

# Studies on the Abortion-Breast Cancer Link

The numerical risks associated with induced abortion (and its related circumstances, which vary by study) are listed for each study below.<sup>1)</sup> The [quality of the studies](#) assessing the relationship between induced abortion and breast cancer varies. Many studies concerning breast cancer risk have shown induced abortion to be a risk for breast cancer, in both western and non-western societies. Of the 72 epidemiological studies we have assessed that differentiate induced from spontaneous abortions (or whose data have been re-analyzed to do so), 21 studies show some positive and significant relationship between induced abortion and breast cancer. Seven studies show a positive and marginally significant relationship between the two. Two ecological epidemiological studies have also shown an association between the two.

No.	Year	Reference	OR or RR (95% CI) <sup>2)</sup>	Statistically Significant	Positive or Negative Correlation	Country or Population
1	1957	M. Segi, I. Fukushima, S. Fujisaku, M. Kurihara, S. Saito, K. Asano, and M. Kamoi, "An Epidemiological Study on Cancer in Japan," <i>Japanese Journal of Cancer Research</i> (GANN) 48 (Suppl.) (1957): 1-63.	2.63 (1.85-3.75)*	Yes	Positive	Japan
2	1968	H. Watanabe and T. Hirayama, "Epidemiology and Clinical Aspects of Breast Cancer," <i>Nippon Rinsho</i> 26 (1968): 1843-1849 (in Japanese).	1.51 (0.91-2.53)*	No	Positive	Japan
3	1978	V.V. Dvoirin and A.B. Medvedev, "Role of Women's Reproductive Status in the Development of Breast Cancer," in <i>Methods and Progress in Breast Cancer Epidemiology Research</i> , by Tallin (Moscow: Oncology Science Center of the USSR Academy of Sciences, 1978), 53-63 (in Russian).	1.71 (0.80-3.64)*	No	Positive	USSR/ Estonia
4	1979	B. Burany, "Gestational characteristics in women with breast cancer," <i>Jugosl Ginekol Opstet</i> 19 (1979):237-247 (in Serbo-Croatian).	0.50 (0.33-0.74)*	Yes	Negative	Yugoslavia
5	1981	M.C. Pike, B.E. Henderson, J.T. Casagrande, I. Rosario, and G.E. Gray, "Oral Contraceptive Use and Early Abortion as Risk Factors for Breast Cancer in Young Women," <i>British Journal of Cancer</i> 43, no. 1 (1981): 72-76.	2.37 (0.85-6.93)*	No	Positive	United States
6	1982	F. Nishiyama, "The Epidemiology of Breast Cancer in Tokushima Prefecture," <i>Shikoku Ichi</i> 38 (1982): 333-343 (in Japanese).	2.52 (1.99-3.20)*	Yes	Positive	Japan
