Supplementary Appendix

Studies excluded from our systematic review, reasons of exclusion and publications of the results of the same study

Among the 60 articles that have been screened for full-text review, twenty-two studies have been excluded from our systematic review. Table 1 of the Appendix presents the reasons of exclusion (based on [72]). Here are the twenty-two studies that have been excluded:

[73] Auger N, Bilodeau-Bertrand M, Marcoux S, Kosatsky T. Residential exposure to electromagnetic fields during pregnancy and risk of child cancer: A longitudinal cohort study. Environ Res 2019;176:108524.

[74] Auvinen A, Linet MS, Hatch EE, Kleinerman RA, Robison LL, Kaune WT et al. Extremely low-frequency magnetic fields and childhood acute lymphoblastic leukemia: an exploratory analysis of alternative exposure metrics. Am J Epidemiol 2000;152:20-31.

[75] Ba Hakim AS, Abd. Rahman N., Mokhtar MZ, Said IB, Hussain H. ELF - EMF correlation study on distance from Overhead Transmission Lines and acute leukemia among children in klang Valley, Malaysia. IECBES 2014, Conference Proceedings - 2014 IEEE Conference on

Biomedical Engineering and Sciences: Miri, Where Engineering in Medicine and Biology and Humanity Meet 2015;7047600,710-714.

[76] Bunch KJ, Swanson J, Vincent TJ, Murphy MF. Magnetic fields and childhood cancer: an epidemiological investigation of the effects of high-voltage underground cables. J Radiol Prot 2015;35:695-705.

[77] Coghill RW, Steward J, Philips A. Extra low frequency electric and magnetic fields in the bedplace of children diagnosed with leukaemia: a case-control study. Eur J Cancer Prev 1996;5:153-8.

[78] Coleman MP, Bell CM, Taylor HL, Primic-Zakelj M. Leukaemia and residence near electricity transmission equipment: a case-control study. Br J Cancer 1989;60:793-8.

[79] Crespi CM, Swanson J, Vergara XP, Kheifets L. Childhood leukemia risk in the California Power Line Study: Magnetic fields versus distance from power lines. Environ Res 2019;171:530-535.

[80] Does M, Scélo G, Metayer C, Selvin S, Kavet R, Buffler P. Exposure to electrical contact currents and the risk of childhood leukemia. Radiat Res 2011;175:390-6.

[81] Draper G, Vincent T, Kroll ME, Swanson J. Childhood Cancer in Relation to Distance From High Voltage Power Lines in England and Wales: A Case-Control Study. BMJ 2005;330:1290.

[82] Fulton JP, Cobb S, Preble L, Leone L, Forman E. Electrical wiring configurations and childhood leukemia in Rhode Island. Am J Epidemiol 1980;111:292-6.

[83] Green LM, Miller AB, Villeneuve PJ, Agnew DA, Greenberg ML, Li J et al. A case-control study of childhood leukemia in southern Ontario, Canada, and exposure to magnetic fields in residences. Int J Cancer 1999;82:161-70.

[84] Kroll ME, Swanson, J, Vincent, TJ, Draper, GJ. Childhood cancer and magnetic fields from high-voltage power lines in England and Wales: a case-control study. Br J Cancer 2010;103:1122-1127.

[85] Mizoue T, Onoe Y, Moritake H, Okamura J, Sokejima S, Nitta H. Residential proximity to high-voltage power lines and risk of childhood hematological malignancies. J Epidemiol 2004;14:118-23.

[86] Myers A, Clayden AD, Cartwright RA, Cartwright SC. Childhood cancer and overhead powerlines: a case-control study. Br J Cancer 1990;62:1008-14.

[87] Olsen JH, Nielsen A, Schulgen G. Residence near high voltage facilities and risk of cancer in children. BMJ 1993;307:891-5.

[88] Pedersen C, Bräuner EV, Rod NH, Albieri V, Andersen CE, Ulbak K et al. Distance to high-voltage power lines and risk of childhood leukemia--an analysis of confounding by and interaction with other potential risk factors. PLoS One 2014;9:e107096.

[89] Scarnato C, Giacomucci G. Cancer mortality and ELF-EMFs exposure association among young people: A case-control study. European Journal of Oncology 2011;16:197-202.

[90] Schüz J, Grigat JP, Brinkmann K, Michaelis J. Childhood acute leukaemia and residential 16.7 Hz magnetic fields in Germany. Br J Cancer 2001;84:697-9.

[91] Söderberg KC, Naumburg E, Anger G, Cnattingius S, Ekbom A, Feychting M. Childhood leukemia and magnetic fields in infant incubators. Epidemiology 2002;13:45-9.

[92] Swanson J, Bunch KJ. Reanalysis of risks of childhood leukaemia with distance from overhead power lines in the UK. Journal of Radiological Protection 2018;38:N30-N35.

[93] Tomenius, L. 50-Hz electromagnetic environment and the incidence of childhood tumors in Stockholm County. Bioelectromagnetics 1986;7:191-207.

[94] UK Childhood Cancer Study Investigators. Childhood cancer and residential proximity to power lines. Br J Cancer 2000;83:1573-80.

Table 1 (Appendix). Studies excluded from our systematic review and reasons of exclusion

Reason of exclusion	**References of the studies that have been excluded**
Incomplete data/leukemia cannot be analyzed separately	Auger et al. (2019 [73]); Coghill et al. (1996 [77]); Coleman et al. (1989 [78]); Fulton et al. (1980 [82]); Mizoue et al. (2004 [85]); Myers et al. (1990 [86]); Scarnato and Giacomucci (2011 [89]); Tomenius (1986 [93])
Publications (at least partially) based on the same subjects[1]	Auvinen et al. (2000 [74]); Ba Hakim et al. (2015 [75]); Bunch et al. (2015 [76]); Crespi et al. (2019 [79]); Does et al. (2011 [80]); Draper et al. (2005 [81]); Green et al (1999 [83]); Kroll et al. (2010 [84]); Olsen et al. (1993 [87]); Pedersen et al. (2014 [88]); Schüz et al. (2001 [90]); Söderberg et al. (2002 [91]); Swanson and Bunch (2018 [92]); UK Childhood Cancer Study Investigators (2000 [94])

1 When articles published the results of the same study with the same method to assess magnetic fields, we have selected the study that has been published first except for the study of Dockerty et al. (1998 [41]) and when there were large studies including the subjects of smaller studies that had been published earlier. In this case, the largest study has been selected. We have chosen this selection strategy because selecting the original data published first rather than the re-analysis of data in articles published later limits the practice of data dredging (Munafò et al., 2017 [72]). The studies of Green et al. (1999 [31]) and Green et al. (1999 [83]) are based on the same subjects but Green et al. (1999 [31]) has been selected because it has been published first. The studies of Abdul Rahman et al. (2008 [49]) and Ba Hakim et al. (2015 [75]) are based, at least partially, on the same subjects but Abdul Rahman et al. (2008 [49]) has been selected because it has been published first. The studies of Linet et al. (1997 [5]) and Auvinen et al. (2000 [74]) are partially based on the same subjects from the Children's Cancer Group but Linet et al. (1997 [5]) has been selected because it has been published first. The studies by Linet et al. (1997 [5]) and Kleinerman et al. (2000 [45]) are at least partly based on the same subjects from the Children's Cancer Group but Linet et al. (1997 [5]) has been selected for magnetic field measurements and wire codings because it has been published first. The study by Kleinerman et al. (2000 [45]) has only been selected for proximity to power lines. The study by Hatch et al. (1998 [8]) is also based on subjects from the Children's Cancer Group but was interested in electric appliances. Thus, Hatch et al. (1998 [8]) has been selected for exposure to electric appliances. The studies of Crespi et al. (2016 [58]) and Crespi et al. (2019 [79]) are partly based on the same subjects from the California Cancer Registry but Crespi et al. (2016 [58]) has been selected because it has been published first and has analyzed acute lymphoblastic leukemia separately. It is noteworthy that the studies of Crespi et al. (2016 [58]) and Kheifets et al. (2017 [59]) are also partly based on the same subjects from the California Cancer Registry but Crespi et al. (2016 [58]) uses distances from power lines whereas Kheifets et al. (2017 [59]) uses magnetic field measurements. Thus, Crespi et al. (2016 [58]) has been selected for distances from power lines and Kheifets et al. (2017 [59]) has been selected for magnetic field measurements. The study by Does et al. (2011 [80]) has been excluded because it is partly based on the same subjects of the larger study by Kheifets et al. (2017 [59]). The studies of Schüz et al. (2001 [46]) and Schüz et al. (2001 [90]) are based partly on the same population from the German Childhood Cancer Registry. Therefore, we have selected the largest study performed by Schüz et al. (2001 [46]) with the magnetic field categories typically used by the other studies included in our systematic review. The study by Michaelis et al. (1997 [38]) is also part of the German Childhood Cancer Registry but has been performed in Lower Saxony whereas Schüz et al. (2001 [46]) had excluded subjects from Lower Saxony. Thus, we have selected the study by Michaelis et al. (1997 [38]) because an overlap between the subjects from the studies by Michaelis et al. (1997 [38]) and Schüz et al. (2001 [46]) is unlikely. Two studies have been conducted by the UK Childhood Cancer Study Investigators (1999 [43], 2000 [94]) that are partially based on the same subjects. We have selected the UK Childhood Cancer Study (1999 [43]) that has been published first. The studies performed by Myers et al. (1990 [86]), the UK Childhood Cancer Study Investigators (1999 [43]), Draper et al. (2005 [81]), Kroll et al. (2010 [84]), Bunch et al. (2014 [10], 2015 [76], 2016 [54]) and Swanson and Bunch (2018 [92]) are based partly on the same subjects from the National Registry of Childhood Tumours. Therefore, we have selected the largest study performed by Bunch et al. (2016 [54]) for the magnetic field measurement from power lines. We have selected the study of Bunch et al. (2014 [10]) for our meta-analysis based on distances from power lines because this study, unlike Bunch et al. (2015 [76]), was based on distances from power lines and used the > 600 m reference category typically used by the other studies included in our review. Thus, Bunch et al. (2014 [10]) has been selected for distances from power lines and Bunch et al. (2016 [54]) has been selected for magnetic field measurements. Acute lymphoblastic leukemia cases have not been analyzed separately in the article of Bunch et al. (2016 [54]) but well in the study performed by the UK Childhood Cancer Study Investigators (1999 [43]). Thus, the study conducted by the UK Childhood Cancer Study Investigators (1999 [43]) has been selected in our systematic review to perform the meta-analyses restricted to acute lymphoblastic leukemia cases from the UK. The Swedish studies by Tomenius (1986 [93]), Feychting and Ahlbom (1993 [37]) and Söderberg et al. (2002 [91]) are based partly on the same subjects from the Swedish Cancer

