Tobacco in Australia Facts & Issues

Relevant news and research 4.16 Secondhand smoke and pregnancy

Last updated December 2024

Research:	2
4.16 Secondhand smoke and pregnancy	2
4.16.1 Fertility	11
4.16.2 Foetal growth and preterm delivery	12
4.16.3 Lung development in the unborn child	15
4.16.4 Spontaneous abortion (miscarriage) and stillbirth	16
4.16.5 Birth defects	16
4.16.6 Other effects	17
4.16.7 Maternal secondhand smoke exposure and infant and child health	20
News:	20
4.16 Secondhand smoke and pregnancy	20
4.16.1 Fertility	20
4.16.2 Foetal growth and preterm delivery	20
4.16.3 Lung development in the unborn child	20
4.16.4 Spontaneous abortion (miscarriage) and stillbirth	20
4.16.5 Birth defects	20
4.16.6 Other effects	20
4.16.7 Maternal secondhand smoke exposure and infant and child health	20

tobaccoinaustralia.org.au

Research:

4.16 Secondhand smoke and pregnancy

St Fleur, RG, von Ash, T, Alikhani, A, Dunsiger, SI, & Risica, PM. (2024). Trajectories of Breastfeeding-Related Thoughts and Attitudes Among Low-Income Smoke-Exposed Pregnant Women: A Latent Class Growth Analysis. *J Hum Lact*, 8903344241274748. Retrieved from <u>https://www.ncbi.nlm.nih.gov/pubmed/39344028</u>

Wang, X, Gao, X, Chen, D, Chen, X, Li, Q, Ding, J et al. (2024). The effect of active and passive smoking during pregnancy on birth outcomes: A cohort study in Shanghai. *Tob Induc Dis, 22*. Retrieved from <u>https://www.ncbi.nlm.nih.gov/pubmed/38952782</u>

Mansouri, B, Azadi, NA, Sharafi, K, & Nakhaee, S. (2023). The effects of active and passive smoking on selected trace element levels in human milk. *Sci Rep, 13*(1), 20756. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/38007512

O'Sharkey, K, Xu, Y, Cabison, J, Rosales, M, Chavez, T, Johnson, M et al. (2023). A Comparison of Measured Airborne and Self-Reported Secondhand Smoke Exposure in the MADRES Pregnancy Cohort Study. *Nicotine Tob Res.* Retrieved from <u>https://www.ncbi.nlm.nih.gov/pubmed/37846518</u>

Guri-Scherman, AY, Neumark, Y, Rodnay, M, & Bar-Zeev, Y. (2023). Barriers and enablers to implementing a smoke-free home and car during pregnancy: a qualitative study among expectant Israeli fathers. *Nicotine Tob Res*. Retrieved from <u>https://www.ncbi.nlm.nih.gov/pubmed/37565607</u>

Jenkinson, A, Bednarczuk, N, Kaltsogianni, O, Williams, EE, Lee, R, Bhat, R et al. (2023). Ventilatory response to added dead space in infants exposed to second-hand smoke in pregnancy. *Eur J Pediatr*. Retrieved from <u>https://www.ncbi.nlm.nih.gov/pubmed/37166537</u>

Maung, HN, Aung, KT, Maung Maung, T, Phyo, AP, Pwint, KH, Aye, MM, & Thi Thuy Hanh, N. (2023). Prevalence of Secondhand Smoke and Its Associated Factors Among Pregnant Women Attending Antenatal Care at a Hospital in Yangon Region, Myanmar. *Asia Pac J Public Health*, 10105395231176611. Retrieved from <u>https://www.ncbi.nlm.nih.gov/pubmed/37243481</u>

Murakami, K, Obara, T, Ishikuro, M, Ueno, F, Noda, A, & Kuriyama, S. (2023). Associations of Education and Income with Secondhand Smoke Exposure Among Non-smoking Pregnant Women in Japan: The Tohoku Medical Megabank Project Birth and Three-Generation Cohort Study. *Matern Child Health J.* Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/36988795

Artzi-Medvedik, R, Mohamed, N, & Chertok, IRA. (2022). Pregnant Women's Perception of Secondhand Smoke Exposure. *MCN Am J Matern Child Nurs, 47*(6), 353-358. Retrieved from <u>https://www.ncbi.nlm.nih.gov/pubmed/36227075</u>

Ozpinar, S, Demir, Y, Yazicioglu, B, & Baycelebi, S. (2022). Pregnant women's beliefs about third-hand smoke and exposure to tobacco smoke. *Cent Eur J Public Health, 30*(3), 154-159. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/36239362

Quinones Z, Li D, McIntosh S, Avendano E, Sanchez JJ, et al. Predictors of secondhand smoke exposure during pregnancy in costa rica, the dominican republic, and honduras. Nicotine Tob Res, 2022. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/35084495</u>

Chen X, Huang L, Zhong C, Li Q, Chen R, et al. Association between environmental tobacco smoke before and during pregnancy and the risk of adverse birth outcomes: A birth cohort study in wuhan, China. Environ Sci Pollut Res Int, 2021; 28(21):27230–7. Available from: https://www.ncbi.nlm.nih.gov/pubmed/33506423

Perera AS, Jayasinghe RM, Rajapakse A, Ratnayake R, and Jayasinghe RD. Second hand smoking and tobacco use among pregnant women in yatinuwara medical officer of health (moh) area in sri lanka. J Oral Biol Craniofac Res, 2021; 11(3):442-6. Available from: https://www.ncbi.nlm.nih.gov/pubmed/34040958

Sun W, Huang X, Wu H, Zhang CJP, Yin Z, et al. Maternal tobacco exposure and health-related quality of life during pregnancy: A national-based study of pregnant women in China. Health Qual Life Outcomes, 2021; 19(1):152. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/34016119</u>

Prince PM, Umman M, Fathima FN, and Johnson AR. Secondhand smoke exposure during pregnancy and its effect on birth outcomes: Evidence from a retrospective cohort study in a tertiary care hospital in bengaluru. Indian J Community Med, 2021; 46(1):102–6. Available from: https://www.ncbi.nlm.nih.gov/pubmed/34035587

Levy M, Kovo M, Ben-Ezry E, Torem M, Shahaf H, et al. Passively inhaled tobacco smoke - pregnancy and neonatal outcomes in correlation with placental histopathology. Placenta, 2021; 112:23–7. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/34243117</u>

