

**Detrimental Effects
of
Abortion**

An Annotated Bibliography with Commentary

Third Edition

**Supplement # 1
2002**

Thomas W. Strahan

Supplement to Detrimental Effects of Abortion: An Annotated Bibliography With Commentary
Third Edition, Supplement #1

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Introductory Material

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Detrimental Effects of Abortion

Supplement #1

1.1 Abortion Procedures - Standards and Guidelines

- 1.1.14 "National Abortion Federation, 1998 Clinical Policy Guidelines" in *A Clinician's Guide to Medical and Surgical Abortion*, Ed. Maureen Paul et al (New York: Churchill Livingstone, 1999) 255-269

Supersedes 1.1.9 "Standards for Abortion Care," National Abortion Federation (1986)

1.2 Informed Consent

- 1.2.29 "Demoralization; its impact on informed consent and medical care," DW Kissane, *Med J Australia* 175(10):537, Nov 19, 2001

Demoralization, a mental state characterized by hopelessness and meaninglessness, can interfere with a person's capacity to give informed consent.

2.4 Pregnancy Reactions/Unwanted Pregnancy

- 2.4.75 "Cultural practices and social support of pregnant women in a northern New Mexico community," EW Domian, *J Nursing Scholarship* 33(4):331-336, 2001

Among Hispanic mothers in this community, pregnancy outcomes were positive because of a socialization process that helped mothers and family members to adapt to support the pregnancy. This mutual sharing helped reinforce the family structure, integrate cultural beliefs, define roles for mother and family members, and define the nature of mother-child and family-child relationships.

3.1 Validity of Studies

- 3.1.13 *Women's Health after Abortion: The Medical and Psychological Evidence*, E Ring-Cassidy, I Gentiles (Toronto: The deVeber Institute for Bioethics and Social Research, 2002) 255
Research on the effects of abortion on women's health, especially in North America, is highly prone to the problem of selective citation. Some researchers refer only to previous studies with which they agree and do not consult, or mention, those studies whose conclusions differ from their own.

3.8 Ambivalence or Inner Conflict

- 3.8.7 "Voluntary interruption of pregnancy: comparative study between 1982 and 1996 in the main center of Cote d'Or. Study of women having repeat voluntary interruption of pregnancy," S Douvier et al, *Gynecol Obstet Fertil* 29(3): 200, Mar 2001

A French study of women who had repeated abortion in 1996 found that this group had been characterized by unstable couples and ambivalence with a wish of pregnancy but no wish of children.

3.10 Intrusion/Avoidance/Dreams/Nightmares

- 3.10.12 "Memories Unleashed" in *Forbidden Grief: The Unspoken Pain of Abortion*, Theresa Burke and David Reardon (Springfield, IL: Acorn Books, 2002) 121- 132

Describes flashbacks, dreams and nightmares, hallucinations, trauma and memory of post-abortion women.

3.12 Dissociation

- 3.12.5 *Forbidden Grief: The Unspoken Pain of Abortion*, Theresa Burke and David Reardon (Springfield IL: Acorn Books, 2002) 130-131

People use terms like "spacing out" and "not being with it" to describe the detached sensations that therapists call "dissociation". . . . It is very common for women to undergo abortions in a dissociated state. Their bodies are there, but their emotional self is not.

3.15 Self-Punishment (Masochism) or Punishment of Others (Sadism)

- 3.15.5 *Forbidden Grief. The Unspoken Pain of Abortion*, Theresa Burke and David Reardon (Springfield II: Acorn Books, 2002) 153

If a woman has masochistic tendencies, abortion may be experienced as a form of self-punishment. When the woman destroys her pregnancy and developing child, she is in some way destroying an extension of herself. The loss and grief she experiences are things she feels she deserves as a punishment for “being bad”. Conversely, by depriving herself of the potential pride, joy, and sense of accomplishment that come with the birth of a child, she is punishing herself by forbidding the enjoyments of motherhood that she does not deserve. . . . Such masochistic tendencies can be an important factor in many repeat abortions.