7	1983	L.A. Brinton, R. Hoover, and J.F. Fraumeni, Jr., "Reproductive factors in the aetiology of breast cancer," <i>British Journal of Cancer</i> 47, no. 6 (1983): 757-762.	1.34 (.3-5.6) if before first live birth; .89 (.4-2.00) if after first live birth; 5.5 (.8-36.8) if nulliparous	No	Positive/ Negative/ Positive	United States
8	1984	Monique G. Lê, Annie Bacheloti, F. Doyon, A. Kramar, and Catherine Hill, "Oral Contraceptive Use and Breast or Cervical Cancer: Preliminary Results of a French Case-Control Study," in <i>Hormones and Sexual Factors in Human Cancer Aetiology</i> , eds. J.P. Wolff and J.S. Scott (Amsterdam: Elsevier, 1984), 139-147.	1.32 (0.97-1.77)*	No	Positive	France
9	1985	T. Hirohata, T. Shigematsu, A.M. Nomura, Y. Nomura, A. Horie, and I. Hirohata, "Occurrence of breast cancer in relation to diet and reproductive history: a case-control study in Fukuoka, Japan," <i>National Cancer Institute Monograph</i> 69 (1985): 187-190.	1.52 (0.93-2.48)	No	Positive	Japan
10	1987	C. La Vecchia, A. Decarli, F. Parazzini, A. Gentile, E. Negri, G. Cecchetti, and S. Franceschi, "General epidemiology of breast cancer in northern Italy," <i>International Journal of Epidemiology</i> 16, no. 3 (1987): 347-355.	1.19 (0.82-1.71) if 1 IA; .78 (.52-1.13) if ≥2 IA	No	Positive/ Negative	Italy
11	1988	M. Ewertz and S.W. Duffy, "Risk of breast cancer in relation to reproductive factors in Denmark," <i>British Journal of Cancer</i> 58, no. 1 (1988): 99-104.	3.85 (1.08-13.6) with IA in nulliparous women	Yes	Positive	Denmark
12	1988	E. Luporsi, "Breast cancer and alcohol," (PhD thesis, University of Paris-Sud, 1988), data in N. Andrieu, S.W. Duffy, T.E. Rohan, M.G. Lê, E. Luporsi, M. Gerber, R. Renaud, D.G. Zaridze, Y. Lifanova, and N.E. Day, "Familial Risk, Abortion and Their Interactive Effect on the Risk of Breast Cancer—A Combined Analysis of Six Case-Control Studies," <i>British Journal of Cancer</i> 72, no. 3 (1995): 744-751.	1.8 (1.0-3.5) if 1 IA; 1.9 (.5-6.9) if ≥2 IA	Marginal/ No	Positive	France
13	1988	D.G. Zaridze data (unpublished) in N. Andrieu, S.W. Duffy, T.E. Rohan, M.G. Lê, E. Luporsi, M. Gerber, R. Renaud, D.G. Zaridze, Y. Lifanova, and N.E. Day, "Familial Risk, Abortion and Their Interactive Effect on the Risk of Breast Cancer—A Combined Analysis of Six Case-Control Studies," <i>British Journal of Cancer</i> 72, no. 3 (1995): 744-751.	1.0 (.7-1.4) if 1 IA; .7 (.6-1.0) if ≥2 IA	No/ Marginal	Null/ Negative	Russia