Su Z, McDonnell D, Abbas J, Shi L, Cai Y, et al. Secondhand smoke exposure of expectant mothers in China: Factoring in the role of culture in data collection. JMIR Cancer, 2021; 7(4):e24984. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/34617907</u>

Zhang Y, Liu J, Zhang L, Jin L, Greene NDE, et al. Passive smoking during the periconceptional period and risk for neural tube defects in offspring: Five counties, shanxi province, China, 2010-2016. China CDC Wkly, 2021; 3(37):778–82. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/34594989</u>

Hamadneh S and Hamadneh J. Active and passive maternal smoking during pregnancy and birth outcomes: A study from a developing country. Ann Glob Health, 2021; 87(1):122. Available from: https://www.ncbi.nlm.nih.gov/pubmed/34900622

Shenoy RD, Sindgikar SP, Shenoy V, Uppoor R, Rao R, et al. Pregnancy outcome in occupational tobacco exposure: A cohort study from south India. Indian J Community Med, 2020; 45(1):54-9. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/32029985</u>

Frazer K, Fitzpatrick P, Brosnan M, Dromey AM, Kelly S, et al. Smoking prevalence and secondhand smoke exposure during pregnancy and postpartum-establishing risks to health and human rights before developing a tailored programme for smoking cessation. Int J Environ Res Public Health, 2020; 17(6). Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/32178339</u>

Fazel N, Kundi M, Kazemzadeh A, Esmaily H, Akbarzadeh R, et al. Environmental tobacco smoke exposure during pregnancy affects complications and birth outcomes in women with and without asthma. BMC Pregnancy Childbirth, 2020; 20(1):314. Available from: https://www.ncbi.nlm.nih.gov/pubmed/32434494

Tang J, Shen J, Zhang S, Ho H, and Ran S. A pilot study on secondhand smoke exposure among pregnant women in chongqing, China: A combined questionnaire, saliva cotinine test, and ultrasound flow index analysis. Front Public Health, 2020; 8:290. Available from: https://www.ncbi.nlm.nih.gov/pubmed/32903734

Moshammer H and Hutter HP. Breast-feeding protects children from adverse effects of environmental tobacco smoke. Int J Environ Res Public Health, 2019; 16(3). Available from: https://www.ncbi.nlm.nih.gov/pubmed/30678089

Suzuki D, Wariki WMV, Suto M, Yamaji N, Takemoto Y, et al. Association of secondhand smoke and depressive symptoms in nonsmoking pregnant women: A systematic review and meta-analysis. J Affect Disord, 2019; 245:918–27. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/30699877</u>

Argalasova L, Zitnanova I, Vondrova D, Dvorakova M, Laubertova L, et al. Self-reported exposure to ets (environmental tobacco smoke), urinary cotinine, and oxidative stress parameters in pregnant women-the pilot study. Int J Environ Res Public Health, 2019; 16(9). Available from: https://www.ncbi.nlm.nih.gov/pubmed/31086031

Howe CG, Zhou M, Wang X, Pittman GS, Thompson IJ, et al. Associations between maternal tobacco smoke exposure and the cord blood [formula: See text] DNA methylome. Environ Health Perspect, 2019; 127(4):47009. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/31039056</u>

Mazloomy Mahmoodabad SS, Karimiankakolaki Z, Kazemi A, and Fallahzadeh H. Self-efficacy and perceived barriers of pregnant women regarding exposure to second-hand smoke at home. J Educ Health Promot, 2019; 8:139. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/31463324</u>

Ramadani M, Utomo B, Achadi EL, and Gunardi H. Prenatal secondhand smoke exposure: Correlation between nicotine in umbilical cord blood and neonatal anthropometry. Osong Public Health Res Perspect, 2019; 10(4):234-9. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/31497495</u>

Garg S and Mora-Pinzon MC. Trends and risk factors of secondhand smoke exposure in nonsmoker pregnant women in wisconsin, 2011-2016. WMJ, 2019; 118(3):132-4. Available from: https://www.ncbi.nlm.nih.gov/pubmed/31682749

Ngo CQ, Phan PT, Vu GV, Chu HT, Nguyen TT, et al. Prevalence and sources of second-hand smoking exposure among non-smoking pregnant women in an urban setting of vietnam. Int J Environ Res Public Health, 2019; 16(24). Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/31835519</u>

Soltani F, Barzegar F, Sangestani G, Roshanaii G, and Maleki A. The effectiveness of family counselling on reducing exposure to secondhand smoke at home among pregnant women in iran. Tob Prev Cessat, 2019; 5:41. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/32411903</u>

Arbuckle TE, Liang CL, Fisher M, Caron NJ, Fraser WD, et al. Exposure to tobacco smoke and validation of smoking status during pregnancy in the mirec study. J Expo Sci Environ Epidemiol, 2018. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/29296002</u>

Kalayasiri R, Supcharoen W, and Ouiyanukoon P. Association between secondhand smoke exposure and quality of life in pregnant women and postpartum women and the consequences on the newborns. Qual Life Res, 2018; 27(4):905–12. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/29327094</u>

Hoyt AT, Canfield MA, Romitti PA, Botto LD, Anderka MT, et al. Does maternal exposure to secondhand tobacco smoke during pregnancy increase the risk for preterm or small-for-gestational age birth? Matern Child Health J, 2018; 22(10):1418–29. Available from: https://www.ncbi.nlm.nih.gov/pubmed/29574536

Nguyen-Hoang P and Yeung R. From mother to child: The effects of prenatal maternal passive smoking on academic outcomes in the United States. J Public Health Policy, 2018; 39(2):231–44. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/29531305</u>

Zhu Y, Li Z, Pang Y, Huo W, Li N, et al. Association between chronic exposure to tobacco smoke and accumulation of toxic metals in hair among pregnant women. Biol Trace Elem Res, 2018; 185(2):302–10. Available from: https://www.ncbi.nlm.nih.gov/pubmed/29497997

Lok KYW, Wang MP, Chan VHS, and Tarrant M. Effect of secondary cigarette smoke from household members on breastfeeding duration: A prospective cohort study. Breastfeed Med, 2018; 13(6):412–7. Available from: https://www.ncbi.nlm.nih.gov/pubmed/29902073

Reece S, Morgan C, Parascandola M, and Siddiqi K. Secondhand smoke exposure during pregnancy: A cross-sectional analysis of data from demographic and health survey from 30 low-income and middle-income countries. Tob Control, 2018. Available from: https://www.ncbi.nlm.nih.gov/pubmed/30026189