3.19 Depression During Subsequent Pregnancies

- 3.19.7 “Predictors of Repeat Pregnancy Outcome Among Black and Puerto Rican Adolescent Mothers,” LO Linares et al, *Developmental and Behavioral Pediatrics* 13(2):89, 1992

A study of black and Puerto Rican adolescent mothers of low socioeconomic status 12 months after delivery of a first child found higher depressive symptoms among women with prior therapeutic abortion compared to women with full term deliveries or women with no repeat pregnancy.

3.21 Depressive Reactions from Genetic Abortions

- 3.21.3 “Abortion After Genetic Testing” in *Women’s Health After Abortion. The Medical and Psychological Evidence*, E Ring-Cassidy, I Gentles (Toronto: The deVeber Institute for Bioethics and Social Research, 2002) 155-167

Prenatal testing is expanding rapidly as ever more genetic markers are discovered and women are urged to undergo these tests. Couples are not prepared for the depression and guilt that frequently ensue if abortion occurs when an anomaly is found. Nor are they usually informed about the help that is available for raising children with special needs.

3.24 Psychiatric or Psychological Hospitalization or Consultation

- 3.24.3 “State-funded abortions vs. deliveries: A comparison of subsequent mental health claims over five years,” PK Coleman et al, *American Journal Orthopsychiatry*, 72(1):141, 2002

An examination of records for 173,000 low income California women found that women were 63 percent more likely to receive mental health care within 90 days of an abortion compared to women who delivered. In addition, significantly higher rates of subsequent mental health treatment persisted over the entire period in which data was examined.

3.25 Suicide

- 3.25.14 “Deaths Associated with Pregnancy Outcome. A Record Linkage Study of Low Income Women,” DC Reardon et al, *Southern Medical Journal* 95(8):834, August 2002

A study of 173,279 low income California women who delivered and those who aborted in 1989 were linked to death certificates over an 8 year period following the pregnancy event. Compared to women who delivered, those who had an abortion had a significantly higher age-adjusted risk of death from suicide (2.54) and an increased risk of death from all causes (1.62).

3.27 Repeat Abortions

- 3.27.44 “Voluntary interruption of pregnancy: comparative study between 1982 and 1996 in the main center of Cote d’ Or. Study of women having repeat voluntary interruption of pregnancy,” S Douvier et al, *Gynecol Obstet Fertil* 29(3):200, 2001

A 1996 French study found an increase in the number of repeat abortions from 15.8 percent in 1982 to 21.6 percent in 1996. Women with repeat abortion were characterized by great socio-economic problems, unstable couples, and ambivalence with a wish to be pregnant but no wish of children. The authors concluded that a real psycho-social precariousness existed and that this population was well aware of contraceptive methods.

- 3.27.45 “Impact of induced abortions on subsequent pregnancy outcome: the 1995 French national perinatal survey,” L Henriet and M Kaminski, *Br J. Obstet Gynaecol* 108:1036-1042, Oct 2001

In a national sample of 12,432 French women who had a single birth in a public or private maternity hospital during one week in 1995, women with two or more induced abortions were more likely to be unmarried, less likely to be employed during pregnancy, had a lower educational level, a higher incidence of inadequate antenatal care, were more likely to be smoking during pregnancy, and had a higher incidence of preterm birth compared to women with one induced abortion or no history of prior induced abortion.

- 3.27.46 “Profile of women presenting for abortions in Singapore at the National University Hospital,” K Singh et al, *Contraception* 66(1):41, 2002

A study at the National University Hospital in Singapore found that the proportion of women seeking a repeat abortion increased from 13.8 percent in 1996 to 33.2 percent in 2000.