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14	1984	M.G. Lê, A. Bachelot, F. Doyon, A. Kramar, and C. Hill, "Oral Contraceptive Use and Breast Cancer or Cervical Cancer: Preliminary Results of a French Case-Control Study," in <i>Hormones and Sexual Factors in Human Cancer Aetiology</i> , eds. J-P Wolff and J.D. Scott (Amsterdam: Elsevier Science, 1984), data in N. Andrieu, S.W. Duffy, T.E. Rohan, M.G. Lê, E. Luporsi, M. Gerber, R. Renaud, D.G. Zaridze, Y. Lifanova, and N.E. Day, "Familial Risk, Abortion and Their Interactive Effect on the Risk of Breast Cancer—A Combined Analysis of Six Case-Control Studies," <i>British Journal of Cancer</i> 72, no. 3 (1995): 744-751.	1.2 (.7-2.1) if 1 IA; 1.9 (1.0-3.6) if ≥2 IA	No/ Marginal	Positive	France
15	1988	T. Rohan, A.J. McMichael, and P.A. Baghurst, "A population-based case-control study of diet and breast cancer in Australia," <i>American Journal of Epidemiology</i> 128 (1988): 478-489, data in N. Andrieu, S.W. Duffy, T.E. Rohan, M.G. Lê, E. Luporsi, M. Gerber, R. Renaud, D.G. Zaridze, Y. Lifanova, and N.E. Day, "Familial Risk, Abortion and Their Interactive Effect on the Risk of Breast Cancer—A Combined Analysis of Six Case-Control Studies," <i>British Journal of Cancer</i> 72, no. 3 (1995): 744-751.	2.7 (1.1-6.7) if 1 IA; 2.2 (.4-12.0) if ≥2 IA	Yes/ No	Positive	Australia
16	1988	Lynn Rosenberg, Julie R. Palmer, David W. Kaufman, Brian L. Strom, David Schottenfeld, and Samuel Shapiro, "Breast Cancer in Relation to the Occurrence and Time of Induced and Spontaneous Abortion," <i>American Journal of Epidemiology</i> 127 (1988): 981-989.	1.2 (.9-1.6) if parous; 1.3 (.8-2.2) if nulliparous	No	Positive	United States
17	1989	B.M. Lindefors Harris, G. Eklund, O. Meirik, L.E. Rutqvist, and K. Wiklund, "Risk of cancer of the breast after legal abortion during first trimester: a Swedish register study," <i>British Medical Journal</i> 299, no. 6713 (1989): 1430-1432.	0.77 (0.58-0.99)	Yes	Negative	Sweden/ Norway
18	1989	Holly L. Howe, Ruby T. Senie, Helen Bzduch, and Peter Herzfeld, "Early Abortion and Breast Cancer Risk Among Women Under Age 40," <i>International Journal of Epidemiology</i> 18 (1989): 300-304.	1.9 (1.2-3.0)	Yes	Positive	United States
19	1989	Larissa I. Remennick, "Reproductive Patterns and Cancer Incidence in Women: A Population-Based Correlation Study in the USSR," <i>International Journal of Epidemiology</i> 18, no. 3 (September 1989): 498-510.	data not in the form of OR	Yes	Positive	USSR
20	1990	H.O. Adami, R. Bergström, E. Lund, and O. Meirik, "Absence of association between reproductive variables and the risk of breast cancer in young women in Sweden and Norway," <i>British Journal of Cancer</i> 62, no 1 (1990): 122-126.	0.8 (0.5-1.1) if 1 IA; 1.3 (0.6-3.0) if ≥ 2 IA	No	Negative/ Positive	Sweden/ Norway
21	1991	Fabio Parazzini, Eva Negri, and Carlo La Vecchia, "Spontaneous and induced abortions and risk of breast cancer," <i>International Journal of Cancer</i> 48, issue 6 (1991): 816-820.	1.0 (0.8-1.3) if 1 IA; .9 (.7-1.2) if > 2 IA	No	Null/ Negative	Italy
22	1992	Fabio Parazzini, Carlo La Vecchia, Eva Negri, Silvia Franceschi, and Luca Bocciolone, "Menstrual and reproductive factors and breast cancer in women with family history of the disease," <i>International Journal of Cancer</i> 51, issue 5 (1992): 677-681.	1.0 (.4-2.2)	No	Null	Italy
