Resolving Post-Abortion Health Issues Using Available Statistical Data*

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Abstract

The myth of “safe” abortion continues despite a large and growing body of research linking induced abortion to preterm birth, breast cancer, depressive disorders, and other sequelae.¹ After forty years of legally induced abortion, some comprehensive data sets exist in several countries. European data from several countries including England, Wales, Scotland, and the Scandinavian nations is more comprehensive than that available in the United States. There is a full count of legal induced abortions along with age and other demographic details. To investigate effectively the medical and social impact of abortion on a population, the demographic pattern and profile of modern abortion provides useful information in situations in which the methods of Bradford Hill are difficult to

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apply. Demographic grouping of women with higher rates of abortion, such as black American women, who have a threefold higher abortion rate than Caucasian American women, facilitates inferences from correlation analysis in ecological studies. Consideration of the sequence of abortion in parity history allows investigation of specific disorders such as breast cancer, which is linked most strongly to termination of nulliparous pregnancies. While a large amount of research has established the linkage between induced abortion and subsequent preterm birth, potential exists for more precise delineation of the interaction between known risk factors.

The Challenge and the Opportunity

Whereas the liberalization of the abortion laws in 1967 in Great Britain predates the U.S. liberalization in 1973, it seems now more likely we will first see a turn of the tide in America toward reduced government spending on abortion and introduction of some control of induced abortions. When more women are declaring they regret their abortions, and the ill effects for women's health of abortion are acknowledged, we can hope for a better abortion regime.

To refute the modern myth of safe abortion, there is much work yet to be done. The editorial in *The Lancet* last October titled "Unsafe Abortions: Eight Maternal Deaths Every Hour" urges more expansion of "reproductive services."² The assumptions are again made in the pages of a leading medical journal that modern contraception will avert the need for abortions and that legally induced abortions are safe in contrast to the clandestine abortions that cause maternal deaths.

Though pro-life foundations commission little research, there are some papers published in medical journals even now that describe the known health risks following abortion. Last year, the paper, published in a British journal, by Canadian authors P. Shah and J. Zao on preterm births identifying abortion as a major factor was declared not to be a surprise in the discussion that followed.³ Also last year, a Turkish paper was published in the *World Journal of Surgical Oncology* by V. Ozmen et al. reporting higher incidence of breast cancer among women post-abortion in Istanbul.⁴ The authors seem to have succeeded in ascertaining the abortion histories of women in numbers that are representative of the main age groups. But the literature on breast cancer and abortion remains largely unsatisfactory. The published papers reporting an increase in risks post-abortion mostly concentrate on cancers discovered below age fifty where the modern epidemic reflecting the effects of induced abortion is not much in evidence. While the long-term nature of the risks has added to the difficulties of linking abortions with the corresponding breast cancers, we are now approaching, after forty years of legally induced abortions in several European countries, an epoch in

which we can hope for definitive answers to the questions of what exactly are the risks of breast cancer post-abortion.

Of course, there are also data that the U.S. have that we do not have in Europe from the large numbers of legally induced abortions paid for by private insurers. There are fifty different state insurance commissioners in the U.S. to whom insurers are required to make returns. Data on insurers' computers is comprehensive. Using the policy number, it is a simple matter to link abortion claims with other claims and classify the results according to the demographic characteristics of the women. Of course, insurers do not take initiatives to do this kind of research and publish the results. The data-processing managers of insurers will hardly want to facilitate such research of their own accord. Pro-life campaigners might like to consider giving more attention to this front in the modern cultural wars over the territory of insurance records. Requests can be made for information at the annual meetings of insurance companies by shareholders or stockholders in proprietary insurers and by policyholders when insurers are mutual. The claims experience, post-abortion, by women for all the medical conditions in which abortion is a known risk factor can be investigated. Even insurers who do not provide health-care insurance have schemes for their own employees. There are opportunities to ask how many abortions they are paying for as employee benefits and what post-abortion treatments they are also funding under such schemes. Political initiatives could be taken. In the U.S., state legislatures could require insurers to report on post-abortion health claims as a condition of licensing.