Registry. We have selected the study by Feychting and Ahlbom (1993 [37]) on residential magnetic fields and excluded the studies by Tomenius (1986 [93]) (incomplete data) and by Söderberg et al. (2002 [91]) that was the only article we have found interested in magnetic fields in infant incubators. We have excluded the Danish study of Olsen et al. (1993 [87]) because the cases diagnosed with leukemia between 1968 and 1986 in this study have been included in a much larger Danish study conducted by Pedersen et al. (2015 [55]) with leukemia cases diagnosed between 1968 and 2003. The studies of Pedersen et al. (2014 [53]) and Pedersen et al. (2014 [88]) are based on the same subjects from the Danish Cancer Registry but Pedersen et al. (2014 [53]) has been selected because it has been published first. The studies by Pedersen et al. (2014 [53]) and Pedersen (2015 [55]) are partly based on the same subjects from the Danish Cancer Registry but Pedersen et al. (2014 [53]) used distances to power lines and Pedersen et al. (2015 [55]) used magnetic field measurements. Thus, Pedersen et al. (2014 [53]) has been selected for distances to power lines and Pedersen et al. (2015 [55]) has been selected for magnetic field measurements. Dockerty et al. (1998 [41]) have examined the relation between 50 Hz magnetic fields and the occurrence of childhood leukemia but their results were presented for the bedroom and living room separately. The same research team combined the measures from the two rooms into a time-weighted average but published these results in another study (Dockerty et al., 1999 [42]). The measurement data of this study were weighted using the questionnaire data on the lengths of time the child had spent in the bedroom and living room, which produces a unique precise measure of magnetic field exposure (Dockerty et al., 1999 [42]) rather than two separate measures (Dockerty et al., 1998 [41]). Thus, we have selected Dockerty et al. (1999 [42]) for the residential magnetic field measurement but kept the study of Dockerty et al. (1998 [41]) for their data on exposure to electric appliances.

Supplementary tables

Supplementary Table 1. Search strategy (for Medline – via Ovid)

1. Electromagnetic radiation
2. (Electromagnetic$ or ELF-EMF).ti,ab,kf.
3. Exp Magnetic Fields/
4. (Magnetic adj2 field$).ti,ab,kf.
5. (Power adj2 line$).ti,ab,kf.
6. Leukemia/ or leukemia, hairy cell/ or leukemia, lymphoid/ or leukemia, mast-cell/ or leukemia, myeloid/ or leukemia, plasma cell/ or leukemia, radiation-induced/
7. (Leukemia$ or leukaemia$ or leukemic or leukaemic or leucocythemia$ or leucocythaemia$).ti,ab,kf.
8. Exp Child/
9. Exp Infant/
10. (Child$ or infant$ or newborn$ or neonate$ or baby or babies or kid$ or toddler$ or young or juvenile$ or girl$ or boy$).ti,ab,kf.
11. Or/1-5
12. Or/6-7
13. Or/8-10
14. And/11-13

Supplementary Table 2. Newcastle-Ottawa Scale scores

Case control studies (First author)	Selection (4 stars max.)	Comparability* (2 stars max.)	Exposure (3 stars max.)	Total score (9 stars max.)
Wertheimer, 1979 [2]	1 star	1 star	2 stars	4 stars
Savitz, 1988 [36]	3 stars	1 star	2 stars	6 stars
Savitz, 1990 [9]	3 stars	1 star	2 stars	6 stars
London, 1991 [29]	2 stars	2 stars	0 stars	4 stars
Feychting, 1993 [37]	3 stars	2 stars	3 stars	8 stars
Linet, 1997 [5]	1 star	1 star	2 stars	4 stars
Michaelis, 1997 [38]	2 stars	2 stars	3 stars	7 stars
Petridou, 1997 [39]	1 star	2 stars	2 stars	5 stars
Tynes, 1997 [40]	2 stars	2 stars	2 stars	6 stars
Dockerty, 1998 [41]	3 stars	2 stars	3 stars	8 stars
Hatch, 1998 [8]	1 star	1 star	1 star	3 stars
Dockerty, 1999 [42]	3 stars	2 stars	2 stars	7 stars
Green, 1999 [31]	2 stars	2 stars	2 stars	6 stars
McBride, 1999 [6]	2 stars	2 stars	2 stars	6 stars
UK CCS, 1999 [43]	3 stars	2 stars	2 stars	7 stars
Bianchi, 2000 [44]	4 stars	2 stars	2 stars	8 stars
Kleinerman, 2000 [45]	1 star	2 stars	2 stars	5 stars
Schüz, 2001 [46]	2 stars	2 stars	3 stars	7 stars
Kabuto, 2006 [4]	2 stars	2 stars	2 stars	6 stars
Feizi, 2007 [47]	3 stars	2 stars	2 stars	7 stars
Mejia-Arangure, 2007 [48]	1 star	2 stars	2 stars	5 stars
Abdul Rahman, 2008 [49]	1 star	1 star	1 star	3 stars
Malagoli, 2010 [50]	2 stars	2 stars	2 stars	6 stars
Sohrabi, 2010 [51]	3 stars	1 star	2 stars	6 stars
Wünsch-Filho, 2011 [32]	4 stars	2 stars	2 stars	8 stars
Jirik, 2012 [26]	1 star	2 stars	2 stars	5 stars
Sermage-Faure, 2013 [52]	2 stars	0 stars	3 stars	5 stars
Bunch, 2014 [10]	3 stars	2 stars	2 stars	7 stars
Pedersen, 2014 [53]	2 stars	2 stars	3 stars	7 stars
Pedersen, 2015 [55]	3 stars	1 star	2 stars	6 stars
Salvan, 2015 [56]	3 stars	2 stars	2 stars	7 stars
Tabrizi, 2015 [57]	1 star	1 star	0 stars	2 stars
Bunch, 2016 [54]	3 stars	2 stars	2 stars	7 stars
Crespi, 2016 [58]	3 stars	2 stars	3 stars	8 stars
Kheifets, 2017 [59]	3 stars	2 stars	3 stars	8 stars
Núñez-Enríquez, 2020 [27]	3 stars	2 stars	3 stars	8 stars
Cohort studies (First author)	**Selection (4 stars max.)**	**Comparability* (2 stars max.)**	**Outcome (3 stars max.)**	**Total score (9 stars max.)**
Verkasalo, 1993 [25]	3 stars	0 stars	2 stars	5 stars
Li, 1998 [60]	3 stars	0 stars	2 stars	5 stars

Abbreviations: UK CCS: UK Childhood Cancer Study, 1999 [43].

***** For the comparability item of the present work, one star was awarded for studies using cases and controls matched for sex and age. A second star was awarded when cases and controls were also matched for other variables or when confounding factors were taken into account in the analysis (cf. adjusted OR).