23	1993	A.E. Laing, F.M. Demenais, R. Williams, G. Kissling, V.W. Chen, and G.E. Bonney, "Breast Cancer Risk Factors in African-American Women: The Howard University Tumor Registry Experience," <i>Journal of the National Medical Association</i> 85 (1993): 931-939.	4.7 (2.6-8.4) if IA and diagnosed BC ≥ 50 yrs old; if BC 41-49 yrs old, 2.8 (1.0-8.1); if BC ≤40 yrs old, 1.5 (0.7-3.5)	Yes/ Marginal/ No	Positive	United States
24	1993	Carlo La Vecchia, Eva Negri, Silvia Franceschi, Fabio Parazzini, "Long-term impact of reproductive factors on cancer risk," <i>International Journal of Cancer</i> 53, issue 2 (1993): 215-219.	1.0 if 1 IA, ns; .8 if ≥ 2 IA, p < .05	No/ Yes	Null/ Negative	Italy
25	1993	Miriam Moseson, Karen L. Koenig, Roy E. Shore, and Bernard S. Pasternack, "The influence of medical conditions associated with hormones on the risk of breast cancer," <i>International Journal of Epidemiology</i> 22, issue 6 (1993): 1000-1009.	1.0 (0.7-1.4)	No	Negative	United States
26	1994	N. Andrieu, F. Clavel, B. Gairard, L. Piana, A. Bremond, J. Lansac, R. Flamant, and R. Renaud, "Familial risk of breast cancer and abortion," <i>Cancer Detection and Prevention</i> 18, no. 1 (1994): 51-55.	1.2 (0.8-1.8) if 1 IA; .9 (.5-1.7) if ≥ 2 IA	No	Positive/ Negative	France
27	1994	Janet R. Daling, Kathleen E. Malone, Lynda F. Voigt, Emily White, and Noel S. Weiss, "Risk of Breast Cancer among Young Women: Relationship to Induced Abortions," <i>Journal of the National Cancer Institute</i> 86 (1994): 1584-1592.	1.5 (1.2-1.9)	Yes	Positive	United States
28	1994	A.E. Laing, G.E. Bonney, L. Adams-Campbell, et al., "Reproductive and Lifestyle Risk Factors for Breast Cancer in African-American Women," <i>Genetic Epidemiology</i> 11 (1994): A300.	2.44 (1.0-6.0)*	Yes	Positive	United States
29	1995	N. Andrieu, S.W. Duffy, T.E. Rohan, M.G. Lê, E. Luporsi, M. Gerber, R. Renaud, D.G. Zaridze, Y. Lifanova, and N.E. Day, "Familial Risk, Abortion and Their Interactive Effect on the Risk of Breast Cancer—A Combined Analysis of Six Case-Control Studies," <i>British Journal of Cancer</i> 72, no. 3 (1995): 744-751	1.5 (1.1-1.9) if 1 IA	Yes	Positive	Multinational
30	1995	Louise A. Brinton, Janet R. Daling Jr., Jonathan M. Liff, Janet B. Schoenberg, Kathleen E. Malone, Janet L. Stanford, Ralph J. Coates, Marilie D. Gammon, Louise Hanson, and Robert N. Hoover, "Oral contraceptives and breast cancer risk among younger women," <i>Journal of the National Cancer Institute</i> 87 (1995): 827-835.	0.98 (0.8-1.2) 1 IA; 1.02 (0.8-1.4) if ≥ 2 IA	No	Negative/ Positive	United States
31	1995	L. Bu, L.F. Voigt, Z. Yu, K.E. Malone, and J.R. Daling, "Risk of breast cancer associated with induced abortion in a population at low risk of breast cancer," <i>American Journal of Epidemiology</i> 141 (1995): S85 (abstract 337).	2.9 (1.9-4.4) if 1 IA; 3.6 (2.2-6.0) if ≤ 2 IA; 4.5 (1.9-10.7) if BC ≤ 35 yrs old	Yes	Positive	China
32	1995	Loren Lipworth, Klea Katsouyanni, Anders Ekblom, Karin B. Michels, and Dimitrios Trichopoulos, "Abortion and the Risk of Breast Cancer: A Case-Control Study in Greece," <i>International Journal of Cancer</i> 61 (1995): 181-184.	1.51 (1.24-1.84); 2.06 (1.45-2.9) if IA before FFTP among parous women	Yes	Positive	Greece