Observational data of this kind is all the more valuable in respect of abortion because data from surveys and sample studies are expensive to collect and problematic as to their interpretation. When questionnaires include questions on abortion, the response may be impaired. Correcting for nonresponse and response bias is a troublesome and embarrassing task that researchers prefer to avoid.

Researchers fear a poor response to questions on abortion. That would lead to a perception that their study was of poor quality. Hence researchers prefer to avoid researching abortion in connection with such illnesses as mental depression and breast cancer or indeed any illness to which abortion might be relevant. The myths of safe abortion live on, and researchers help to propagate them. They can say there is little evidence that abortion is a relevant factor. Researchers maintain a silence rather than declare that they have decided not to investigate abortion when it was likely to have been a relevant factor.

Both prospective longitudinal studies and retrospective case control studies are affected by these problems. Women are reticent with respect to their abortion history and also as to reporting abortions when they take place. And there is a lack of accessible records of abortion history in many places.

The Demographic Profile of Abortion

To effectively plan research into the medical and social impact of abortion, the demographic pattern and profile of modern abortions needs to be considered. By identifying groups of women, defined by their demographic characteristics, who have higher or lower abortion rates, we can make some inferences from correlational analyses in ecological studies. Again, this is all the more useful when the classic methods of epidemiologists, studying selected groups of women retrospectively or prospectively, working in the tradition of Bradford Hill are difficult to apply.

Abortion rates are much higher among single women than among married women. Abortion is also associated with instability in partnerships between couples. Figure 1 for England and Wales shows how single women with and without partners predominate in numbers of women who have abortions. Figure 2 shows the rate of abortion is much lower among married women. Black ethnic groups have a higher abortion rate both in the U.S. and in Great Britain in parallel with their higher rates of extra marital births and single parenting. See figures 3 and 4.

The age distribution of abortion follows a different pattern from that of live births. In Great Britain, the peak of modal age of abortion is around the ages of nineteen and twenty, which is much earlier than around the ages of twenty-nine and thirty, the modal age of live births. Figure 5 shows this when the lognormal curve is fitted. Curves used to fit the live birth rate do not fit the abortion rate. The abortion rate has much more tail weight at both ends corresponding to women considering themselves too young to have children or too old to have children. This pattern is also found in Scotland, Sweden, and Finland.

Figure 1. Abortion by Marital and Partnership Status: England and Wales. Source: Department of Health Abortion Statistics Bulletin.

In the U.S., the pattern is somewhat similar. America continues to have earlier marriage and earlier childbearing than Europe. Figure 6 is derived from what is officially published by the Centers for Disease Control and Prevention and is less precise in indicating the age distribu-

Figure 2. Abortion Rates: England and Wales; Marital Status: Women Fifteen to Forty-Four. *Source:* Department of Health Abortion Statistics, “Marital Status Population Estimates Used to Estimate Rates without Standardization,” 2006.

Figure 3. Abortion Rates in England and Wales, Women Aged Fifteen to Forty-Four, 2008. *Source:* Department of Health, “Abortion Statistics and Ethnic Population Estimates Used to Estimate Ethnic Groups without Standardization, Figure for All Women as Age-Standardized Abortion Rate,” National Health Service, 2008. *Source:* Reprinted with permission from Patrick Carroll, *Ethnocentric Medicine* 5 (2011): 1–10; Kamla-Raj Enterprises, Delhi, India.

Figure 4. Abortion Rates by Racial Group, United States, 2005.

Figure 5. Abortion Rate by Single Year of Age: England and Wales, 2007. This figure is lognormal fitted with parameters mean 32 and standard deviation 10.82436. *Source:* Reprinted with permission from Patrick Carroll, *Ethnocentric Medicine* 5 (2011): 1–10; Kamla-Raj Enterprises, Delhi, India.

tion. The peak or modal age of abortion could be somewhat later in the United States.