Supplementary Table 3. Residential magnetic fields and childhood leukemia

Categories	Number of studies	Number of subjects	Heterogeneity	Pooled OR (95% CI)	Overall effect
Studies using magnetic flux density measurements, all leukemias combined Reference category: < 0.1 µT					
0.1 – 0.2 µT	12	Cases: 24057 Controls: 29622	Q (11) = 13.14, P = 0.28, I^2 = 16%	1.04 [0.88, 1.24]	P = 0.62
0.2 – 0.3 µT	5	Cases: 904 Controls: 1477	Q (4) = 0.57, P = 0.97; I^2 = 0%	0.92 [0.68, 1.24]	P = 0.60
0.3 – 0.4 µT	4	Cases: 827 Controls: 924	Q (3) = 1.37, P = 0.71, I^2 = 0%	1.10 [0.72, 1.66]	P = 0.67
0.2 – 0.4 µT	9	Cases: 23407 Controls: 28248	Q (8) = 5.16, P = 0.74, I^2 = 0 %	1.07 [0.87, 1.30]	P = 0.54
> 0.3 µT	6	Cases: 1064 Controls: 1926	Q (5) = 8.32, P = 0.14, I^2 = 40%	1.39 [0.98, 1.98]	P = 0.07
> 0.4 µT	12	Cases: 24914 Controls: 31416	Q (11) = 10.45, P = 0.49, I^2 = 0%	1.37 [1.05, 1.80]	**P = 0.02**
Studies using magnetic flux density measurements, acute lymphoblastic leukemia Reference category: < 0.1 µT					
0.1 – 0.2 µT	7	Cases: 6637 Controls: 7921	Q (6) = 7.16, P = 0.31, I^2 = 16%	0.99 [0.82, 1.19]	P = 0.91
0.2 – 0.3 µT	2	Cases: 627 Controls: 729	Q (1) = 0.18, P = 0.67, I^2 = 0%	0.87 [0.61, 1.26]	P = 0.47
0.3 – 0.4 µT	2	Cases: 606 Controls: 691	Q (1) = 0.43, P = 0.51; I^2 = 0%	1.15 [0.71, 1.87]	P = 0.57
0.2 – 0.4 µT	6	Cases: 6118 Controls: 7207	Q (5) = 1.53, P = 0.91, I^2 = 0%	0.95 [0.74, 1.21]	P = 0.68
> 0.3 µT	3	Cases: 782 Controls: 1157	Q (2) = 0.78, P = 0.68, I^2 = 0%	1.42 [1.03, 1.95]	**P = 0.03**
> 0.4 µT	7	Cases: 6101 Controls: 7234	Q (6) = 3.86, P = 0.70, I^2 = 0%	1.88 [1.31, 2.70]	**P = 0.0006**
Studies using the distance between the child's home and power lines, all leukemias combined Reference category: > 600 m					
200 – 600 m	5	Cases: 25085 Controls: 56636	Q (4) = 5.23, P = 0.26, I^2 = 24%	1.02 [0.95, 1.10]	P = 0.56
< 200 m	5	Cases: 24039 Controls: 53103	Q (4) = 4.62, P = 0.33, I^2 = 13%	0.98 [0.85, 1.12]	P = 0.74
< 50 m	4	Cases: 22167 Controls: 48758	Q (3) = 3.16, P = 0.37, I^2 = 5%	1.11 [0.81, 1.52]	P = 0.51
Studies using the distance between the child's home and power lines, acute lymphoblastic leukemia Reference category: > 600 m					
200 – 600 m	2	Cases: 3824 Controls: 4030	Q (1) = 0.97, P = 0.33, I^2 = 0%	1.08 [0.89, 1.31]	P = 0.45
< 200 m	2	Cases: 3689 Controls: 3888	Q (1) = 0.07, P = 0.79, I^2 = 0%	0.93 [0.70, 1.22]	P = 0.59
< 50 m	2	Cases: 3618 Controls: 3779	Q (1) = 0.75, P = 0.39, I^2 = 0%	1.44 [0.72, 2.88]	P = 0.30
Studies using the wire coding classification of Wertheimer and Leeper, all leukemias combined Reference category: underground/extremely low					
Very low	3	Cases: 235 Controls: 270	Q (2) = 1.13, P = 0.57, I^2 = 0%	0.66 [0.43, 1.03]	P = 0.07
Ordinary low	4	Cases: 581 Controls: 613	Q (3) = 2.39, P = 0.49, I^2 = 0%	0.98 [0.74, 1.29]	P = 0.88
Ordinary high	4	Cases: 577 Controls: 601	Q (3) = 2.13, P = 0.55, I^2 = 0%	0.87 [0.66, 1.16]	P = 0.35
Very high	5	Cases: 455 Controls: 497	Q (4) = 6.54, P = 0.16, I^2 = 39%	1.23 [0.72, 2.10]	P = 0.45

Studies using the wire coding classification of Wertheimer and Leeper, acute lymphoblastic leukemia Reference category: underground/extremely low					
Very low	1	Cases: 65 Controls: 87	Only one study: McBride et al. [6]	0.71 [0.41, 1.22]	-
Ordinary low	2	Cases: 425 Controls: 436	Q (1) = 0.61, P = 0.43, I^2 = 0%	0.99 [0.73, 1.34]	P = 0.94
Ordinary high	2	Cases: 407 Controls: 437	Q (1) = 0.99, P = 0.32, I^2 = 0%	0.88 [0.63, 1.22]	P = 0.44
Very high	3	Cases: 327 Controls: 390	Q (2) = 2.94, P = 0.23, I^2 = 32%	1.22 [0.70, 2.10]	P = 0.49

Supplementary Table 4. Subgroup analyses (magnetic flux density measurements)

	Number of studies	**OR (95% CI) and heterogeneity**	**P-value**
Exposure to magnetic fields comprised between 0.1 and 0.2 µT			
Overall effect	12	OR = 1.04 [0.88, 1.24]; P = 0.62 Q (11) = 12.60; P = 0.32; I^2 = 13%	Test for overall effect: P = 0.62
NOS score			
< 7 points	5	OR = 0.97 [0.80, 1.17]; P = 0.73 Q (4) = 3.73; P = 0.44; I^2 = 0%	Test for subgroup differences: Q (1) = 1.17; P = 0.28; I^2 = 14.7%
≥ 7 points	7	OR = 1.17 [0.88, 1.54]; P = 0.28 Q (6) = 8.06; P = 0.23; I^2 = 26%	
Method to measure magnetic fields			
Direct MF measure	9	OR = 1.06 [0.88, 1.28]; P = 0.56 Q (8) = 10.36; P = 0.24; I^2 = 23%	Test for subgroup differences: Q (1) = 0.07; P = 0.79; I^2 = 0%
Calculated MF	3	OR = 0.98 [0.56, 1.71]; P = 0.94 Q (2) = 2.58; P = 0.28; I^2 = 22%	
Frequency*			
50 Hz	6	OR = 1.34 [1.01, 1.79]; P = 0.04 Q (5) = 5.09; P = 0.40; I^2 = 2%	Test for subgroup differences: Q (1) = 4.06; **P = 0.04**; I^2 = 75.3%
60 Hz	5	OR = 0.95 [0.79, 1.13]; P = 0.56 Q (4) = 3.80; P = 0.43; I^2 = 0%	
End of period of magnetic field exposure			
Before 2000	6	OR = 1.09 [0.85, 1.39]; P = 0.51 Q (5) = 6.97; P = 0.22; I^2 = 28%	Test for subgroup differences: Q (1) = 0.22; P = 0.64; I^2 = 0%
After 2000	6	OR = 1.00 [0.76, 1.30]; P = 0.98 Q (5) = 5.92; P = 0.31; I^2 = 16%	
Exposure to magnetic fields comprised between 0.2 and 0.3 µT			
Overall effect	5	OR = 0.92 [0.68, 1.24]; P = 0.60 Q (4) = 0.57; P = 0.97; I^2 = 0%	Test for overall effect: P = 0.60
NOS score			
< 7 points	3	OR = 0.98 [0.69, 1.38]; P = 0.90 Q (2) = 0.11; P = 0.95; I^2 = 0%	Test for subgroup differences: Q (1) = 0.42; P = 0.52; I^2 = 0%
≥ 7 points	2	OR = 0.78 [0.43, 1.40]; P = 0.41 Q (1) = 0.03; P = 0.85; I^2 = 0%	
Method to measure magnetic fields: not applicable (only one study used calculated MF)			
Frequency			
50 Hz	2	OR = 0.96 [0.39, 2.33]; P = 0.93 Q (1) = 0.12; P = 0.73; I^2 = 0%	Test for subgroup differences:

60 Hz	3	OR = 0.92 [0.67, 1.26]; P = 0.60 Q (2) = 0.44; P = 0.80; I² = 0%	Q (1) = 0.01; P = 0.93; I² = 0%
End of period of magnetic field exposure			
Before 2000	3	OR = 0.97 [0.67, 1.40]; P = 0.85 Q (2) = 0.22; P = 0.90; I² = 0%	Test for subgroup differences: Q (1) = 0.16; P = 0.69; I² = 0%
After 2000	2	OR = 0.85 [0.51, 1.41]; P = 0.52 Q (1) = 0.19; P = 0.66; I² = 0%	
Exposure to magnetic fields comprised between 0.3 and 0.4 μT			
Overall effect	4	OR = 1.10 [0.72, 1.66]; P = 0.67 Q (3) = 1.37; P = 0.71; I² = 0%	Test for overall effect: P = 0.67
NOS score: not applicable (only one study had a NOS score higher than 6 points)			
Method to measure magnetic fields: not applicable (none of the four studies used calculated MF)			
Frequency: not applicable (only one study used 50 Hz)			
End of period of magnetic field exposure			
Before 2000	2	OR = 1.30 [0.76, 2.23]; P = 0.34 Q (1) = 0.01; P = 0.91; I² = 0%	Test for subgroup differences: Q (1) = 0.94; P = 0.33; I² = 0%
After 2000	2	OR = 0.86 [0.45, 1.63]; P = 0.64 Q (1) = 0.41; P = 0.52; I² = 0%	
Exposure to magnetic fields comprised between 0.2 and 0.4 μT			
Overall effect	9	OR = 1.07 [0.87, 1.30]; P = 0.54 Q (8) = 5.16; P = 0.74; I² = 0%	Test for overall effect: P = 0.54
NOS score			
< 7 points	5	OR = 1.14 [0.89, 1.46]; P = 0.30 Q (4) = 1.83; P = 0.77; I² = 0%	Test for subgroup differences: Q (1) = 0.83; P = 0.36; I² = 0%
≥ 7 points	4	OR = 0.93 [0.66, 1.32]; P = 0.70 Q (3) = 2.50; P = 0.48; I² = 0%	
Method to measure magnetic fields			
Direct MF measure	7	OR = 1.10 [0.89, 1.36]; P = 0.39 Q (6) = 3.49; P = 0.74; I² = 0%	Test for subgroup differences: Q (1) = 0.74; P = 0.39; I² = 0%
Calculated MF	2	OR = 0.82 [0.43, 1.55]; P = 0.53 Q (1) = 0.93; P = 0.34; I² = 0%	
Frequency*			
50 Hz	3	OR = 0.98 [0.55, 1.73]; P = 0.94 Q (2) = 2.31; P = 0.32; I² = 13%	Test for subgroup differences: Q (1) = 0.08; P = 0.78; I² = 0%
60 Hz	5	OR = 1.07 [0.85, 1.34]; P = 0.57 Q (4) = 2.71; P = 0.61; I² = 0%	
End of period of magnetic field exposure			
Before 2000	4	OR = 1.20 [0.92, 1.56]; P = 0.18 Q (3) = 1.65; P = 0.65; I² = 0%	Test for subgroup differences: Q (1) = 1.90; P = 0.17; I² = 47.3%
After 2000	5	OR = 0.90 [0.65, 1.23]; P = 0.50 Q (4) = 1.61; P = 0.81; I² = 0%	
Exposure to magnetic fields higher than 0.3 μT			
Overall effect	6	OR = 1.39 [0.98, 1.98]; P = 0.07 Q (5) = 8.32; P = 0.14; I² = 40%	Test for overall effect: P = 0.07
NOS score			
< 7 points	3	OR = 1.23 [0.80, 1.89]; P = 0.35 Q (2) = 2.92; P = 0.23; I² = 31%	Test for subgroup differences: Q (1) = 0.62; P = 0.43; I² = 0%
≥ 7 points	3	OR = 1.73 [0.83, 3.62]; P = 0.15 Q (2) = 4.90; P = 0.09; I² = 59%	
Method to measure magnetic fields: not applicable (only one study used calculated MF)			
Frequency			
50 Hz	2	OR = 1.67 [0.33, 8.40]; P = 0.53 Q (1) = 6.98; P = 0.008; I² = 86%	Test for subgroup differences: Q (1) = 0.06; P = 0.80; I² = 0%
60 Hz	4	OR = 1.35 [1.02, 1.79]; P = 0.04 Q (3) = 1.16; P = 0.76; I² = 0%	
End of period of magnetic field exposure			
Before 2000	3	OR = 1.78 [1.00, 3.16]; P = 0.05 Q (2) = 4.81; P = 0.09; I² = 58%	Test for subgroup differences: Q (1) = 1.71;
After 2000	3	OR = 1.12 [0.77, 1.64]; P = 0.55	

		Q (2) = 1.30; P = 0.52; I² = 0%	P = 0.19; I² = 41.4%
Exposure to magnetic fields higher than 0.4 μT			
Overall effect	12	OR = 1.37 [1.05, 1.80]; P = 0.02 Q (11) = 10.45; P = 0.49; I² = 0%	Test for overall effect: P = 0.02
NOS score			
< 7 points	8	OR = 1.37 [0.96, 1.95]; P = 0.08 Q (7) = 5.26; P = 0.63; I² = 0%	Test for subgroup differences: Q (1) = 0.00; P = 0.96; I² = 0%
≥ 7 points	4	OR = 1.35 [0.73, 2.50]; P = 0.34 Q (3) = 5.19; P = 0.16; I² = 42%	
Method to measure magnetic fields			
Direct MF measure	8	OR = 1.43 [1.05, 1.95]; P = 0.02 Q (7) = 7.12; P = 0.42; I² = 2%	Test for subgroup differences: Q (1) = 0.27; P = 0.60; I² = 0%
Calculated MF	4	OR = 1.21 [0.69, 2.10]; P = 0.51 Q (3) = 3.05; P = 0.38; I² = 2%	
Frequency*			
50 Hz	5	OR = 1.14 [0.55, 2.34]; P = 0.73 Q (4) = 5.72; P = 0.22; I² = 30%	Test for subgroup differences: Q (1) = 0.34; P = 0.56; I² = 0%
60 Hz	6	OR = 1.44 [1.05, 1.97]; P = 0.02 Q (5) = 2.98; P = 0.70; I² = 0%	
End of period of magnetic field exposure			
Before 2000	4	OR = 1.50 [0.77, 2.95]; P = 0.24 Q (3) = 4.84; P = 0.18; I² = 38%	Test for subgroup differences: Q (1) = 0.12; P = 0.73; I² = 0%
After 2000	8	OR = 1.32 [0.96, 1.82]; P = 0.09 Q (7) = 5.42; P = 0.61; I² = 0%	

***** For the 0.1-0.2 μT, 0.2-0.4 μT and > 0.4 μT magnetic field categories, the study of Kabuto et al. [4] has been removed from the subgroup analyses based on frequencies (50 Hz vs 60 Hz). The catchment area used in Kabuto et al. [4] was in Japan and comprised both 50 Hz and 60 Hz.

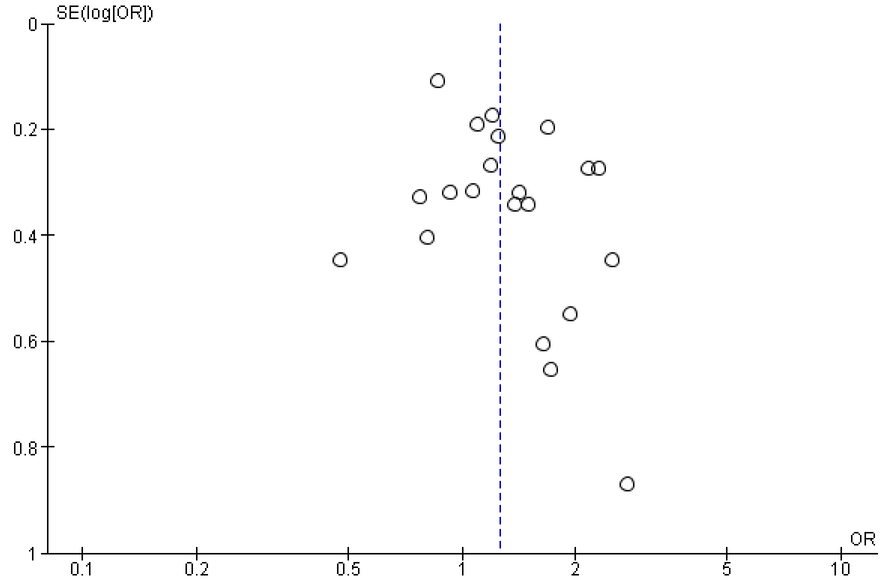
Supplementary Table 5. Subgroup analyses (distances between the child's home and power lines)*

	Number of studies	**OR (95% CI) and heterogeneity**	**P-value**
Living between 200 and 600 m away from power lines			
Overall effect	5	OR= 1.02 [0.95, 1.10]; P = 0.56 Q (4) = 5.23; P = 0.26; I² = 24%	Test for overall effect: P = 0.56
Frequency			
50 Hz	3	OR = 1.02 [0.92, 1.13]; P = 0.69 Q (2) = 4.48; P = 0.11; I² = 55%	Test for subgroup differences: Q (1) = 0.02; P = 0.88; I² = 0%
60 Hz	2	OR = 1.01 [0.84, 1.20]; P = 0.95 Q (1) = 0.69, P = 0.41; I² = 0%	
Living less than 200 m away from power lines			
Overall effect	5	OR = 0.98 [0.85, 1.12]; P = 0.74 Q (4) = 4.62; P = 0.33; I² = 13%	Test for overall effect: P = 0.74
Frequency			
50 Hz	3	OR = 0.97 [0.77, 1.23]; P = 0.82 Q (2) = 4.23; P = 0.12; I² = 53%	Test for subgroup differences: Q (1) = 0.09; P = 0.76; I² = 0%
60 Hz	2	OR = 0.92 [0.72, 1.19]; P = 0.54 Q (1) = 0.07; P = 0.79; I² = 0%	

Living less than 50 m away from power lines			
Overall effect	4	OR = 1.11 [0.81, 1.52]; P = 0.51 Q (3) = 3.16; P = 0.37; I² = 5%	Test for overall effect: P = 0.51
Frequency			
50 Hz	2	OR = 1.00 [0.68, 1.49]; P = 0.99 Q (1) = 1.28; P = 0.26; I² = 22%	Test for subgroup differences: Q (1) = 1.18; P = 0.28; I² = 15.4%
60 Hz	2	OR = 1.51 [0.81, 2.84]; P = 0.20 Q (1) = 0.65; P = 0.42; I² = 0%	

***** Subgroup analyses for the NOS score and the period of magnetic field exposure could not be performed given the limited number of studies (only one study with a NOS score lower than 7 and all studies included subjects exposed after 2000).