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33	1996	Janet R. Daling, Louise A. Brinton, Lynda F. Voigt, Noel S. Weiss, Ralph J. Crates, Kathleen E. Malone, Janet B. Schoenberg, and Marilee Gammon, "Risk of Breast Cancer among White Women Following Induced Abortion," <i>American Journal of Epidemiology</i> 144 (1996): 373-380.	1.3 (1.0-1.6) if 1 IA	Marginal	Positive	United States
34	1996	Polly A. Newcomb, Barry E. Storer, Matthew P. Longnecker, Robert Mittendorf, E. Robert Greenberg, and Walter C. Willett, "Pregnancy Termination in Relation to Risk of Breast Cancer," <i>Journal of the American Medical Association</i> 275 (1996): 283-287.	1.23 (1.0-1.51)	Marginal	Positive	United States
35	1996	Matti A. Rookus and Flora E. van Leeuwen, "Induced Abortion and Risk for Breast Cancer: Reporting (Recall) Bias in a Dutch Case-Control Study," <i>Journal of the National Cancer Institute</i> 88 (1996): 1759-1764.	1.9 (1.1-3.2); if before first birth, 2.6 (1.0-6.8)	Yes/Marginal	Positive	Netherlands
36	1996	R. Talamini, S. Franceschi, C. La Vecchia, E. Negri, L. Borsa, M. Montella, F. Falcini, E. Conti, and C. Rossi, "The Role of Reproductive and Menstrual Factors in Cancer of the Breast Before and After Menopause," <i>European Journal of Cancer</i> 32A, no. 2 (1996): 303-310.	1.2 (1.0-1.5) if 1 IA	Marginal	Positive	Italy
37	1996	A. Tavani, C. La Vecchia, S. Franceschi, E. Negri, B. D'avanao, A. Decarli, "Abortion and breast cancer risk," <i>International Journal of Cancer</i> 65 (1996): 401-405.	1.2 (1.0-1.5)	Marginal	Positive	Italy
38	1996	A.H. Wu, R.G. Ziegler, M.C. Pike, A.M. Nomura, D.W. West, L.N. Kolonel, P.L. Horn-Ross, J.F. Rosenthal, and R.N. Hoover, "Menstrual and reproductive factors and risk of breast cancer in Asian-Americans," <i>British Journal of Cancer</i> 73, no. 5 (1996): 680-686.	1.92 (0.7-5.3) if nulliparous and had only IAs	No	Positive	United States
39	1997	Mads Melbye, Jan Wohlfahrt, Jørgen H. Olsen, Morten Frisch, Tine Westergaard, Karin Helweg-Larsen, and Per Kragh Andersen, "Induced Abortion and the Risk of Breast Cancer," <i>New England Journal of Medicine</i> 336, no. 2 (1997): 81-85.	1.00 (.94-1.06)	No	Null	Denmark
40	1997	Julie R. Palmer, Lynn Rosenberg, R. Sowmya Rao, Ann Zauber, Brian L. Strom, M. Ellen Warshauer, Paul D. Stolley, and Samuel Shapiro, "Induced and Spontaneous Abortion in Relation to Risk of Breast Cancer (United States)," <i>Cancer Causes and Control</i> 8 (1997): 841-849.	1.3 (.9-1.9) if nulliparous; 1.1 (.9-1.5) if parous; 1.4 (1.0-1.8) if (parous) IA after one birth.	No/ Marginal	Positive	United States
41	1999	F. Fioretti, A. Tavani, C. Bosetti, C. La Vecchia, E. Negri, F. Barbone, R. Talamini, and S. Franceschi, "Risk factors for breast cancer in nulliparous women," <i>British Journal of Cancer</i> 78, no. 11/12 (1999): 1923-1928.	0.97 (0.64-1.47); if abortion ≥ 30 yrs old, 1.75 (1.03-2.97)	No/ Yes	Negative/ Positive	Italy