Ed Note: This is an example of several recent international reports of increased incidence of repeat abortion. This may be the reason for David Grimes and Kenneth Schulz of Family Health International recently advocating insertion of intrauterine devices immediately after abortion despite contrary warnings from IUD manufacturers. See "Immediate postabortal insertion of intrauterine devices" (Cochrane Review), *Cochrane Database System Rev* 2002; (3):CD001777

3.28 Eating Disorders

- 3.28.13 "What's Eating You? Abortion and Eating Disorders," in *Forbidden Grief: The Unspoken Pain of Abortion*, Theresa Burke and David Reardon (Springfield, IL: Acorn Books, 2002) 187-200

The author first learned how abortion is a *forbidden grief* in leading a support group for women with eating disorders.

3.29 Substance Abuse - General Background Studies

- 3.29.18 "Case-Control Study of Attention-Deficit Hyperactivity Disorder and Maternal Smoking, Alcohol Use, and Drug Use During Pregnancy," E Mick et al, *J Am Acad Adolesc Psychiatry* 41(4):378, April 2002

Alcohol use during pregnancy was found to be a statistically significant increased risk for attention-deficit hyperactivity disorder in children.

3.31 Smoking

- 3.31.31 "Annual Smoking-Attributable Mortality, Years of Potential Life Lost, and Economic Costs - United States, 1995-1999. Centers for Disease Control," *MMWR* 51(14):300-303, April 12, 2002
- During 1995-1999, smoking caused an annual average of 178,311 deaths of women in the U.S. Most smoking deaths were attributed to lung cancer, ischemic heart disease, and chronic airways obstruction. Each year, smoking-attributable mortality was responsible for an estimated 2,284,113 years of potential life lost for women. Adult females lost an average of 14.5 years of life because they smoked.

- 3.31.32 "Impact of induced abortions on subsequent pregnancy outcome: the 1995 French national perinatal pregnancy survey," L Henriot, M Kaminski, *Br J Obstet Gynaecol* 108:1036-1042, 2001

A 1995 French national survey of women who delivered a singleton birth found that 23.6 percent

of the women smoked during the third trimester of pregnancy where there was no induced abortion history compared to 34.5 percent for women with a history of one induced abortion, and 42 percent of women with a history of two or more induced abortions. Women with abortion history were also more likely to be heavier smokers compared to women with no abortion history.

- 3.31.33 “Case-Control Study of Attention-Deficit Hyperactivity Disorder and Maternal Smoking, Alcohol Use and Drug Use During Pregnancy,” E Mick et al, *J Am Acad Child Adolesc. Psychiatry* 41(4):378, April, 2002

Smoking during pregnancy was found to be a statistically significant increased risk factor for attention-deficit hyperactivity disorder in children.

3.36 Abortion’s Impact on Siblings or Subsequently Born Children

- 3.36.16 “The quality of the caregiving environment and child development outcomes associated with maternal history of abortion using the NLSY data,” PK Coleman et al, *J. Child Psychology and Psychiatry* 43(6):743, 2002

Data derived from the National Longitudinal Survey of Youth compared the quality of the childcare environment and child development among children of mothers with a history of abortion compared to children of women with no abortion history. After adjusting for potentially confounding variables, the level of emotional support in the home was significantly lower among first born children age 1-4 years where mothers had a history of abortion compared to non-aborting mothers. Among children age 5-9, more behavior problems were found where mothers had a history of abortion compared to non-aborting mothers.

3.41 Family Violence and Abortion

- 3.41.9 “A comparison of the prevalence of domestic violence between patients seeking termination of pregnancy and other general gynecology patients,” TW Leung et al, *Int’l J Gynaecol Obstet* 77(1):47, April 2002

Researchers at the University of Hong Kong compared the prevalence of domestic violence among women seeking abortion with other general gynecology patients. The lifetime prevalence of abuse in the group seeking abortion (27.3 percent) was significantly higher than general gynecology patients (8.2 percent).

