taboo and the Midwife Practising Midwife 4:8 23-5 1451-3123

Mander R Marshall RK 2016a Birth and Death? Maternal memorabilia in Scotland Bereavement Care 35:2 78-82

Mander R Marshall RK 2016b Giving birth but fearing death: perceptions and precautions in Scotland in the early modern period British Journal of Midwifery 24:8 586-93

Marshall RK 1983 Virgins and Viragos: A history of women in Scotland from 1080 to 1980 London Collins

MBRRACE-UK 2016 Saving Lives, Improving Mothers' Care Oxford NPEU Accessed 0817 https://www.npeu.ox.ac.uk/downloads/files/mbrrace-uk/reports/MBRRACE-UK%20Maternal%20Report%202016%20-%20website.pdf

Passmore R 2001 Fellows of Edinburgh's College of Physicians during the Scottish Enlightenment Edinburgh RCPE

Scotsman 2015 On this Day in 1739 Accessed 0817 http://www.scotsman.com/lifestyle/culture/books/on-this-day-1739-scots-magazine-first-published-1-3684466

Sebastiani S 2005 Race Women and Progress in the Scottish Enlightenment in Taylor B Knott S eds Women Gender and Enlightenment 1650-1850 Basingstoke Palgrave Macmillan pp 75-96

WHO 2016 Global Health Observatory country views http://apps.who.int/gho/data/node.country Accessed 0817