42	1999	Pamela M. Marcus, Donna Day Baird, Robert C. Millikan, Patricia G. Moorman, Bahjat Qaqish, and Beth Newman, "Adolescent reproductive events and subsequent breast cancer risk," <i>American Journal of Public Health</i> 89, no. 8 (1999): 1244-1247.	1.2 (.6-2.7) if first IA < age 20; 1.1 (.7-1.7) if first IA ≥ age 20	No	Positive	United States
43	2000	DeAnn Lazovich, Julie A. Thompson, Pamela J. Mink, Thomas A. Sellers, and Kristin Anderson, "Induced abortion and breast cancer risk," <i>Epidemiology</i> 11, no. 1 (2000): 76-80.	1.1 (0.8-1.6); if IA nulliparous, 1.7 (0.6-5.4)	No	Negative	United States
44	2000	P.A. Newcomb and M.T. Mandelson, "A record-based evaluation of induced abortion and breast cancer risk," <i>Cancer Causes and Control</i> 11, no. 9 (2000): 777-781.	0.9 (0.5-1.6)	No	Negative	United States
45	2000	M.T. Tang, N.S. Weiss, K.E. Malone, "Induced abortion in relation to breast cancer among parous women: A birth certificate registry study," <i>Epidemiology</i> 11, no. 2 (2000): 177-180.	0.9 (0.7-1.2) if parous	No	Negative	United States
46	2001	M.J. Goldacre, L.M. Kurina, V. Seagroatt, and D. Yeates, "Abortion and Breast Cancer: A Case-Control Record Linkage Study," <i>Journal of Epidemiology and Community Health</i> 55, no. 5 (2001): 336-337.	0.83 (0.74-0.93) (observed v. expected BC cases)	Yes	Negative	Britain
47	2001	C. Robertson, M. Van Den Donk, M. Primic-Zakelj, T. MacFarlane, and P. Boyle, "The association between induced and spontaneous abortion and risk of breast cancer in Slovenian women aged 25-54," <i>Breast</i> 10 (2001): 291-298.	2.71 (0.72-10.26) if IA nulliparous; 1.29 (.77-2.17) if uniparous	No	Positive	Slovenia
48	2001	M. Sanderson, X.O. Shu, F. Jin, Q. Dai, W. Wen, Y. Hua, Y.T. Gao, and W. Zheng, "Abortion history and breast cancer risk: Results from the Shanghai Breast Cancer Study," <i>International Journal of Cancer</i> 96, no. 6 (2001): 899-905.	1.0 (0.8-1.2) if premenopausal BC; .9 (.7-1.2) if postmenopausal BC	No	Positive	China
49	2002	Z. Ye, D.L. Gao, Q. Qin, R.M. Ray, and D.B. Thomas, "Breast cancer in relation to induced abortions in a cohort of Chinese women," <i>British Journal of Cancer</i> 87, no. 9 (2002): 976.	1.06 (0.84-1.33)	No	Positive	China
50	2003	H. Becher, S. Schmidt, and J. Chang-Claude, "Reproductive factors and familial predisposition for breast cancer by age 50 years. A case-control-family study for assessing main effects and possible gene-environment interaction," <i>International Journal of Epidemiology</i> 32 (2003): 38-50.	1.35 (1.03-1.78)	Yes	Positive	Germany
51	2003	Gunnar Erlandsson, Scott M. Montgomery, Sven Cnattingius, and Anders Ekblom, "Abortions and breast cancer: record-based case-control study," <i>International Journal of Cancer</i> 103, no. 5 (2003): 676-679.	0.8 (0.64-1.0)	Marginal	Negative	Sweden