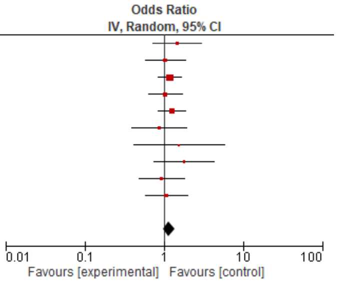
Supplementary Figures



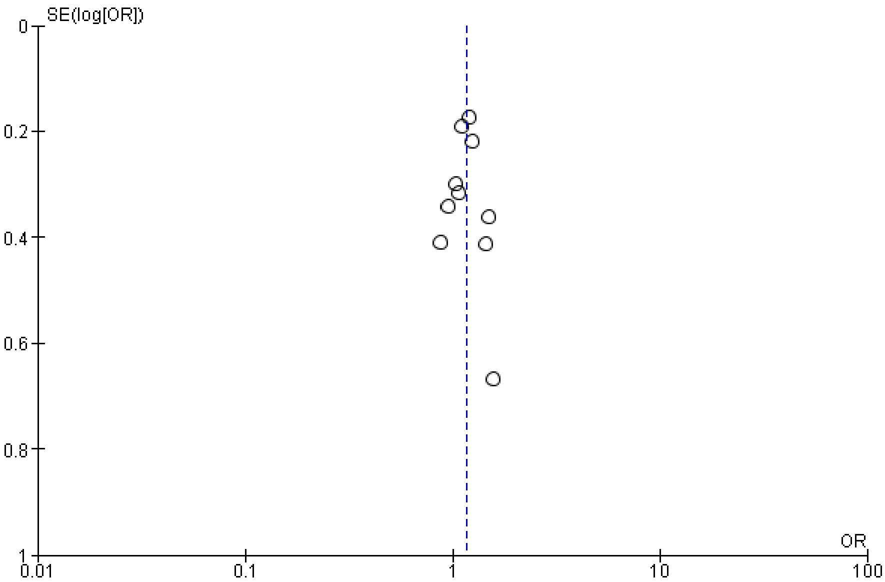
Supplementary Figure 1. Funnel plot for the global meta-analysis based on the exposure levels (cutoff points) that have most often been used in the studies included in the present systematic review (< 0.2 µT vs > 0.2 µT for magnetic fields, > 200 m vs < 200 m for distances to power lines and the low current configuration vs the high current configuration defined by Wertheimer and Leeper [2]). The publication bias was unlikely (Egger's test, P = 0.082).

Study or Subgroup	log[Odds Ratio]	SE	Acute lym. leukemia cases Total	Controls Total	Weight	Odds Ratio IV, Random, 95% CI
Kabuto et al (2006) Japan	0.392	0.36	251	495	6.3%	1.48 [0.73, 3.00]
Kheifets et al (2017) USA (California 1988-2008)	0.039	0.297	3974	3939	9.2%	1.04 [0.58, 1.86]
Linet et al (1997) USA (Midwest and Northeast)	0.174	0.176	624	615	26.3%	1.19 [0.84, 1.68]
McBride et al (1999) Canada (BC, AB, SK, MB, QC)	0.049	0.249	266	339	13.2%	1.05 [0.64, 1.71]
Núñez-Enríquez et al (2020) Mexico	0.231	0.207	290	407	19.0%	1.26 [0.84, 1.89]
Salvan et al (2015) Italy (SETIL)	-0.139	0.412	356	499	4.8%	0.87 [0.39, 1.95]
Savitz et al (1988) USA (Colorado 1976-83)	0.445	0.666	26	207	1.8%	1.56 [0.42, 5.76]
Schüz et al (2001) Germany (without Lower Saxony)	0.593	0.446	452	1301	4.1%	1.81 [0.75, 4.34]
UK Childhood Cancer Study (1999) UK	-0.062	0.343	906	906	6.9%	0.94 [0.48, 1.84]
Wünsch-Filho et al (2011) Brazil	0.068	0.314	121	418	8.3%	1.07 [0.58, 1.98]
Total (95% CI)			**7266**	**9126**	**100.0%**	**1.16 [0.97, 1.39]**

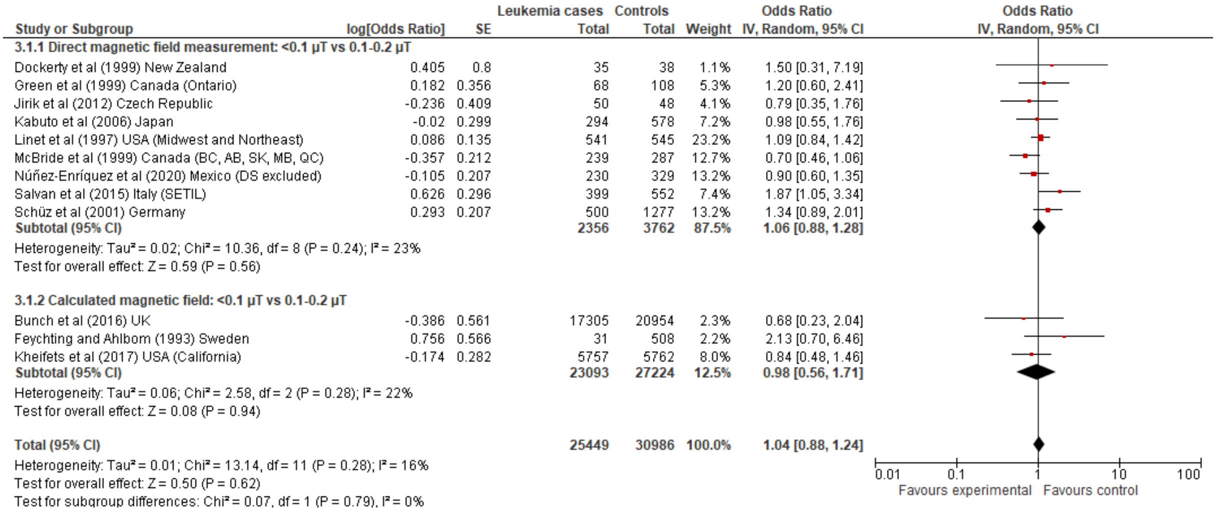
Heterogeneity: Tau² = 0.00; Chi² = 3.05, df = 9 (P = 0.96); I² = 0%
Test for overall effect: Z = 1.68 (P = 0.09)



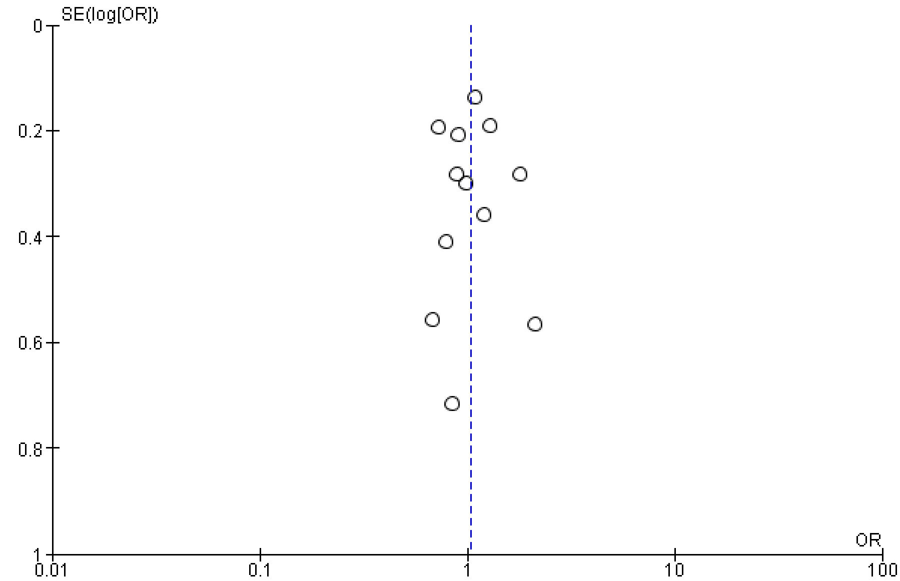
Supplementary Figure 2. Global meta-analysis restricted to acute lymphoblastic leukemia cases based on the exposure levels (cutoff points) that have most often been used in the studies included in the present systematic review (< 0.2 µT vs > 0.2 µT for magnetic fields and > 200 m vs < 200 m for distances to power lines). All the studies included in this meta-analysis are based on direct magnetic field measurements except the study of Kheifets et al. [59] that is based on calculated magnetic fields and the study of Wünsch-Filho et al. [32] that is based on distances to power lines. The studies of Savitz et al. [36], Linet et al. [5] and McBride et al. [6] were only selected for their magnetic flux density measurements but not for wire codings to avoid that the same subjects were counted twice in the global meta-analysis. As a result, there were no studies based on wire codings in this meta-analysis. Kheifets et al. [59] have used calculated magnetic fields with the same subjects as Crespi et al. [58], a study based on distances. Thus, we have only selected Kheifets et al. [59] in the global meta-analysis. Note that Wünsch-Filho et al. [32] used distances to power lines and also performed magnetic flux density measurements but they did not use the 0.2 µT exposure level in their article.



Supplementary Figure 3. Funnel plot for the global meta-analysis restricted to acute lymphoblastic leukemia cases based on the exposure levels (cutoff points) that have most often been used in the studies included in the present systematic review (< 0.2 µT vs > 0.2 µT for magnetic fields, > 200 m vs < 200 m for distances to power lines). The publication bias was not present (Egger's test: P = 0.855).



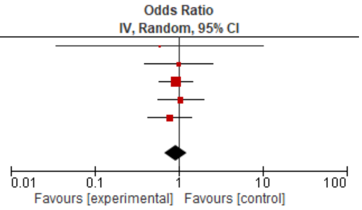
Supplementary Figure 4. Exposure to magnetic fields comprised between 0.1 and 0.2 µT did not increase the risk of childhood leukemia. The study by Green et al. [31] is based on subjects from Canada, Ontario whereas the study by McBride et al. [6] is based on subjects from other Canadian provinces: British Columbia (BC), Alberta (AB), Saskatchewan (SK), Manitoba (MB) and Quebec (QC).



Supplementary Figure 5. Funnel plot for the reference category (< 0.1 µT) vs 0.1 – 0.2 µT. The publication was not present (Egger's test: P = 0.922).