- 3.41.10 “Violence in the Lives of Women Having Abortions: Implications for Practice and Public Policy,” NF Russo and JE Denious, *Professional Psychology: Research and Practice* 32:142, 2001

A random household survey of more than 2,500 U.S. women sponsored by the Commonwealth Fund found that 27.7 percent of women who reported abortion stated that they had been physically abused as children compared to 10.7 percent of women who reported no abortion

history; 23.6 percent of women who reported abortion stated they had been sexually abused as children compared to 7.8 percent of women who reported no abortion history; 23.3 percent of women who reported abortion stated they had a violent partner compared with 11.8 percent of women who reported no abortion history.

3.43 Homicide of Women During and Following Pregnancy

- 3.43.8 "Abuse during pregnancy and femicide: urgent implications for women's health," J McFarlane et al, *Obstet Gynecol* 100(1):27-36, July 2002

A 10 city case-control study compared pregnant women who were victims of attempted or completed homicide with randomly identified abused pregnant women in the same city based upon police and medical examiner records. Abuse during pregnancy was reported by 7.8 percent of the abused controls, 25.8 percent of attempted homicide cases, and 22.7 percent of the completed homicide cases.

3.44 Rape

- 3.44.15 "Enforcing statutory rape," MW Lynch, *Public Interest* 132:3-16, 1998

It is prudent, moral, and just to build barriers to adult sex with minor girls.

- 3.44.16 "DNA Analysis of Abortion Material Assisted by Histology Screening," B Karger et al, *Am J Forensic Medicine and Pathology* 22(4):397-399, 2001

DNA was successfully used to identify a suspected sexual abuser of a 13-year-old girl by DNA analysis of aborted fetal remains by histology screening which concluded that the possibility of paternity was 99.9997 percent.

- 3.44.17 "Sexual Abuse as a Factor in Adolescent Pregnancy and Child Maltreatment," D Boyer, D Fine, *Family Planning Perspectives* 24:4, Jan/Feb 1992

A Washington state study of young women who became pregnant as adolescents found that two-thirds had been sexually abused and 44 percent had been raped.

- 3.44.18 "A Statewide Survey of Age at First Intercourse for Adolescent Females and Age of their Male Partners: Relation to Other Risk Behaviors and Statutory Rape Implications," H Leitenberg and H Saltzman, *Archives of Sexual Behavior* 29(3):203, 2000

A Vermont study found that younger adolescents were more vulnerable and were more likely to be exploited by older males.

- 3.44.19 "Experience of Violence Among Teenage Mothers in Alaska," BD Gessner and KA Perham-

Hester, *J. Adolescent Health* 22:383, 1998

Teenage mothers were found to be more likely to experience violence during and after their pregnancy compared to older women. For all women, the risk of violence increases after pregnancy. Nearly one-half of the births to the youngest teenagers resulted from second degree statutory rape.

- 3.44.20 "Legal issues associated with sexual activity between adults and minors in Texas:a review," PB Smith et al, *Texas Medicine* 95(7):65, July 1999

A survey of Texas primary care physicians found that there was little, if any, understanding of key legal facts associated with adolescent sexuality and pregnancy, especially when adult partners were involved.

4.4 Deterioration of Economic and Social Conditions Following Abortion

- 4.4.8 "Voluntary interruption of pregnancy :comparative study between 1982 and 1996 in the main center of Cote d'Or. Study of women having repeat voluntary interruption of pregnancy," S Douvier et al, *Gynecol Obstet Fertil* 29(3):200, Mar 2001

A 1996 French study compared women with a single abortion with women who had two or more abortions. The authors concluded that women with repeat abortions were characterized by great socio-economic problems, unstable couples, and ambivalence. There was a wish of pregnancy but no wish of children. A real psycho-social precariousness existed and this population was well aware of contraceptive methods.

- 4.4.9 "Impact of induced abortions on subsequent pregnancy outcome: the 1995 French national perinatal survey," L Henriet and M Kaminski, *Br J Obstet Gynaecol* 108:1036, Oct 2001

In a national sample of 12,432 French women who had a single birth in a public or private maternity hospital during one week in 1995, women with a single abortion or two or more prior induced abortions were more likely to be unmarried, less likely to be employed during pregnancy, had a lower educational level, a higher incidence of inadequate antenatal care, were more likely to smoke during pregnancy and had a higher risk of preterm birth compared to women with no history of prior induced abortion.