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52	2003	M. Mahue-Giangreco, G. Ursin, J. Sullivan-Halley, and L. Bernstein, "Induced abortion, miscarriage, and breast cancer risk of young women," <i>Cancer Epidemiology, Biomarkers &amp; Prevention</i> 12 (2003): 209-214.	1.05 (0.75-1.48) if parous, 40 or younger; .69 (.46-1.04) if nulliparous, 40 or younger	No	Positive/Negative	United States
53	2003	Xavier Paoletti, Françoise Clavel-Chapelon, and the E3N group, "Induced and spontaneous abortion and breast cancer risk: results from the E3N cohort study," <i>International Journal of Cancer</i> 106, no. 2 (2003): 270-276.	0.91 (0.82-0.99)	Yes	Negative	France
54	2004	Kathleen Meeske, Michael Press, Alpa Patel, and Leslie Bernstein, "Impact of reproductive factors and lactation on breast carcinomas in situ," <i>International Journal of Cancer</i> 110 (2004): 103-109.	1.04 (0.56-1.94) if nulliparous; .94 (.6-1.47) if parous, 1 IA	No	Positive/Negative	United States
55	2004	Julie R. Palmer, Lauren A. Wise, Lucile L. Adams-Campbell, and Lynn Rosenberg, "A prospective study of induced abortion and breast cancer in African-American women," <i>Cancer Causes &amp; Control</i> 15, no. 2 (2004): 105-111.	1.1 (0.8-1.4) if parous; 0.9 (0.5-1.4) if nulliparous	No	Positive/Negative	United States
56	2005	David H. Brewster, Diane L. Stockton, Richard Dobbie, Diana Bull, and Valerie Beral, "Risk of Breast Cancer after Miscarriage or Induced Abortion: A Scottish Record Linkage Case-Control Study," <i>Journal of Epidemiology and Community Health</i> 59, no. 4 (2005): 283-287.	0.8 (0.72-0.89)	Yes	Negative	Scotland
57	2006	G.K. Reeves, et al., "Breast cancer risk in relation to abortion: Results from the EPIC study," <i>International Journal of Cancer</i> 119, no. 7 (2006): 1741-1745.	0.95 (0.87-1.03)	No	Negative	Europe
58	2006	K.A. Rosenblatt, D.L. Gao, R.M. Ray, M.R. Rowland, Z.C. Nelson, K.J. Wernli, W. Li, and D.B. Thomas, "Induced abortions and the risk of all cancers combined and site-specific cancers in Shanghai," <i>Cancer Causes and Control</i> 17, no. 10 (2006): 1275-1280.	1.01 (.92-1.12)	No	Positive	China
59	2006	Najmeh Tehrani, M. Amelbaraez, R. Salke, and S. Faghihzadeh, "The effect of abortion on the risk of breast cancer" (Iranian study presented at a conference at McMaster University, 2006). <a href="http://hdl.handle.net/10755/163877">http://hdl.handle.net/10755/163877</a>	7.94 (2.05-26.21) with IA < 12 wks	Yes	Positive	Iran
60	2007	Karin B. Michels, Fei Xue, Graham A. Colditz, and Walter C. Willett, "Induced and Spontaneous Abortion and Incidence of Breast Cancer among Young Women," <i>Archives of Internal Medicine</i> 167, no.8 (2007): 814-820.	1.01 (0.88-1.17)	No	Positive	United States
61	2007	Kourosh Holakouie Naieni, Ali Ardalan, Mahmood Mahmoodi, Abbas Motevalian, Yoosef Yahyapoor, and Bahareh Yazdizadeh, "Risk Factors of Breast Cancer in North of Iran: A Case-Control in Mazandaran Province," <i>Asian Pacific Journal of Cancer Prevention</i> 8, no. 3 (2007): 395-398. Available at <a href="http://www.apocp.org/cancer_download/Volume8_No3/395-398%20c_Naieni%204.pdf">http://www.apocp.org/cancer_download/Volume8_No3/395-398%20c_Naieni%204.pdf</a> .	1.62 (1.13-2.31)	Yes	Positive	Iran
62	2008	Katherine DeLellis Henderson, Jane Sullivan-Halley, Peggy Reynolds, Pamela L. Horn-Ross, Christina A. Clarke, Ellen T. Chang, Susan Neuhausen, Giske Ursin, and Leslie Bernstein, "Incomplete Pregnancy Is Not Associated with Breast Cancer Risk: the California Teachers Study," <i>Contraception</i> 77 (2008): 391-396.	.95 (.76-1.18) if nulliparous; 1.05 (0.92-1.2) if parous	No	Negative/Positive	United States