Xiao X, Li Y, Song X, Xu Q, Yang S, et al. Discrepancy between self-reported and urine cotinineverified environmental tobacco smoke exposure among rural pregnant women in China. Int J Environ Res Public Health, 2018; 15(7). Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/30012986</u>

Tuenter A, Bautista Nino PK, Vitezova A, Pantavos A, Bramer WM, et al. Folate, vitamin b12, and homocysteine in smoking-exposed pregnant women: A systematic review. Matern Child Nutr, 2018:e12675. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/30182513</u>

Do EK, Green TL, Prom-Wormley EC, and Fuemmeler BF. Social determinants of smoke exposure during pregnancy: Findings from waves 1 & 2 of the population assessment of tobacco and health (path) study. Prev Med Rep, 2018; 12:312-20. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6218644/pdf/main.pdf

Chelchowska M, Ambroszkiewicz J, Gajewska J, Mazur J, Lewandowski L, et al. Influence of active exposure to tobacco smoke on nitric oxide status of pregnant women. Int J Environ Res Public Health, 2018; 15(12). Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/30513890</u>

Singh SP, Chand HS, Langley RJ, Mishra N, Barrett T, et al. Gestational exposure to sidestream (secondhand) cigarette smoke promotes transgenerational epigenetic transmission of exacerbated allergic asthma and bronchopulmonary dysplasia. J Immunol, 2017; 198(10):3815-22. Available from: http://www.ncbi.nlm.nih.gov/pubmed/28381639

Yi C, Yeh CC, and Wang PH. Voluntary and involuntary smoking during pregnancy. J Chin Med Assoc, 2017. Available from: <u>http://www.ncbi.nlm.nih.gov/pubmed/28529024</u>

Cheng KW, Chiang WL, and Chiang TL. In utero and early childhood exposure to secondhand smoke in taiwan: A population-based birth cohort study. BMJ Open, 2017; 7(6):e014016. Available from: https://www.ncbi.nlm.nih.gov/pubmed/28674129

Huang J, Wen G, Yang W, Yao Z, Wu C, et al. The association between second-hand smoke exposure and depressive symptoms among pregnant women. Psychiatry Res, 2017; 256:469–74. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/28711818</u>

Kawasaki Y, Miyake Y, Tanaka K, Furukawa S, and Arakawa M. Smoking and secondhand smoke exposure and prevalence of depressive symptoms during pregnancy in Japan: Baseline data from the kyushu okinawa maternal and child health study. Tob Induc Dis, 2017; 15:34. Available from: https://www.ncbi.nlm.nih.gov/pubmed/28747858

Polanska K, Krol A, Merecz-Kot D, Ligocka D, Mikolajewska K, et al. Environmental tobacco smoke exposure during pregnancy and child neurodevelopment. Int J Environ Res Public Health, 2017; 14(7). Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/28714930</u>

Yang S, Xu L, He Y, Jiang C, Jin Y, et al. Childhood secondhand smoke exposure and pregnancy loss in never smokers: The guangzhou biobank cohort study. Tob Control, 2017; 26(6):697–702. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/28011924</u>

Lin Q, Hou XY, Yin XN, Wen GM, Sun D, et al. Prenatal exposure to environmental tobacco smoke and hyperactivity behavior in chinese young children. Int J Environ Res Public Health, 2017; 14(10). Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/28953223</u>

Cui H, Gong TT, Liu CX, and Wu QJ. Associations between passive maternal smoking during pregnancy and preterm birth: Evidence from a meta-analysis of observational studies. PLoS One, 2016; 11(1):e0147848. Available from: https://www.ncbi.nlm.nih.gov/pubmed/26808045

Zairina E. Maternal passive smoking and the risk of developing wheeze in children: How should we deal with it? Eur Respir J, 2016; 48(1):3-5. Available from: <u>http://www.ncbi.nlm.nih.gov/pubmed/27365501</u>

Xu X, Rao Y, Abdullah AS, Sharma M, Guo JJ, et al. Preventive behaviours in avoiding indoor secondhand smoke exposure among pregnant women in China. Tob Control, 2016. Available from: http://www.ncbi.nlm.nih.gov/pubmed/27432912

Weng SC, Huang JP, Huang YL, Lee TS, and Chen YH. Effects of tobacco exposure on perinatal suicidal ideation, depression, and anxiety. BMC Public Health, 2016; 16:623. Available from: http://www.ncbi.nlm.nih.gov/pubmed/27448804

Leng J, Wang P, Shao P, Zhang C, Li W, et al. Passive smoking increased risk of gestational diabetes mellitus independently and synergistically with pre-pregnancy obesity in tianjin, China. Diabetes Metab Res Rev, 2016. Available from: <u>http://www.ncbi.nlm.nih.gov/pubmed/27667672</u>

Yang HJ. Impact of perinatal environmental tobacco smoke on the development of childhood allergic diseases. Korean J Pediatr, 2016; 59(8):319-27. Available from: <u>http://www.ncbi.nlm.nih.gov/pubmed/27610180</u>

Chi YC, Sha F, Yip PS, Chen JL, and Chen YY. Randomized comparison of group versus individual educational interventions for pregnant women to reduce their secondhand smoke exposure. Medicine (Baltimore), 2016; 95(40):e5072. Available from: http://www.ncbi.nlm.nih.gov/pubmed/27749578

Yang S, Xu L, He Y, Jiang C, Jin Y, et al. Childhood secondhand smoke exposure and pregnancy loss in never smokers: The guangzhou biobank cohort study. Tob Control, 2016. Available from: http://www.ncbi.nlm.nih.gov/pubmed/28011924

Zhang B, Shi H, Wang Q, Zhang Z, and Li M. Maternal passive smoking during pregnancy and age of menarche in daughters: A study of elementary and middle school students in shanghai. Asia Pac J Public Health, 2015. Available from: <u>http://www.ncbi.nlm.nih.gov/pubmed/25667229</u>

Sabbagh HJ, Hassan MH, Innes NP, Elkodary HM, Little J, et al. Passive smoking in the etiology of non-syndromic orofacial clefts: A systematic review and meta-analysis. PLoS One, 2015; 10(3):e0116963. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/25760440</u>

Zhang L, Hsia J, Tu X, Xia Y, Bi Z, et al. Exposure to secondhand tobacco smoke and interventions among pregnant women in china: A systematic review. Prev Chronic Dis, 2015; 12:E35. Available from: <u>http://www.ncbi.nlm.nih.gov/pubmed/25789496</u>