4.5 Abortion and Race or Poverty

- 4.5.36 "Teenagers Pregnancy Intentions and Decisions. A Study of Young Women Choosing to Give Birth." The Alan Guttmacher Institute: Occasional Report, 1997

A study of unmarried pregnant women 15-18 years of age in four California counties in 1996 who had decided to give birth found that 65 percent were opposed to or feared abortion and 4 out of 5 thought it to be a difficult personal decision. Only 15 percent said that a major obstacle to

abortion was lack of ready availability. A strong association was found between intended pregnancy and foreign-born Hispanic women. These women were less likely to have been in controlling or abusive relationships and were more likely to have strong support for the pregnancy from the baby's father.

- 4.5.37 "Reproductive health differences among Latin American-and U.S. born young women," AM Minnis and NS Padian, *J Urban Health* 78(4):627, Dec 2001

A survey of females aged 15-24 at reproductive health clinics in the San Francisco Bay area between 1995 and 1998 compared foreign born Latinas, U.S. born Latinas, and U.S. born non-Latinas. It was found that U.S. born Latinas were significantly more likely to have had an abortion and have a chlamydial infection compared to the other groups.

5.6 Pain in Women

- 5.6.8 "Pain control in medical abortion," E Wiebe, *Int'l J Gynecology & Obstetrics* 74:275-280, 2001

A Canadian study of abortion procedures using methotrexate and misoprostol reported that the mean pain score was 6.2 on a scale from 1-10. Severe pain (scores of 9 or 10) was reported by 23.4 percent of the women. Women experiencing severe pain were more likely to have a lower maternal age, lower parity, higher anxiety and depression, and less satisfaction with the procedure. The authors reported that pain medication given before the onset of the procedure did not reduce the amount of severe pain.

5.24 HIV/AIDS

- 5.24.16 "Factors associated with HIV infection are not the same for all women," EV Boisson and LC Rodrigues, *J Epidemiol Community Health* 56(2):103, Feb 2002

A British study found that termination of pregnancy history significantly increased the risk of HIV infection (OR= 6.7, 95%CI = 3.4 to 13.1) among women who shared needles and who had fewer than 10 sexual partners in their lifetime.

5.33 Subsequent Miscarriage, Premature Birth or Low Birth Weight

- 5.33.26 "Infection and preterm birth," WW Andrews et al, *Am J Perinatol* 17(7):357, 2000

Preterm birth complicates 11 percent of all pregnancies in the U.S. and remains a leading cause of infant mortality and long-term neurological handicap. Despite widespread use of preventive strategies, the rate of preterm birth is increasing and the prevalence of long-term handicap to preterm birth is also increasing. Considerable data implicate a clinically silent upper genital tract infection as a key component of the pathophysiology of a majority of early spontaneous preterm

births, but a minority of preterm births that occur near term.

- 5.33.27 "The role of infection in the etiology of preterm birth," M Toth et al, *Obstet Gynecol* 71(5):723, May 1988

A study at New York Hospital-Cornell University Medical College concluded that "collective evidence implicates preexisting infection of the uterine cavity as a predisposing factor in premature rupture of the membranes, preterm delivery, and amnionitis. . . . A strong correlation was found between preterm birth and a history of pelvic inflammatory disease. . . . Amnionitis was also associated with a history of pelvic inflammatory disease."

- 5.33.28 "The Epidemiology of Preterm Labor," JN Robinson et al, *Seminars in Perinatology* 25(4):204,2001

Factors associated with preterm labor and delivery include maternal conditions such as induced abortion. Maternal behaviors such as smoking and substance abuse can be risk factors for a short gestation.