63	2008	Jie Lin and Jian-feng Yu, "A case control study on risk factors of breast cancer among women in Cixi," <i>Zhejiang Journal of Preventive Medicine</i> 20, no. 6 (June 2008): 3-5.	2.38 (1.09-5.2)	Yes	Positive	China
64	2009	Jessica M. Dolle, Janet R. Daling, Emily White, Louise A. Brinton, David R. Doody, Peggy L. Porter, and Kathleen E. Malone, "Risk Factors for Triple-Negative Breast Cancer in Women Under the Age of 45 Years," <i>Cancer Epidemiology, Biomarkers and Prevention</i> 18, no. 4 (2009): 1157-1166.	1.4 (1.1-1.8)	Yes	Positive	United States
65	2009	Vahit Ozmen, Beyza Ozcinar, Hasan Karanlik, Neslihan Cabioglu, Mustafa Tukenmez, Rian Disci, Tolga Ozmen, Abdullah Igci, Mahmut Muslumanoglu, Mustafa Kecer, and Atilla Soran, "Breast Cancer Risk Factors in Turkish Women- a University Hospital Based Nested Case Control Study," <i>World Journal of Surgical Oncology</i> 7, no. 37 (2009).	1.66 (1.39-1.98)	Yes	Positive	Turkey
66	2009	Peng Xing, Jiguang Li and Feng Jin, "A Case-Control Study of Reproductive Factors Associated with Subtypes of Breast Cancer in Northeast China," <i>Medical Oncology</i> 27, no. 3 (2009): 926-931.	1.26 (1.05-1.52) for luminal A breast cancer	Yes	Positive	China
67	2011	L. Khachatryan, R. Scharpf, and S. Kagan, "Influence of diabetes mellitus type 2 and prolonged estrogen exposure on risk of breast cancer among women in Armenia," <i>Health Care for Women International</i> 32, no. 11 (2011): 953-971.	2.86 (1.02-8.04)	Yes	Positive	Armenia
68	2012	A.R. Jiang, C.M. Gao, J.H. Ding, S.P. Li, Y.T. Liu, H.X. Cao, J.Z. Wu, J.H. Tang, Y. Qian, and K. Tajima, "Abortions and Breast Cancer Risk in Premenopausal and Postmenopausal Women in Jiangsu Province of China," <i>Asian Pacific Journal of Cancer Prevention</i> 13 (2012): 33-35.	1.52 (1.21-1.92)	Yes	Positive	China
69	2012	Julie Lecarpentier, et al., "Variation in breast cancer risk associated with factors related to pregnancies according to truncating mutation location, in the French National BRCA1 and BRCA2 mutations carrier cohort (GENEPSO)," <i>Breast Cancer Research</i> 14, issue 4 (2012): R99.	(hazard ratio) 1.15 (.83-1.6) if 1 IA; 1.77 (1.19-2.63) if IA before FFTP	No/ Yes	Positive	France
70	2013	Christina Marie Braüner, Kim Overvad, Anne Tjønneland, and Jørn Attermann, "Induced abortion and breast cancer among parous women: A Danish cohort study" (published online ahead of print April 13, 2013), <i>Acta Obstetrica et Gynecologica Scandinavica</i> 92, issue 6 (2013): 700-705.	.95 (.83-1.09)	No	Negative	Denmark
71	2013	S. Jabeen, M. Haque, J. Islam, M.Z. Hossain, A. Begum, and M.A. Kashem, "Breast Cancer and Some Epidemiological Factors: A Hospital Based Study," <i>Journal of Dhaka Medical College</i> 22, no. 1 (2013): 61-66.	20.62	No	Positive	Bangladesh

No.	Year	Reference	OR or RR (95% CI) <sup>2)</sup>	Statistically Significant	Positive or Negative Correlation	Country or Population
72	2013	Ramchandra Kamath, Kamaleshwar S. Mahajan, Lena Ashok, T.S. Sanal, "A study on risk factors of breast cancer among patients attending the tertiary care hospital, in Udupi district," <i>Indian Journal of Community Medicine</i> 38, no. 2 (2013): 95-99.	6.38 (.99-40.81)	No	Positive	India

<sup>1)</sup> This entry draws heavily from [Induced Abortion and Breast Cancer](#).

<sup>2)</sup> **BC**- Breast cancer

**IA**- Induced abortion

**FFTP**- First full-term pregnancy

**Luminal A cancer**- Estrogen positive and HER2 negative

**Nulliparous**- Has never given birth

**Parous**- Has given birth

\*Odds ratio obtained from 1996 Brind

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