Study or Subgroup	log[Odds Ratio]	SE	Leukemia cases Total	Controls Total	Weight	Odds Ratio IV, Random, 95% CI
Feychting and Ahlbom (1993) Sweden	-0.511	1.449	27	489	1.1%	0.60 [0.04, 10.27]
Jirik et al (2012) Czech Republic	0.01	0.477	44	38	10.2%	1.01 [0.40, 2.57]
Linet et al (1997) USA (Midwest and Northeast)	-0.073	0.237	428	444	41.3%	0.93 [0.58, 1.48]
McBride et al (1999) Canada (BC, AB, SK, MB, QC)	0.058	0.321	206	221	22.5%	1.06 [0.56, 1.99]
Núñez-Enríquez et al (2020) Mexico (DS excluded)	-0.236	0.306	199	285	24.8%	0.79 [0.43, 1.44]
Total (95% CI)			**904**	**1477**	**100.0%**	**0.92 [0.68, 1.24]**

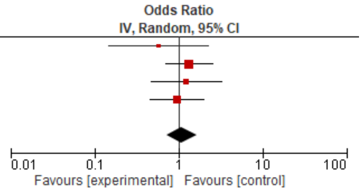
Heterogeneity: Tau² = 0.00; Chi² = 0.57, df = 4 (P = 0.97); I² = 0%
Test for overall effect: Z = 0.53 (P = 0.60)



Supplementary Figure 6. Exposure to magnetic fields comprised between 0.2 and 0.3 µT did not increase the risk of childhood leukemia.

Study or Subgroup	log[Odds Ratio]	SE	Leukemia cases Total	Controls Total	Weight	Odds Ratio IV, Random, 95% CI
Jirik et al (2012) Czech Republic	-0.545	0.696	34	32	9.2%	0.58 [0.15, 2.27]
Linet et al (1997) USA (Midwest and Northeast)	0.285	0.332	412	419	40.4%	1.33 [0.69, 2.55]
McBride et al (1999) Canada (BC, AB, SK, MB, QC)	0.215	0.493	187	201	18.3%	1.24 [0.47, 3.26]
Núñez-Enríquez et al (2020) Mexico (DS excluded)	-0.041	0.372	194	272	32.1%	0.96 [0.46, 1.99]
Total (95% CI)			**827**	**924**	**100.0%**	**1.10 [0.72, 1.66]**

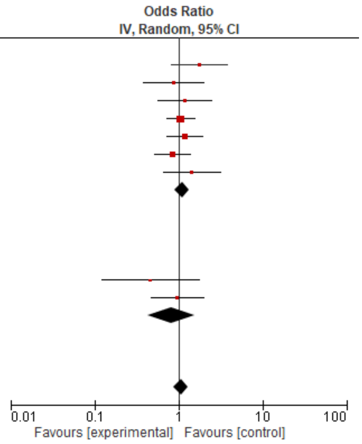
Heterogeneity: Tau² = 0.00; Chi² = 1.37, df = 3 (P = 0.71); I² = 0%
Test for overall effect: Z = 0.43 (P = 0.67)



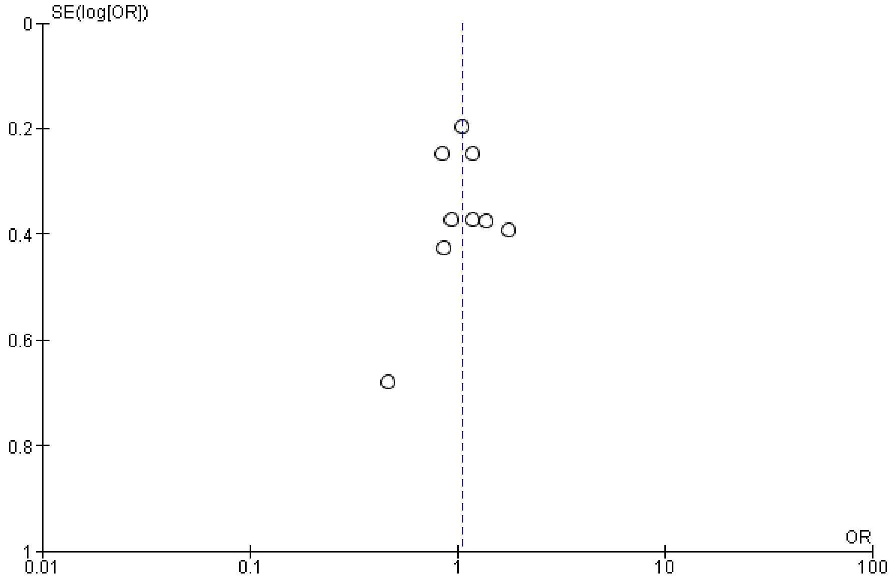
Supplementary Figure 7. Exposure to magnetic fields comprised between 0.3 and 0.4 µT did not increase the risk of childhood leukemia.

Study or Subgroup	log[Odds Ratio]	SE	Leukemia cases Total	Controls Total	Weight	Odds Ratio IV, Random, 95% CI
3.4.1 Direct magnetic field measurement: <0.1 µT vs 0.2-0.4 µT						
Green et al (1999) Canada (Ontario)	0.565	0.393	67	99	6.9%	1.76 [0.81, 3.80]
Jirik et al (2012) Czech Republic	-0.139	0.425	48	44	5.9%	0.87 [0.38, 2.00]
Kabuto et al (2006) Japan	0.166	0.373	288	562	7.6%	1.18 [0.57, 2.45]
Linet et al (1997) USA (Midwest and Northeast)	0.049	0.195	450	461	27.9%	1.05 [0.72, 1.54]
McBride et al (1999) Canada (BC, AB, SK, MB, QC)	0.166	0.246	217	230	17.5%	1.18 [0.73, 1.91]
Núñez-Enríquez et al (2020) Mexico (DS excluded)	-0.163	0.247	212	304	17.4%	0.85 [0.52, 1.38]
Schüz et al (2001) Germany	0.372	0.394	467	1209	6.8%	1.45 [0.67, 3.14]
Subtotal (95% CI)			**1749**	**2909**	**90.1%**	**1.10 [0.89, 1.36]**
Heterogeneity: Tau² = 0.00; Chi² = 3.49, df = 6 (P = 0.74); I² = 0%						
Test for overall effect: Z = 0.85 (P = 0.39)						
3.4.2 Calculated magnetic field: <0.1 µT vs 0.2-0.4 µT						
Bunch et al (2016) UK	-0.777	0.679	17307	20956	2.3%	0.46 [0.12, 1.74]
Kheifets et al (2017) USA (California)	-0.03	0.374	5747	5750	7.6%	0.97 [0.47, 2.02]
Subtotal (95% CI)			**23054**	**26706**	**9.9%**	**0.82 [0.43, 1.55]**
Heterogeneity: Tau² = 0.00; Chi² = 0.93, df = 1 (P = 0.34); I² = 0%						
Test for overall effect: Z = 0.62 (P = 0.53)						
Total (95% CI)			**24803**	**29615**	**100.0%**	**1.07 [0.87, 1.30]**

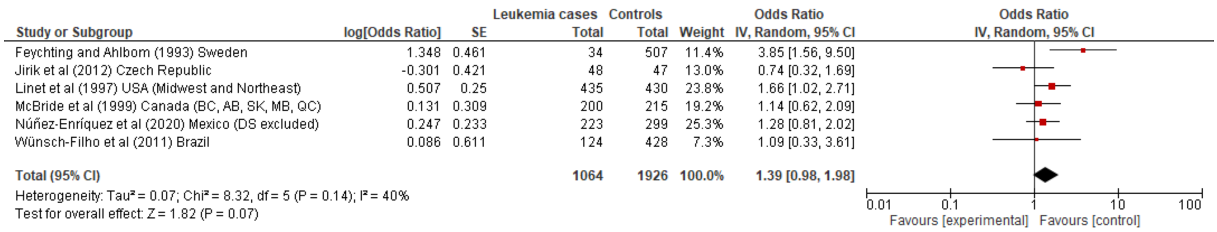
Heterogeneity: Tau² = 0.00; Chi² = 5.16, df = 8 (P = 0.74); I² = 0%
Test for overall effect: Z = 0.61 (P = 0.54)
Test for subgroup differences: Chi² = 0.74, df = 1 (P = 0.39), I² = 0%



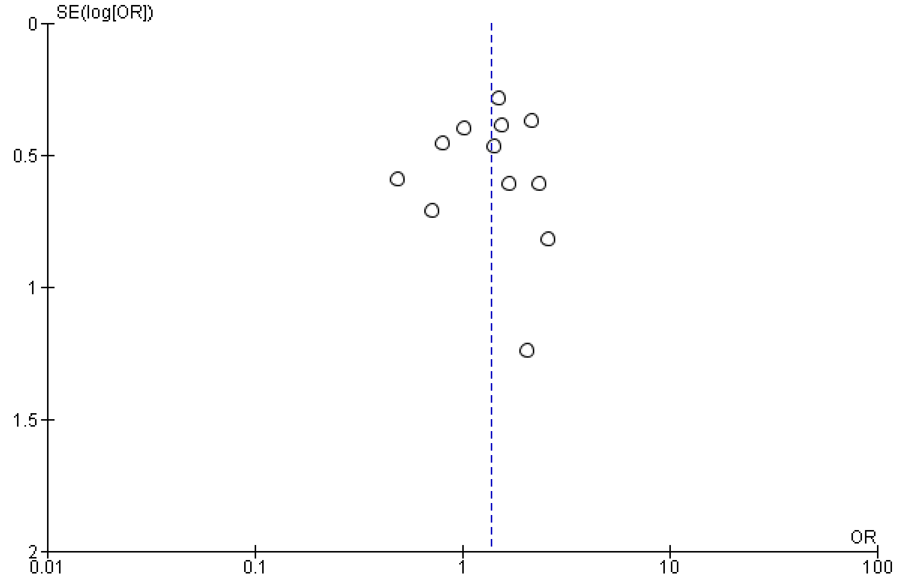
Supplementary Figure 8. Exposure to magnetic fields comprised between 0.2 and 0.4 µT did not increase the risk of childhood leukemia. The study by Green et al. [31] is based on subjects from Canada, Ontario whereas the study by McBride et al. [6] is based on subjects from other Canadian provinces: British Columbia (BC), Alberta (AB), Saskatchewan (SK), Manitoba (MB) and Quebec (QC).