- 5.33.29 "Impact of induced abortions on subsequent pregnancy outcome. The 1995 French national perinatal pregnancy survey," L Henriet and M Kaminski, *Br J Obstet Gynaecol* 108 :1036-1042 ,2001

In a national sample of 12,432 French women who had a singleton live birth during one week in 1995, there was a statistically significant increased risk of preterm birth of 30 percent for women with one prior abortion, and a 90 percent increased risk of preterm birth for women with two or more induced abortions compared to women with no induced abortion history.

5.34 Neonatal Infection/Sub-Clinical Infection

- 5.34.2 "Risk factors associated with early-onset sepsis in premature infants," JA Martius et al, *Eur J Obstet Gynecol Reprod Biol* 85(2):151, Aug 1999

A German study found that premature rupture of the membranes, and histological chorioamnionitis and/or funisitis were statistically significant risk factors for probable neonatal sepsis. The authors also reported a strong association between probable sepsis and intracranial hemorrhage of the infant.

- 5.34.3 "The relationship between infections and adverse pregnancy outcomes: an overview," RS Gibbs, *Ann Peridontol* 6(1):153, Dec 2001

A large body of clinical and laboratory information suggests that subclinical infection is a major cause of preterm birth, especially those occurring before 30 weeks. . . . Additional information has suggested that subclinical infection is also responsible for many serious neonatal sequelae including periventricular leukomalacia, cerebral palsy, respiratory distress, and even bronchopulmonary dysplasia and necrotizing enterocolitis.

5.35 Intraamniotic Infection/Intrapartum Infection/Premature Rupture of Membranes

- 5.35.2 "Does an Abortion Increase the Risk of Intrapartum Infection in the Following Pregnancy?," K Muhlemann et al, *Epidemiology* 7:194-198, 1996

A case-control study using data from the Washington state birth registry for 1989-91 found that the relative risk for intrapartum infection among women with prior induced abortion or prior spontaneous abortion compared to women with a prior live birth was 4.3 (95% CI=3.5-5.4).

- 5.35.3 "Maternal Infection and Cerebral Palsy in Infants of Normal Birth Weight," JK Grether and KB Nelson, *JAMA* 278(3) 207, July 16, 1997

In a population-based case-control study at all hospitals in four northern California counties during 1983-85, intrauterine exposure to maternal infection was associated with a marked increase of cerebral palsy in infants of normal birth weight. One or more indicators of maternal infection were present in 2.9 percent of control children, 22 percent of children with cerebral palsy, and 37 percent of children with the spastic quadriplegic type of cerebral palsy.

- 5.35.4 "Characteristics of women with clinical intra-amniotic infection who deliver preterm compared to term," MA Krohn and J Hitti, *Am J Epidemiol* 147(2):111, Jan 1998

Researchers in King County, Washington found that women with preterm births with intra-amniotic infection were significantly more likely than women carrying to term with intra-amniotic infection to have membrane rupture before contractions as well as prolonged membrane rupture.

- 5.35.5 "Risk factors for intra-amniotic infection: a prospective epidemiologic study," DE Soper and HP Dalton, *Am J Obstet Gynecol* 161(3):562, Sept 1989

A study at the Medical College of Virginia found that patients with intra-amniotic infection had longer durations of labor and ruptured membranes compared to patients without infections.

- 5.35.6 "The relationship between induced abortion and outcome of subsequent pregnancies," S Linn et al, *Am J Obstet Gynecol* 146(2):136, May 15, 1983

An evaluation of 9,823 deliveries using logistic regression analysis to control for multiple confounding factors found that a history of two or more induced abortions was statistically associated with first trimester bleeding, abnormal presentations, and premature rupture of the membranes.

- 5.35.7 "Risk factors for the development of preterm premature rupture of the membranes after arrest of preterm labor," DA Guinn et al, *Am J Obstet Gynecol* 173(4):1310, Oct 1995

Researchers at the University of Alabama at Birmingham found that women who had preterm

premature rupture of the membranes were significantly more likely to have a history of abortion(s) ($p=0.001$) compared to women who did not have preterm premature rupture of the membranes.