The comparison in Figure 7 between the age distribution of abortion in Sweden and England and Wales shows the higher adult rate in Sweden compared with the lower late teenage rate. The higher rate in Sweden in the mid-thirties may suggest more instability among couples in Sweden in that age range in which fewer Swedish couples are married. In Sweden, it is said now that marriage is linked to the birth of a second child.

Every abortion does not have the same impact on the health or social behavior of women. Particularly consequential are nulliparous abortions when the women have not previously had a full-term preg-

Figure 6. Abortion Rate: Women in the United States by Age Group. *Source:* Centers for Disease Control and Prevention.

Figure 7. Abortion Rates by Single Year of Age: Sweden, England, and Wales, 2007. This figure is lognormal fitted with parameters mean 15.31 and standard deviation 12.26. *Source:* Reprinted with permission from Patrick Carroll, *Ethno-centric Medicine* 5 (2011): 1–10; Kamla-Raj Enterprises, Delhi, India.

nancy. Figure 8 shows how numbers of parous and nulliparous abortions have risen over the year since liberalization of the abortion law in England and Wales. Most British abortions are nulliparous, and that is a reason to take more seriously their adverse impact on women's health. In this respect, the British pattern differs from the U.S. where, according to the Centers for Disease Control and Prevention and the Alan Guttmacher websites, most American abortions take place with women who already have children. Also apparent from figure 8 is the recent increase in parous abortions, a trend that is parallel to the growth in single parenting and births outside wedlock and the decline of marriage. Unmarried single parents have lower parity progression, and pregnancies are more likely to be aborted. Figure 9 shows the comparable trends in the U.S. in abortion numbers for parous and nulliparous women as reported on the Centers for Disease Control and Prevention website.

The social gradient of abortion merits attention for purposes of understanding the epidemiology of post-abortion medical conditions. Figure 10 shows what is published for Scotland, where they have constructed a gradient using the Scottish Index of Multiple Deprivation. As might be expected the lower, more deprived social classes have a higher abortion rate.

But upper-class women, such as university students, have a higher propensity to choose abortion if they are pregnant; and these abortions tend to be nulliparous. Figure 11 is derived using the register data in Finland showing a higher rate of choosing abortion among university students.

Figure 8. Numbers of Parous and Nulliparous Abortions: England and Wales, 1968–2008. *Source:* Abortion numbers from Abortion Statistics. Office of National Statistics and Department of Health; Reprinted with permission from Patrick Carroll, *Ethnocentric Medicine* 5 (2011): 1–10; Kamla-Raj Enterprises, Delhi, India.

Figure 9. Number of Nulliparous and Parous Abortions, United States.

Figure 10. Abortion and Deprivation in Scotland, 2008. *Source:* Notifications (to the Chief Medical Officer for Scotland) of abortions performed under the Abortion Act 1967 ISD Scotland.

Depressive Illness: Use of Psychotropic Antidepressant Drugs

The mental impact of abortion is probably the most important and also the most difficult to measure of all the health conditions for women post-abortion. The contribution of abortion to the modern prevalence of

Figure 11. Proportion of Pregnancies Aborted by Women in Finland (Occupational Classes). *Source:* Mika. Gissler, 2008, THL Finland.

depressive illness is thought to be large but the connection between abortion and mental depression is little studied. Where antidepressive prescription drugs are paid for by the state in national health insurance schemes, the records can be used to generate useful data. In the U.K., prescription statistics suggest (making the assumption of twenty-eight pills per prescription) that more than one billion such pills a year are prescribed.⁵ We do not know how many of these were to women who have had abortions.⁶ But in Finland, there are data that have been derived from their national registers showing a higher usage of antidepressants by women before they have abortions.⁷

This work can be taken forward to examine usage of antidepressants post-abortion using prior use as a concomitant variable to estimate with greater precision the effect of abortion in increasing depressive illness.