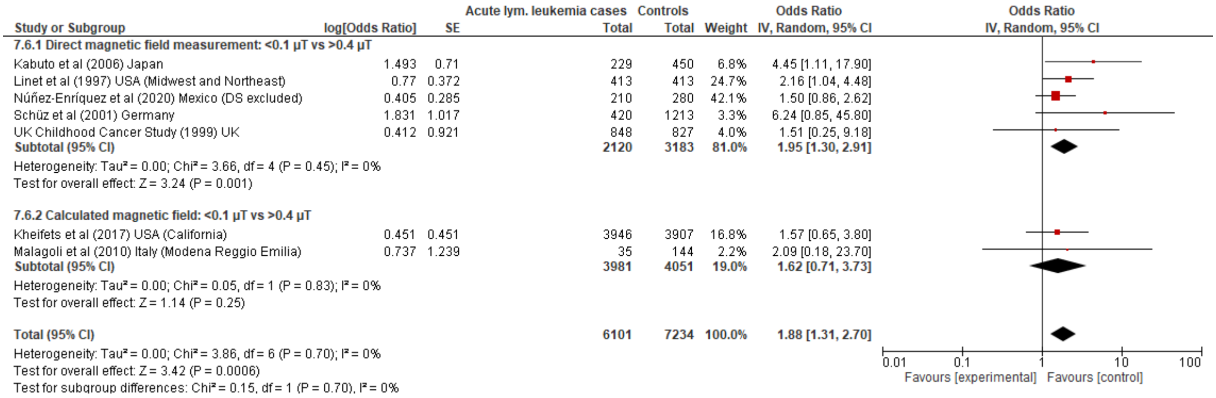
Supplementary Figure 9. Funnel plot for the reference category (< 0.1 µT) vs 0.2 – 0.4 µT. The publication bias was not present (Egger's test: P = 0.753).



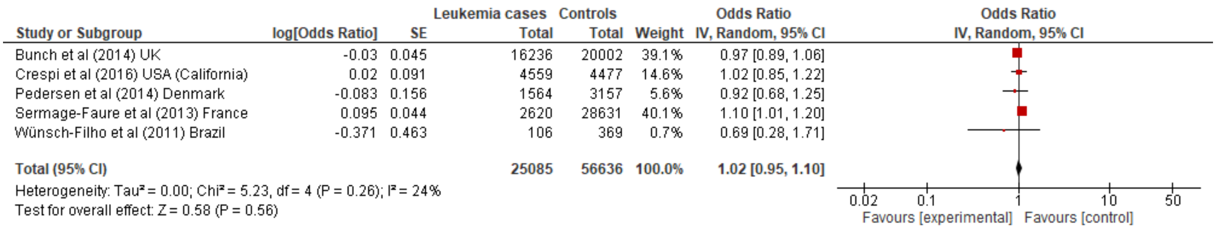
Supplementary Figure 10. Exposure to magnetic fields higher than 0.3 µT and childhood leukemia.



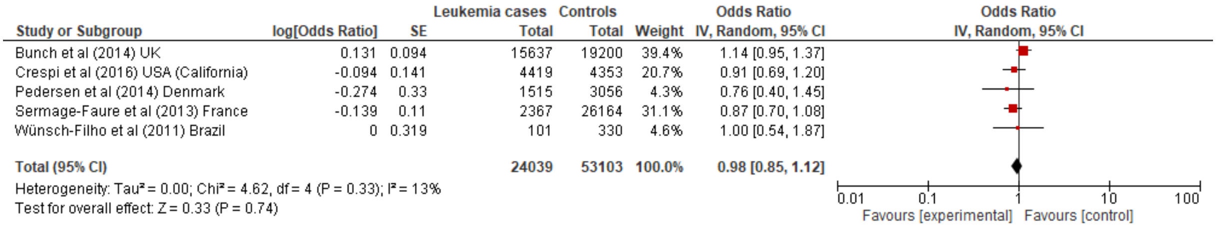
Supplementary Figure 11. Funnel plot for the reference category (< 0.1 μT) vs > 0.4 μT. The publication bias was not present (Egger's test: P = 0.803).



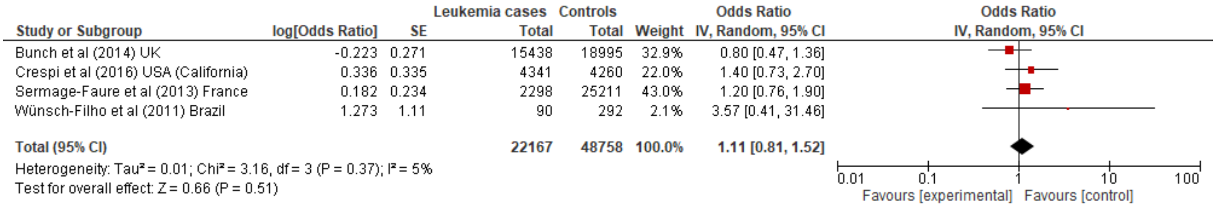
Supplementary Figure 12. Exposure to magnetic fields higher than 0.4 μT increased the risk of developing childhood acute lymphoblastic leukemia.



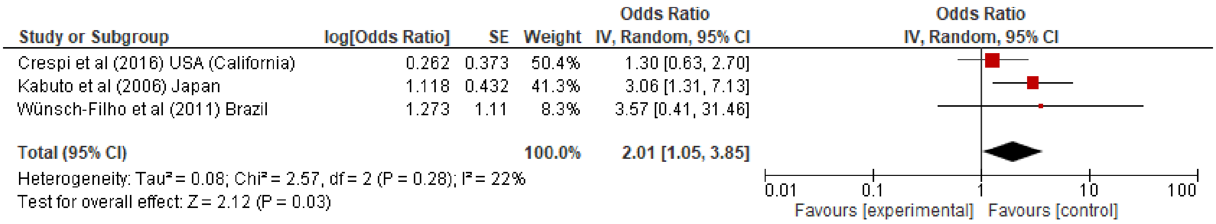
Supplementary Figure 13. Relation between living between 200 and 600 m away from power lines and the occurrence of childhood leukemia.



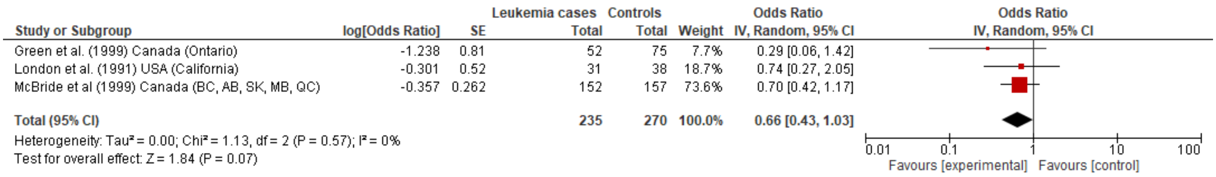
Supplementary Figure 14. Relation between living less than 200 m away from power lines and the occurrence of childhood leukemia.



Supplementary Figure 15. Relation between living less than 50 m away from power lines and the occurrence of childhood leukemia.



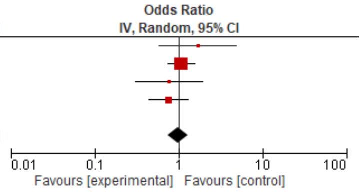
Supplementary Figure 16. Relation between living less than 50 m away from power lines and the occurrence of childhood acute lymphoblastic leukemia with the study of Kabuto et al. [4] that used a reference category > 100 m (instead of the reference category > 600 m used by Crespi et al. [58] and Wünsch-Filho et al. [32]).



Supplementary Figure 17. Relation between the assignment of the very low current configuration defined by Wertheimer and Leeper [2] to a residence and the occurrence of childhood leukemia. The study by Green et al. [31] is based on subjects from Canada, Ontario whereas the study by McBride et al. [6] is based on subjects from other Canadian provinces: British Columbia (BC), Alberta (AB), Saskatchewan (SK), Manitoba (MB) and Quebec (QC). Note that the study by Linet et al. [5] is not included in this meta-analysis, because the underground reference category was not distinguished from the very low current configuration in their article.