- 5.35.8 "Public health issues related to infection in pregnancy and cerebral palsy," DE Schendel et al, *Ment Retard Dev Disabil Res Rev* 8(1):39-45, 2002

Researchers at the National Center on Birth Defects and Developmental Disabilities of the Centers for Disease Control reported that cerebral palsy is the most common neuromotor developmental disability of childhood, affecting as many as 8,000-12,000 born in the U.S. each year which corresponds to 2-3 per 1000 children. Greater numbers of preterm and very low birth weight infants are surviving with cerebral palsy and other developmental problems. Infection in pregnancy may be an important cause of the disorder. Chorioamnionitis might account for 12 percent of spastic cerebral palsy in term infants, and 28 percent of cerebral palsy in preterm infants. Studies of biochemical markers of fetal inflammation associated with infection also suggest that inflammatory response may be an important independent etiological factor.

5.38 Protective Effect of Early Childbirth/ Breastfeeding

- 5.38.11 "Breast cancer and breastfeeding: collaborative reanalysis of individual data from 47 epidemiological studies in 30 countries, including 50,302 women with breast cancer and 96,973 women without the disease," V Beral et al, *The Lancet* 360:187, July 20, 2002

This large international study by a collaborative group studying hormonal factors in breast cancer found that the relative risk of breast cancer decreased by 4.3 percent for every 12 months of breastfeeding in addition to a decrease of 7.0 percent for each birth. It was estimated by the authors that the cumulative incidence of breast cancer would be reduced by more than half from 6.3 to 2.7 per 100 women by age 70, if women had the average number of births and lifetime duration of breastfeeding that had been prevalent in developing countries until recently. Breastfeeding could account for almost two-thirds of this estimated reduction in breast cancer incidence.

- 5.38.12 "Low Birth Weight in Relation to Multiple Induced Abortions," MT Mandelson et al, *Am J Public Health* 82(3):391, Mar 1992

A Washington state study of 6,541 white women who had a first birth between 1984 and 1987 reported that 19.4 percent of women with no prior induced abortions were age 30 or more at first birth compared to 23.4 percent (one prior abortion), 27.4 percent (two prior abortions), 32.9 percent (three prior abortions), and 35.3 percent (four or more prior abortions). Ed. Note: A substantial number of postabortion women in this sample had an increased risk of breast cancer due to delayed childbirth.

5.40 Cervical Cancer

- 5.40.23 “Determinants of cervical human papillomavirus infection: differences between high-and low-oncogenic risk types,” PK Chan et al, *J Infect Dis* 185(1):28, Jan 2002

A Hong Kong study of women who participated in cervical cancer screening found that the prevalence of HPV infection was 7.3 percent overall (4.2 percent for high-risk, 1.9 percent for low-risk and 2.1 percent for unknown-risk women). A history of induced abortion significantly increased the risk of HPV for women at high risk for HPV (OR 1.87, 95% CI 1.20-2.90), significantly increased the risk for women with any HPV, low risk, high risk or unknown risk, (OR 1.51, 95% CI 1.08-2.12),and significantly increased the risk for women with an unknown risk for HPV (OR 1.97, 95% CI 1.05-3.69). Other factors with significantly increased the risk of HPV included cigarette smoking, non-use of barrier contraception, young age at first intercourse, and four or more lifetime sexual partners.

5.45 Other Cancers

- 5.45.2 “Birth characteristics, maternal reproductive history, hormone use during pregnancy, and risk of childhood acute lymphocytic leukemia by immunophenotype (United States),” Xo Ou Shu et al *Cancer Causes and Control* 13:15-25, 2002

A U.S. study among participating hospitals in the Children’s Cancer Group investigated birth characteristics and reproductive factors with the increased risk of childhood acute lymphoblastic leukemia (ALL). T-cell childhood ALL was associated with a history of induced abortion (OR 2.4, 95% CI 1.3-4.5). The risk of childhood ALL from all subgroups where there had been an induced abortion prior to the index pregnancy was 1.2 (OR 1.2, 95% CI 1.0-1.4). Ed. Note: Reaearcher C Infante-Rivard and colleagues at McGill University have identified maternal use of alcohol during pregnancy and mother’s use of antibiotics during pregnancy as other risk factors for ALL.)