Tong VT, Dietz PM, Rolle IV, Kennedy SM, Thomas W, et al. Clinical interventions to reduce secondhand smoke exposure among pregnant women: A systematic review. Tobacco Control, 2015; 24(3):217-23. Available from: <u>http://tobaccocontrol.bmj.com/content/24/3/217.abstract</u>

Khan S, Arif AA, Laditka JN, and Racine EF. Prenatal exposure to secondhand smoke may increase the risk of postpartum depressive symptoms. J Public Health (Oxf), 2015. Available from: <u>http://www.ncbi.nlm.nih.gov/pubmed/26076701</u>

Waked M and Salameh P. Maternal waterpipe smoke exposure and the risk of asthma and allergic diseases in childhood: A post hoc analysis. Int J Occup Med Environ Health, 2015; 28(1):147-56. Available from: <u>http://www.ncbi.nlm.nih.gov/pubmed/26159955</u>

Xie C, Wen X, Niu Z, Ding P, Liu T, et al. Comparison of secondhand smoke exposure measures during pregnancy in the development of a clinical prediction model for small-for-gestational-age among non-smoking chinese pregnant women. Tob Control, 2015; 24(e3):e179-e87. Available from: http://tobaccocontrol.bmj.com/content/24/e3/e179.abstract

Tong VT, Morello P, Aleman A, Johnson C, Dietz PM, et al. Pregnant women's secondhand smoke exposure and receipt of screening and brief advice by prenatal care providers in Argentina and

uruguay. Matern Child Health J, 2014. Available from: http://www.ncbi.nlm.nih.gov/pubmed/25427876

Hawkins SS, Dacey C, Gennaro S, Keshinover T, Gross S, et al. Secondhand smoke exposure among nonsmoking pregnant women in new york city. Nicotine Tob Res, 2014; 16(8):1079-84. Available from: <u>http://www.ncbi.nlm.nih.gov/pubmed/24642590</u>

Higashida Y and Ohashi K. Reduction of tobacco smoke exposure for pregnant passive smokers using feedback of urinary cotinine test results. J Obstet Gynaecol Res, 2014; 40(4):1015-22. Available from: http://www.ncbi.nlm.nih.gov/pubmed/24428542

Orione MA, Silva CA, Sallum AM, Campos LM, Omori CH, et al. Risk factors for juvenile dermatomyositis: Exposure to tobacco and air pollutants during pregnancy. Arthritis Care Res (Hoboken), 2014; 66(10):1571-5. Available from: <u>http://www.ncbi.nlm.nih.gov/pubmed/24757124</u>

Simons E, To T, Moineddin R, Stieb D, and Dell SD. Maternal second-hand smoke exposure in pregnancy is associated with childhood asthma development. J Allergy Clin Immunol Pract, 2014; 2(2):201-7. Available from: <u>http://www.ncbi.nlm.nih.gov/pubmed/24607049</u>

Taylor AE, Davey Smith G, Bares CB, Edwards AC, and Munafo MR. Partner smoking and maternal cotinine during pregnancy: Implications for negative control methods. Drug Alcohol Depend, 2014; 139:159-63. Available from: <u>http://www.ncbi.nlm.nih.gov/pubmed/24726428</u>

Tong VT, Dietz PM, Rolle IV, Kennedy SM, Thomas W, et al. Clinical interventions to reduce secondhand smoke exposure among pregnant women: A systematic review. Tob Control, 2014. Available from: <u>http://www.ncbi.nlm.nih.gov/pubmed/24789602</u>

Ghosh R. Indoor smoke and prenatal and childhood growth: The role of (gestational) age. World J Clin Pediatr, 2013; 2(4):31-5. Available from: <u>http://www.ncbi.nlm.nih.gov/pubmed/25254172</u>

Kazemi A, Ramezanzadeh F, Esfahani MH, Saboor-Yaraghi AA, Nejat S, et al. Impact of environmental tobacco smoke exposure in women on oxidative stress in the antral follicle and assisted reproduction outcomes. J Res Med Sci, 2013; 18(8):688–94. Available from: https://www.ncbi.nlm.nih.gov/pubmed/24379845

Leonardi-Bee J, Jere ML, and Britton J. Exposure to parental and sibling smoking and the risk of smoking uptake in childhood and adolescence: A systematic review and meta-analysis. Thorax, 2011; 66(10):847-55. Available from: <u>http://www.ncbi.nlm.nih.gov/pubmed/21325144</u>

Leonardi-Bee J, Britton J, and Venn A. Secondhand smoke and adverse fetal outcomes in nonsmoking pregnant women: A meta-analysis. Pediatrics, 2011; 127(4):734–41. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/21382949</u>

Houfflin-Debarge V, Sabbah-Briffaut E, Aubry E, Deruelle P, Alexandre C, et al. Effects of environmental tobacco smoke on the pulmonary circulation in the ovine fetus. Am J Obstet Gynecol, 2011; 204(5):450 e8– e14. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/21333966</u>

Abdul-Karim E and Abdul-Razaq Z. Cord serum cotinine as a biomarker of fetal exposure to environmental tobacco smoke. Neurosciences, 2011; 16(2):120–4. Available from:

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Citation&list_uid s=21427660

Almeida ND, Koren G, Platt RW, and Kramer MS. Hair biomarkers as measures of maternal tobacco smoke exposure and predictors of fetal growth Nicotine & Tobacco Research, 2011; [Epub ahead of print]. Available from: <u>http://ntr.oxfordjournals.org/content/early/2011/02/04/ntr.ntq259.full</u>

Crane JM, Keough M, Murphy P, Burrage L, and Hutchens D. Effects of environmental tobacco smoke on perinatal outcomes: A retrospective cohort study. BJOG, 2011; 118(7):865–71. Available from: https://www.ncbi.nlm.nih.gov/pubmed/21426481

Eiden R, Molnar D, Leonard K, Colder C, Homish G, et al. Sources and frequency of secondhand smoke exposure during pregnancy. Nicotine & Tobacco Research, 2011; [Epub ahead of print]. Available from: <u>http://www.ncbi.nlm.nih.gov/pubmed/21460384</u>

Prignot JJ. Recent contributions of air- and biomarkers to the control of secondhand smoke (shs): A review International Journal of Environmental Research and Public Health, 2011; 8(3):648–82. Available from: <u>http://www.mdpi.com/1660-4601/8/3/648/pdf</u>