Study or Subgroup	log[Odds Ratio]	SE	Leukemia cases Total	Controls Total	Weight	Odds Ratio IV, Random, 95% CI
Green et al. (1999) Canada (Ontario)	0.531	0.54	65	91	6.8%	1.70 [0.59, 4.90]
Linet et al (1997) USA (Midwest and Northeast)	0.068	0.186	291	289	57.5%	1.07 [0.74, 1.54]
London et al. (1991) USA (California)	-0.261	0.464	69	86	9.2%	0.77 [0.31, 1.91]
McBride et al (1999) Canada (BC, AB, SK, MB, QC)	-0.274	0.274	156	147	26.5%	0.76 [0.44, 1.30]
Total (95% CI)			**581**	**613**	**100.0%**	**0.98 [0.74, 1.29]**

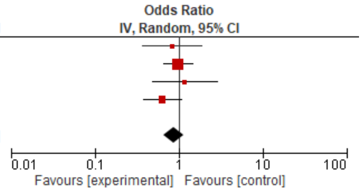
Heterogeneity: Tau² = 0.00; Chi² = 2.39, df = 3 (P = 0.49); I² = 0%
Test for overall effect: Z = 0.15 (P = 0.88)



Supplementary Figure 18. Relation between the assignment of the ordinary low current configuration defined by Wertheimer and Leeper [2] to a residence and the occurrence of childhood leukemia. The study by Green et al. [31] is based on subjects from Canada, Ontario whereas the study by McBride et al. [6] is based on subjects from other Canadian provinces: British Columbia (BC), Alberta (AB), Saskatchewan (SK), Manitoba (MB) and Quebec (QC).

Study or Subgroup	log[Odds Ratio]	SE	Leukemia cases Total	Controls Total	Weight	Odds Ratio IV, Random, 95% CI
Green et al. (1999) Canada (Ontario)	-0.186	0.417	62	85	12.0%	0.83 [0.37, 1.88]
Linet et al (1997) USA (Midwest and Northeast)	-0.01	0.205	262	262	49.7%	0.99 [0.66, 1.48]
London et al. (1991) USA (California)	0.166	0.455	91	79	10.1%	1.18 [0.48, 2.88]
McBride et al (1999) Canada (BC, AB, SK, MB, QC)	-0.446	0.272	162	175	28.2%	0.64 [0.38, 1.09]
Total (95% CI)			**577**	**601**	**100.0%**	**0.87 [0.66, 1.16]**

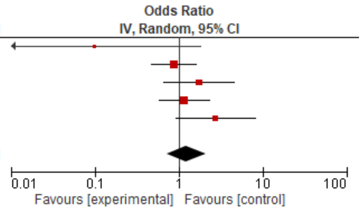
Heterogeneity: Tau² = 0.00; Chi² = 2.13, df = 3 (P = 0.55); I² = 0%
Test for overall effect: Z = 0.94 (P = 0.35)



Supplementary Figure 19. Relation between the assignment of the ordinary high current configuration defined by Wertheimer and Leeper [2] to a residence and the occurrence of childhood leukemia. The study by Green et al. [31] is based on subjects from Canada, Ontario whereas the study by McBride et al. [6] is based on subjects from other Canadian provinces: British Columbia (BC), Alberta (AB), Saskatchewan (SK), Manitoba (MB) and Quebec (QC).

Study or Subgroup	log[Odds Ratio]	SE	Leukemia cases Total	Controls Total	Weight	Odds Ratio IV, Random, 95% CI
Green et al (1999) Canada (Ontario)	-2.303	1.486	50	72	3.2%	0.10 [0.01, 1.84]
Linet et al (1997) USA (Midwest and Northeast)	-0.128	0.314	199	201	31.8%	0.88 [0.48, 1.63]
London et al (1991) USA (California)	0.56	0.497	53	35	19.5%	1.75 [0.66, 4.64]
McBride et al (1999) Canada (BC, AB, SK, MB, QC)	0.148	0.349	118	93	28.9%	1.16 [0.59, 2.30]
Savitz et al (1988) USA (Colorado)	1.012	0.561	35	96	16.6%	2.75 [0.92, 8.26]
Total (95% CI)			**455**	**497**	**100.0%**	**1.23 [0.72, 2.10]**

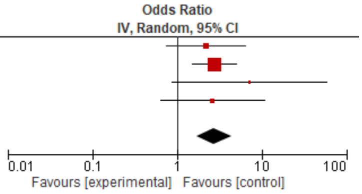
Heterogeneity: Tau² = 0.14; Chi² = 6.54, df = 4 (P = 0.16); I² = 39%
Test for overall effect: Z = 0.75 (P = 0.45)



Supplementary Figure 20. Relation between the assignment of the very high current configuration defined by Wertheimer and Leeper [2] to a residence and the occurrence of childhood leukemia. The study by Green et al. [31] is based on subjects from Canada, Ontario whereas the study by McBride et al. [6] is based on subjects from other Canadian provinces: British Columbia (BC), Alberta (AB), Saskatchewan (SK), Manitoba (MB) and Quebec (QC).

Study or Subgroup	log[Odds Ratio]	SE	Leukemia cases Total	Controls Total	Weight	Odds Ratio IV, Random, 95% CI
Dockerty et al. (1998) New Zealand	0.788	0.545	121	121	19.8%	2.20 [0.76, 6.40]
Hatch et al. (1998) USA (Midwest and Northeast)	1.012	0.303	638	638	63.9%	2.75 [1.52, 4.98]
London et al. (1991) USA (California)	1.973	1.073	232	232	5.1%	7.19 [0.88, 58.91]
Savitz et al. (1990) USA (Colorado)	0.956	0.722	73	216	11.3%	2.60 [0.63, 10.71]
Total (95% CI)			**1064**	**1207**	**100.0%**	**2.75 [1.71, 4.42]**

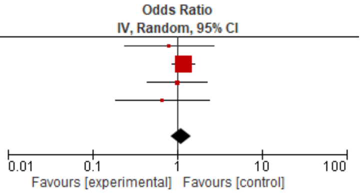
Heterogeneity: Tau² = 0.00; Chi² = 0.98, df = 3 (P = 0.81); I² = 0%
Test for overall effect: Z = 4.17 (P < 0.0001)



Supplementary Figure 21. Relation between the use of electric blankets and the occurrence of childhood leukemia.

Study or Subgroup	log[Odds Ratio]	SE	Leukemia cases Total	Controls Total	Weight	Odds Ratio IV, Random, 95% CI
Dockerty et al. (1998) New Zealand	-0.223	0.621	121	121	5.1%	0.80 [0.24, 2.70]
Hatch et al. (1998) USA (Midwest and Northeast)	0.174	0.157	640	638	79.2%	1.19 [0.87, 1.62]
London et al. (1991) USA (California)	0	0.418	232	232	11.2%	1.00 [0.44, 2.27]
Savitz et al. (1990) USA (Colorado)	-0.4	0.655	73	216	4.6%	0.67 [0.19, 2.42]
Total (95% CI)			**1066**	**1207**	**100.0%**	**1.11 [0.85, 1.47]**

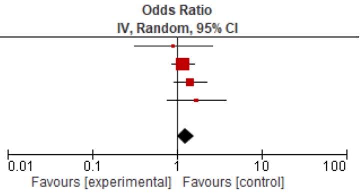
Heterogeneity: Tau² = 0.00; Chi² = 1.13, df = 3 (P = 0.77); I² = 0%
Test for overall effect: Z = 0.78 (P = 0.44)



Supplementary Figure 22. Relation between the use of water beds and the occurrence of childhood leukemia.

Study or Subgroup	log[Odds Ratio]	SE	Leukemia cases Total	Controls Total	Weight	Odds Ratio IV, Random, 95% CI
Dockerty et al. (1998) New Zealand	-0.105	0.541	121	121	4.8%	0.90 [0.31, 2.60]
Hatch et al. (1998) USA (Midwest and Northeast)	0.166	0.155	567	554	58.5%	1.18 [0.87, 1.60]
London et al. (1991) USA (California)	0.365	0.223	232	232	28.3%	1.44 [0.93, 2.23]
Savitz et al. (1990) USA (Colorado)	0.531	0.41	73	216	8.4%	1.70 [0.76, 3.80]
Total (95% CI)			**993**	**1123**	**100.0%**	**1.27 [1.01, 1.60]**

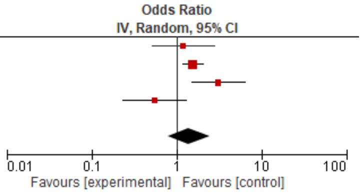
Heterogeneity: Tau² = 0.00; Chi² = 1.45, df = 3 (P = 0.69); I² = 0%
Test for overall effect: Z = 2.02 (P = 0.04)



Supplementary Figure 23. Relation between exposure to bedside electric clocks and the occurrence of childhood leukemia.

Study or Subgroup	log[Odds Ratio]	SE	Leukemia cases Total	Controls Total	Weight	Odds Ratio IV, Random, 95% CI
Dockerty et al (1998) New Zealand	0.182	0.432	120	120	20.7%	1.20 [0.51, 2.80]
Hatch et al (1998) USA (Midwest and Northeast)	0.438	0.143	640	637	34.9%	1.55 [1.17, 2.05]
London et al (1991) USA (California)	1.131	0.364	232	232	23.9%	3.10 [1.52, 6.32]
Savitz et al (1990) USA (Colorado)	-0.598	0.435	73	216	20.6%	0.55 [0.23, 1.29]
Total (95% CI)			**1065**	**1205**	**100.0%**	**1.40 [0.79, 2.48]**

Heterogeneity: Tau² = 0.22; Chi² = 9.61, df = 3 (P = 0.02); I² = 69%
Test for overall effect: Z = 1.16 (P = 0.25)



Supplementary Figure 24. Relation between the use of hair dryers and the occurrence of childhood leukemia.

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