6.2 Pregnancy-Associated Mortality

- 6.2.2 “Deaths Associated With Pregnancy Outcome. A Record Linkage Study of Low Income Women,” DC Reardon et al, *Southern Medical Journal* 95(8):834, August 2002

A record linkage study of low income women eligible for state-funded medical insurance in California identified all paid claims for abortion or delivery in 1989. These were linked to the state death registry over an 8 year period. Compared to women who delivered, those who aborted had a significantly higher age adjusted risk of dying from all causes (1.62); from suicide (2.54); accidents (1.82); from non-violent causes (1.44), including AIDS (2.18), circulatory diseases (2.87) and cerebrovascular disease (5.46).

7.5 Effect of Parental Involvement Laws

- 7.5.7 "The Effect of Religious Membership on Teen Abortion Rates," A Tomal, *J. Youth and Adolescence* 30(1):103-116, 2001

In a study of data from 1,024 counties in 18 states that report the incidence of teen abortion, abortion rates in counties with no parental involvement laws were about twice as high as those counties with parental involvement laws, irrespective of high or low religiosity.

7.10 Differential Psychosocial Impact on Adolescents

- 7.10.16 "Predictors of Repeat Pregnancy Outcome among Black and Puerto Rican Adolescent Mothers" LO Linares et al, *Developmental and Behavioral Pediatrics* 13(2):89, 1992

A study of black and Puerto Rican adolescent mothers of low socioeconomic status 12 months after delivery of a first child found higher depressive symptoms, more delayed grade placement, and poorer school attendance among women with prior therapeutic abortions compared to women with no repeat pregnancy.

- 7.10.17 "Women Who Obtain Repeat Abortions: A Study Based on Record Linkage," PG Steinhoff et al, *Family Planning Perspectives* 11(1):30, Jan/Feb 1979

Women under age 18 who had abortions were more likely than women in general to have a repeat pregnancy within two years (29.2 percent v. 21.4 percent)

- 7.10.18 "When Adolescents Choose Abortion: Effects on Education, Psychological Status and Subsequent Pregnancy," LS Zabin et al, *Family Planning Perspectives* 21(6):248, 1989

A study of young black women in Baltimore during 1985-86 found that those with a repeat pregnancy within two years following their abortion (37 percent of the sample) were significantly less likely to remain in school or to graduate (78 percent vs. 97.4 percent), more likely to be behind grade for age by 2 years (58.5 percent vs. 30.7 percent), and experience a negative educational change (34.1 percent vs. 8 percent) compared to those with a prior induced abortion and no repeat pregnancy within two years.

- 7.10.19 "The Elliot Institute Survey. Psychological Reactions Reported After Abortion" in *Forbidden Grief. The Unspoken Pain of Abortion*, Theresa Burke and David Reardon (Springfield, IL: Acorn Books, 2002) 287-300

A survey questionnaire completed by 260 postabortion women involved in Women Exploited by Abortion, Victims of Choice, and Last Harvest Ministries found that women who had at least one abortion as a teenager were significantly more likely than older women to report nightmares; flashbacks to the abortion; hysterical outbreaks; feelings of guilt; fear of punishment from God; fear of harm coming upon their other children; a worsening of negative feelings on the anniversary date of the abortion, during a later pregnancy or when exposed to pro-choice propaganda; experiencing false pregnancies, a dramatic personality change for the worse, and

having talked to the aborted child prior to the abortion. . . . Women who had aborted as teenagers were significantly less likely than older women to report a history of professional counseling prior to their abortion, that the memory of the abortion had faded with time, or being in touch with their feelings after the abortion.

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