Salmasi G, Grady R, Jones J, McDonald SD, and Knowledge Synthesis G. Environmental tobacco smoke exposure and perinatal outcomes: A systematic review and meta-analyses. Acta Obstet Gynecol Scand, 2010; 89(4):423–41. Available from: https://www.ncbi.nlm.nih.gov/pubmed/20085532

El-Mohandes A, Kiely M, Blake S, Gantz M, and El-Khorazaty M. An intervention to reduce environmental tobacco smoke exposure improves pregnancy outcomes. Pediatrics, 2010; [Epub ahead of print]. Available from: <u>http://pediatrics.aappublications.org/cgi/reprint/peds.2009-1809v1</u>

Bloch M, Tong V, Novotny T, England L, Dietz P, et al. Tobacco use and secondhand smoke exposure among pregnant women in low- and middle-income countries: A call to action. Acta Obstetricia et Gynecologica Scandinavica, 2010; 89(4):418–22. Available from: http://informahealthcare.com/doi/pdf/10.3109/00016341003605735

Ashford K, Hahn E, Hall L, Rayens M, Noland M, et al. The effects of prenatal secondhand smoke exposure on preterm birth and neonatal outcomes. Journal of Obstetric, Gynecologic, & Neonatal Nursing, 2010; 39(5):525–35. Available from: <u>http://onlinelibrary.wiley.com/doi/10.1111/j.1552-6909.2010.01169.x/full</u>

Kohler E, Avenarius S, Rabsilber A, Gerloff C, and Jorch G. Nicotine and its metabolites in amniotic fluid at birth: Assessment of prenatal tobacco smoke exposure. Human & Experimental Toxicology, 2010; 29(5):385–91. Available from: <u>http://het.sagepub.com/content/29/5/385.full.pdf+html</u>

Wenten M, Li Y, Lin P, Gauderman W, Berhane K, et al. In utero smoke exposure, glutathione stransferase p1 haplotypes, and respiratory illness-related absence among schoolchildren. Pediatrics, 2009; 123(5):1344–51. Available from:

http://pediatrics.aappublications.org/cgi/content/full/123/5/1344

Wdowiak A, Wiktor H, and Wdowiak L. Maternal passive smoking during pregnancy and neonatal health. Annals of Agricultural and Environmental Medicine, 2009; 16(2):309–12. Available from: http://www.aaem.pl/pdf/16309.pdf

Rossner P, Milcova A, Libalova H, Novakova Z, Topinka J, et al. Biomarkers of exposure to tobacco smoke and environmental pollutants in mothers and their transplacental transfer to the foetus. Part ii: Oxidative damage. Mutation Research, 2009; 669(1–2):20–6. Available from: http://www.ncbi.nlm.nih.gov/pubmed/19433097

Ferrell RT. The impact of secondhand smoke during pregnancy. South Dakota Medicine, 2009; 62(7):275–6. Available from:

https://www.researchgate.net/publication/26832041 The impact of secondhand smoke during pregnancy

Reeves S and Bernstein I. Effects of maternal tobacco-smoke exposure on fetal growth and neonatal size. Expert Rev Obstet Gynecol, 2008; 3(6):719–30. Available from: https://www.ncbi.nlm.nih.gov/pubmed/19881889

Leonardi-Bee J, Smyth A, Britton J, and Coleman T. Environmental tobacco smoke and fetal health: Systematic review and meta-analysis. Archives of Diseases in Childhood. Fetal and Neonatal Ed, 2008; 93(5):F351-61. Available from: <u>http://www.ncbi.nlm.nih.gov/pubmed/18218658</u>

Ward C, Lewis S, and Coleman T. Prevalence of maternal smoking and environmental tobacco smoke exposure during pregnancy and impact on birth weight: Retrospective study using millenium cohort. BMC Public Health, 2007; 7(147):81. Available from: http://www.biomedcentral.com/content/pdf/1471-2458-7-81.pdf

Houston T, Person S, Pletcher M, Liu K, Iribarren C, et al. Active and passive smoking and development of glucose intolerance among young adults in a prospective cohort: Cardia study. British Medical Journal, 2006; 332:1064-9. Available from: http://www.bmj.com/cgi/content/full/332/7549/1064

Houston T, Person S, Pletcher M, Liu K, Iribarren C, et al. Active and passive smoking and development of glucose intolerance among young adults in a prospective cohort: Cardia study. Bmj 2006;332:1064-9. Available from:. British Medical Journal, 2006; 332:1064-9. Available from: http://www.bmj.com/cgi/content/full/332/7549/1064

Venners SA, Wang X, Chen C, Wang L, Chen D, et al. Paternal smoking and pregnancy loss: A prospective study using a biomarker of pregnancy. American Journal of Epidemiology, 2004; 159(10):993–1001. Available from: <u>http://aje.oxfordjournals.org/cgi/content/full/159/10/993</u>

Gilliland FD, Li YF, and Peters JM. Effects of maternal smoking during pregnancy and environmental tobacco smoke on asthma and wheezing in children. American Journal of Respiratory and Critical Care Medicine, 2001; 163(2):429–36. Available from: http://ajrccm.atsjournals.org/cgi/content/full/163/2/429

Li YF, Gilliland FD, Berhane K, McConnell R, Gauderman WJ, et al. Effects of in utero and environmental tobacco smoke exposure on lung function in boys and girls with and without asthma.

American Journal of Respiratory and Critical Care Medicine, 2000; 162(6):2097–104. Available from: <u>http://ajrccm.atsjournals.org/cgi/content/full/162/6/2097</u>

Fergusson D, Woodward L, and Horwood L. Maternal smoking during pregnancy and psychiatric adjustment in late adolescence. Archives of General Psychiatry, 1998; 55(8):721–7. Available from: archpsyc.ama-assn.org/cgi/reprint/55/8/721.pdf?ck=nck

4.16.1 Fertility

Li, S, Feng, A, Peng, Y, Li, L, Huang, L, He, N et al. (2024). Association between secondhand smoke exposure and serum sex hormone concentrations among US female adults: a cross-sectional analysis using data from the National Health and Nutrition Examination Survey, 2013-2016. *BMJ Open, 14*(5), e073527. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/38749695

Peng, L, Luo, X, Cao, B, & Wang, X. (2024). Unraveling the link: environmental tobacco smoke exposure and its impact on infertility among American women (18-50 years). *Front Public Health, 12,* 1358290. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/38525328