Low Weight and Premature Births

Here, there is much more research that has been completed and published and more recognition of abortion as a risk factor. In the U.K., the use of National Health Service numbers has enabled records of low weight and premature births to be linked to several risk factors. But this is not possible for induced abortions in England as the National Health Service number is not recorded nor is the name of the woman on the electronic record of an abortion.

There is potential for investigating the interactions between known risk factors with greater precision. There are a number of known risk factors. The literature on premature births focuses on deprivation and social conditions affecting women. There is potential for social research.

In the U.K., the new system of allocating National Health Service numbers and linking records of births to other episodes experienced by the women has not been developed to include abortions. What has been reported is that there is a much higher risk of low-weight, singleton births among unmarried women beyond what can be attributed to deprivation. It is said that three years after an abortion women are most likely to give birth to low-weight children. So by extending the National Health Service numbering system to the electronic record of abortions to enable linking to live births, we could hope to have useful data within a few years to enable the risk attributable to abortion to be estimated.

Breast Cancer

The risk of breast cancer post-abortion is a long-term risk. The average age of women having an abortion is approximately twenty-six years.⁸ At the diagnosis of malignant breast cancer, the average age of women is approximately sixty-three.⁹ But this thirty-seven-year difference understates the time needed to measure the effect of abortion in increasing breast cancer risks. It is thought that the early nulliparous abortions among young women are more cancer inducing. And the modern epidemic of breast cancer, which is reflective of these reproductive risk factors, is concentrated over the age of fifty.¹⁰

Premenopausal female breast cancer is more often genetically induced and less influenced by known reproductive risk factors.

The best prospects for analysis of relevant data are then in countries like Finland and the United Kingdom where there is registration of cancer incidence and also data on abortions back to the early 1970s.

The remarkable social gradient of female breast cancer is also amenable to research using national registers. Socioeconomic class can be measured by income or education or occupation both at the time of an abortion and at the time of diagnosis of breast cancer.

Notes

¹ P. Carroll, *Ireland's Gain* (London: PAPRI, 2011).

² "Unsafe Abortions: Eight Maternal Deaths Every Hour," *Lancet* 374 (2009): 1301–1317.

³ P.S. Shah and J. Zao, "Induced Termination of Pregnancy and Low Birthweight and Preterm Birth: A Systematic Review and Meta-analyses," *BJOG* 116 (2011): 1425–1442.

⁴ V. Ozmen et al., "Breast Cancer Risk Factors in Turkish Women—A University Hospital Based Nested Case Control Study," *World Journal of Surgical Oncology* 7 (2009): 37.

⁵ U.K. Department of Health, "Prescription Statistics," <http://www.ic.nhs.uk/statistics-and-data-collections/primary-care/prescriptions>.

⁶ Patrick Carroll, “Legally Induced Abortion: The Demographic Profile and Hazards to the Health of Women,” *Studies on Ethnomedicine* 5 (2011): 1–10.

⁷ M. Gissler et al., “Use of Psychotropic Drugs before Pregnancy and the Risks for Induced Abortion: Population Based Register Data from Finland 1996–2006,” *BMD Public Health* 10 (2010): 383.

⁸ U.K. Department of Health, “Abortion Statistics: England and Wales,” <http://transparency.dh.gov.uk/category/statistics/abortion/>.

⁹ U.K. Office for National Statistics, “Cancer Statistics: England,” <http://www.ons.gov.uk/ons/rel/cancer-unit/breast-cancer-in-england/2009/breast-cancer.html>.

¹⁰ A. Schwerdlow, I. dos Santos, and R. Doll, *Cancer Incidence and Mortality in England and Wales: Trends and Risk Factors* (London: Oxford University Press, 2001).