Haervig KK, Petersen KU, Giwercman A, Hougaard KS, Hoyer BB, et al. Fetal exposure to maternal cigarette smoking and male reproductive function in young adulthood. Eur J Epidemiol, 2022. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/35476275</u>

Peng X, Cai G, Liang C, Lu Z, Huang K, et al. The association between second-hand smoke exposure and psychiatric distress among naturally pregnant women and pregnant women after assisted reproductive technology treatment: A birth cohort study. Reprod Sci, 2021; 28(10):2878–86. Available from: https://www.ncbi.nlm.nih.gov/pubmed/33978954

Ranganathan P, Rao KA, and Thalaivarasai Balasundaram S. Deterioration of semen quality and sperm-DNA integrity as influenced by cigarette smoking in fertile and infertile human male smokersa prospective study. J Cell Biochem, 2019. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/30779221</u>

Li J, Wu Q, Wu XK, Zhou ZM, Fu P, et al. Effect of exposure to second-hand smoke from husbands on biochemical hyperandrogenism, metabolic syndrome and conception rates in women with polycystic ovary syndrome undergoing ovulation induction. Hum Reprod, 2018; 33(4):617–25. Available from: https://www.ncbi.nlm.nih.gov/pubmed/29471520

Wong JY, Chang PY, Gold EB, Johnson WO, and Lee JS. Environmental tobacco smoke and risk of latediagnosis incident fibroids in the study of women's health across the nation (swan). Fertil Steril, 2016. Available from: <u>http://www.ncbi.nlm.nih.gov/pubmed/27445196</u>

La Maestra S, De Flora S, and Micale RT. Does second-hand smoke affect semen quality? Arch Toxicol, 2014; 88(6):1187-8. Available from: <u>http://www.ncbi.nlm.nih.gov/pubmed/24838294</u>

Ferris J, Flom J, Tehranifar P, Mayne S, and Terry M. Prenatal and childhood environmental tobacco smoke exposure and age at menarche. Paediatric and Perinatal Epidemiology 2010; [Epub ahead of print]. Available from: <u>http://onlinelibrary.wiley.com/doi/10.1111/j.1365-3016.2010.01154.x/full</u>

Soldin O, Goughenour B, Gilbert S, Landy H, and Soldin S. Thyroid hormone levels associated with active and passive cigarette smoking. Thyroid : Official Journal of the American Thyroid Association, 2009; 19(8):817–23. Available from: <u>http://www.liebertonline.com/doi/pdf/10.1089/thy.2009.0023</u>

Peppone LJ, Piazza KM, Mahoney MC, Morrow GR, Mustian KM, et al. Associations between adult and childhood secondhand smoke exposures and fecundity and fetal loss among women who visited a cancer hospital. Tob Control, 2009; 18(2):115–20. Available from: https://www.ncbi.nlm.nih.gov/pubmed/19039010

Zhong C-Y, Zhou Y, Joad J, and Pinkerton K. Environmental tobacco smoke suppresses nuclear factor-{kappa}b signaling to increase apoptosis in infant monkey lungs. American Journal of Critical Care Medicine, 2006; 174(4):428–36. Available from: <u>http://www.ncbi.nlm.nih.gov/pubmed/16709937</u>

Neal M, Hughes E, Holloway A, and Foster W. Sidestream smoking is equally as damaging as mainstream smoking on ivf outcomes. Human Reproduction, 2005; 20(9):2531–5. Available from: http://www.ncbi.nlm.nih.gov/pubmed/15919779

Hull MG, North K, Taylor H, Farrow A, and Ford WC. Delayed conception and active and passive smoking. The avon longitudinal study of pregnancy and childhood study team. Fertility and Sterility, 2000; 74(4):725–33. Available from:

http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6T6K-41GNKR4-<u>S&_user=559483&_rdoc=1&_fmt=&_orig=search&_sort=d&view=c&_acct=C000028178&_version=1</u> <u>&_urlVersion=0&_userid=559483&md5=df6de568298a93d85fd5434e81009965</u>

4.16.2 Foetal growth and preterm delivery

Dincgez, B, Ozgen, G, & Kartal Golcuk, E. (2024). Effect of passive smoking on birth weight in pregnant women with vitamin D deficiency living in Turkey: A case control study. *J Obstet Gynaecol Res*. Retrieved from <u>https://www.ncbi.nlm.nih.gov/pubmed/39228189</u>

Lou, Q, Wu, S, Zhang, J, Xie, R, Wu, X, Guo, Z, & Chen, Y. (2024). The interaction between PAX9 rs2073244 and passive smoking during pregnancy on low birth weight in newborns: a case-control study. *Int J Environ Health Res*, 1-10. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/39225389

Kirkham, MN, Cooper, C, Broberg, E, Robertson, P, Clarke, D, Pickett, BE et al (2024). Different Lengths of Gestational Exposure to Secondhand Smoke or e-Cigarette Vapor Induce the Development of Placental Disease Symptoms. *Cells, 13*(12). Retrieved from <u>https://www.ncbi.nlm.nih.gov/pubmed/38920640</u>

Neophytou, AM, Aalborg, J, Magzamen, S, Moore, BF, Ferrara, A, Karagas, MR et al (2024). Bridging Differences in Cohort Analyses of the Relationship between Secondhand Smoke Exposure during Pregnancy and Birth Weight: The Transportability Framework in the ECHO Program. *Environ Health Perspect*, *132*(5), 57007. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/38771935

Cavichiolli, FS, Borovac-Pinheiro, A, Lajos, GJ, Becker, M, Passini, R, Jr, & Brazilian Multicenter Study on Preterm Birth Study, G. (2024). The relationship between active/passive smoking and spontaneous preterm birth: Data from a multicenter study. *Int J Gynaecol Obstet*. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/38299885

Tavassoli, A, Modares Gharejedaghi, S, Abedi, M, Jamali, SM, & Ale Ebrahim, N. (2023). Secondhand Smoking and the Fetus: A Bibliometric Analysis. *Med J Islam Repub Iran, 37*, 135. Retrieved from <u>https://www.ncbi.nlm.nih.gov/pubmed/38318410</u>

Almashaqbeh, W, Ardah, H, Alasmari, A, Hakeem, A, Alsaigh, S, Aloushan, A, & Jawdat, D. (2023). The effect of caffeine intake and passive smoking on umbilical cord blood unit's quality parameters. *Cell Tissue Bank*. Retrieved from <u>https://www.ncbi.nlm.nih.gov/pubmed/37839014</u>

Delcroix-Gomez, C, Delcroix, MH, Jamee, A, Gauthier, T, Marquet, P, & Aubard, Y. (2022). Fetal growth restriction, low birth weight, and preterm birth: Effects of active or passive smoking evaluated by maternal expired CO at delivery, impacts of cessation at different trimesters. *Tob Induc Dis, 20*, 70. Retrieved from <u>https://www.ncbi.nlm.nih.gov/pubmed/36118558</u>

Luo Y, Zhang Y, Pan H, and Chen S. Maternal secondhand smoke exposure enhances macrosomia risk among pregnant women exposed to pm2.5: A new interaction of two air pollutants in a nationwide cohort. Front Public Health, 2021; 9:735699. Available from: https://www.ncbi.nlm.nih.gov/pubmed/34869151

Chen MM, Chiu CH, Yuan CP, Liao YC, and Guo SE. Influence of environmental tobacco smoke and air pollution on fetal growth: A prospective study. Int J Environ Res Public Health, 2020; 17(15). Available from: https://www.ncbi.nlm.nih.gov/pubmed/32718069

Mojska H, Gielecinska I, Jasinska-Melon E, Winiarek J, and Sawicki W. Are aama and gama levels in urine after childbirth a suitable marker to assess exposure to acrylamide from passive smoking during pregnancy?-a pilot study. Int J Environ Res Public Health, 2020; 17(20). Available from: https://www.ncbi.nlm.nih.gov/pubmed/33050564

Rang NN, Hien TQ, Chanh TQ, and Thuyen TK. Preterm birth and secondhand smoking during pregnancy: A case-control study from vietnam. PLoS One, 2020; 15(10):e0240289. Available from: https://www.ncbi.nlm.nih.gov/pubmed/33027283

Kobayashi S, Sata F, Hanaoka T, Braimoh TS, Ito K, et al. Association between maternal passive smoking and increased risk of delivering small-for-gestational-age infants at full-term using plasma cotinine levels from the hokkaido study: A prospective birth cohort. BMJ Open, 2019; 9(2):e023200. Available from: https://www.ncbi.nlm.nih.gov/pubmed/30782875

Soesanti F, Uiterwaal C, Grobbee DE, Hendarto A, Dalmeijer GW, et al. Antenatal exposure to second hand smoke of non-smoking mothers and growth rate of their infants. PLoS One, 2019; 14(6):e0218577. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/31220162</u>

Dessi A, Corona L, Pintus R, and Fanos V. Exposure to tobacco smoke and low birth weight: From epidemiology to metabolomics. Expert Rev Proteomics, 2018. Available from: https://www.ncbi.nlm.nih.gov/pubmed/30052087

Hedengran KK, Andersen MR, Szecsi PB, Lindh C, Uldbjerg N, et al. Environmental tobacco smoke exposure during pregnancy has limited effect on infant birthweight and umbilical vein endothelial nitric oxide synthase. Acta Obstet Gynecol Scand, 2018; 97(11):1309–16. Available from: https://www.ncbi.nlm.nih.gov/pubmed/29969842 Krishnamurthy AV, Chinnakali P, Dorairajan G, Sundaram SP, Sarveswaran G, et al. Tobacco use, exposure to second-hand smoke among pregnant women and their association with birth weight: A retrospective cohort study. J Family Med Prim Care, 2018; 7(4):728–33. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/30234045</u>

Abdullah B, Muadz B, Norizal MN, Ismail N, Kornain NK, et al. Pregnancy outcome and cord blood cotinine level: A cross-sectional comparative study between secondhand smokers and non-secondhand smokers. Eur J Obstet Gynecol Reprod Biol, 2017; 214:86–90. Available from: https://www.ncbi.nlm.nih.gov/pubmed/28494268

Huang SH, Weng KP, Huang SM, Liou HH, Wang CC, et al. The effects of maternal smoking exposure during pregnancy on postnatal outcomes: A cross sectional study. J Chin Med Assoc, 2017; 80(12):796–802. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/28583474</u>

Loeken MR. Commentary: Passive smoking as an independent risk factor for gestational diabetes that synergizes with pre-pregnancy obesity in urban chinese women. Diabetes Metab Res Rev, 2017. Available from: <u>http://www.ncbi.nlm.nih.gov/pubmed/28580761</u>

Elkin ER and O'Neill MS. Trends in environmental tobacco smoke (ets) exposure and preterm birth: Use of smoking bans and direct ets exposure assessments in study designs. Chem Res Toxicol, 2017; 30(7):1376–83. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/28602080</u>

Niu Z, Xie C, Wen X, Tian F, Yuan S, et al. Potential pathways by which maternal second-hand smoke exposure during pregnancy causes full-term low birth weight. Sci Rep, 2016; 6:24987. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/27126191</u>

Mejia C, Lewis J, Jordan C, Mejia J, Ogden C, et al. Decreased activation of placental mtor family members is associated with the induction of intrauterine growth restriction by secondhand smoke in the mouse. Cell Tissue Res, 2016. Available from: <u>http://www.ncbi.nlm.nih.gov/pubmed/27613305</u>

Xie C, Wen X, Niu Z, Ding P, Liu T, et al. Combinations of cyp2a6*4 and glutathione s-transferases gene polymorphisms modify the association between maternal secondhand smoke exposure during pregnancy and small-for-gestational-age. Nicotine Tob Res, 2015. Available from: http://www.ncbi.nlm.nih.gov/pubmed/25847289

Niu Z, Xie C, Wen X, Tian F, Ding P, et al. Placenta mediates the association between maternal second-hand smoke exposure during pregnancy and small for gestational age. Placenta, 2015; 36(8):876–80. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/26051507</u>

Ion RC, Wills AK, and Bernal AL. Environmental tobacco smoke exposure in pregnancy is associated with earlier delivery and reduced birth weight. Reprod Sci, 2015; 22(12):1603–11. Available from: https://www.ncbi.nlm.nih.gov/pubmed/26507870

Wahabi HA, Mandil AA, Alzeidan RA, Bahnassy AA, and Fayed AA. The independent effects of second hand smoke exposure and maternal body mass index on the anthropometric measurements of the newborn. BMC Public Health, 2013; 13:1058. Available from: https://www.ncbi.nlm.nih.gov/pubmed/24209496 Iniguez C, Ballester F, Amoros R, Murcia M, Plana A, et al. Active and passive smoking during pregnancy and ultrasound measures of fetal growth in a cohort of pregnant women. Journal of Epidemiology and Community Health, 2011; [Epub ahead of print]. Available from: http://jech.bmj.com/content/early/2011/01/12/jech.2010.116756.long

Varvarigou AA, Fouzas S, and Beratis NG. Effect of prenatal tobacco smoke exposure on fetal growth potential. J Perinat Med, 2010; 38(6):683–7. Available from: https://www.ncbi.nlm.nih.gov/pubmed/20707625

Pogodina C, Brunner Huber L, Racine E, and Platonova E. Smoke-free homes for smoke-free babies: The role of residential environmental tobacco smoke on low birth weight. Journal of Community Health, 2009; 34(5):376–82. Available from:

https://springerlink3.metapress.com/content/e7q6725t08114g21/resourcesecured/?target=fulltext.html&sid=1loiihmjonxf5lfec55nenmn&sh=www.springerlink.com

Fantuzzi G, Vaccaro V, Aggazzotti G, Righi E, Kanitz S, et al. Exposure to active and passive smoking during pregnancy and severe small for gestational age at term. The Journal of Maternal-Fetal & Neonatal Medicine, 2008; 21(9):643–7. Available from: http://www.informaworld.com/smpp/content~db=all?content=10.1080/14767050802203744

Dejmek J, Solansk y I, Podrazilova K, and Sram RJ. The exposure of nonsmoking and smoking mothers to environmental tobacco smoke during different gestational phases and fetal growth. Environmental Health Perspectives, 2002; 110(6):601–6. Available from: <u>http://www.ehponline.org/members/2002/110p601-606dejmekg/dejmek-full.html</u>

Hrubá D and Kachlík P. Influence of maternal active and passive smoking during pregnancy on birthweight in newborns. Central European Journal of Public Health, 2000; 8(4):249–52. Available from: <u>http://cat.inist.fr/?aModele=afficheN&cpsidt=921638</u>

4.16.3 Lung development in the unborn child

Knihtila H, Huang M, Stubbs B, Carey V, Laranjo N, et al. Cumulative tobacco smoke exposure during pregnancy and early childhood is associated with lung function deficits at age 6 years. in ATS 2021 International Conference. 2021. Available from: <u>https://conference.thoracic.org/program/abstract-search.php?sid=P7547</u>.

Wu CC, Hsu TY, Chang JC, Ou CY, Kuo HC, et al. Paternal tobacco smoke correlated to offspring asthma and prenatal epigenetic programming. Front Genet, 2019; 10:471. Available from: https://www.ncbi.nlm.nih.gov/pubmed/31214241

Christensen S, Jaffar Z, Cole E, Porter V, Ferrini M, et al. Prenatal environmental tobacco smoke exposure increases allergic asthma risk with methylation changes in mice. Environ Mol Mutagen, 2017. Available from: <u>http://www.ncbi.nlm.nih.gov/pubmed/28543436</u>

Noel A, Xiao R, Perveen Z, Zaman H, Le Donne V, et al. Sex-specific lung functional changes in adult mice exposed only to second-hand smoke in utero. Respir Res, 2017; 18(1):104. Available from: http://www.ncbi.nlm.nih.gov/pubmed/28651580

4.16.4 Spontaneous abortion (miscarriage) and stillbirth

Lin, S, Li, J, Zhang, Y, Song, X, Chen, G, & Pei, L. (2022). Maternal Passive Smoking, Vitamin D Deficiency and Risk of Spontaneous Abortion. *Nutrients, 14*(18). Retrieved from <u>https://www.ncbi.nlm.nih.gov/pubmed/36145050</u>

Yaya S and Bishwajit G. Exposure to second-hand smoking as a predictor of fetal loss: Egypt demographic and health survey 2014. Int Health, 2019; 11(6):561–7. Available from: https://www.ncbi.nlm.nih.gov/pubmed/31184367

Yang S, Xu L, He Y, Jiang C, Jin Y, et al. Childhood secondhand smoke exposure and pregnancy loss in never smokers: The guangzhou biobank cohort study. Tobacco Control, 2016. Available from: http://www.ncbi.nlm.nih.gov/pubmed/28011924

George L, Granath F, Johansson A, Anneren G, and Cnattingius S. Environmental tobacco smoke and risk of spontaneous abortion. Epidemiology, 2006; 17(5):500–5. Available from: <u>http://journals.lww.com/epidem/pages/articleviewer.aspx?year=2006&issue=09000&article=00006</u> <u>&type=abstract</u>

4.16.5 Birth defects

Sabbagh, HJ, Baghlaf, KK, Jamalellail, HMH, Bakhuraybah, AS, AlGhamdi, SM, Alharbi, OA et al. (2023). Environmental tobacco smoke exposure and non-syndromic orofacial cleft: Systematic review and meta-analysis. *Tob Induc Dis, 21*, 76. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/37313116

Deng, C, Pu, J, Deng, Y, Xie, L, Yu, L, Liu, L et al. (2022). Association between maternal smoke exposure and congenital heart defects from a case-control study in China. *Sci Rep, 12*(1), 14973. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/36056058

Li J, Du Y, Qu F, Jing H, Yan H, et al. Propensity score analysis of the association between maternal exposure to second-hand tobacco smoke and birth defects in northwestern China. J Dev Orig Health Dis, 2022:1–8. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/34986910</u>

Zheng Z, Xie G, Yang T, and Qin J. Congenital malformations are associated with secondhand smoke among nonsmoking women: A meta-analysis. Birth, 2019; 46(2):222–33. Available from: https://www.ncbi.nlm.nih.gov/pubmed/30284325

Liu X, Nie Z, Chen J, Guo X, Ou Y, et al. Does maternal environmental tobacco smoke interact with social-demographics and environmental factors on congenital heart defects? Environ Pollut, 2018; 234:214–22. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/29175685</u>

Rankin J. Second-hand smoke exposure and orofacial clefts. Paediatr Perinat Epidemiol, 2018. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/30266045</u>

Bui AH, Ayub A, Ahmed MK, Taioli E, and Taub PJ. Maternal tobacco exposure and development of orofacial clefts in the child: A case-control study conducted in pakistan. Ann Plast Surg, 2018. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/30300227</u>

Kummet CM, Moreno LM, Wilcox AJ, Romitti PA, DeRoo LA, et al. Passive smoke exposure as a risk factor for oral clefts-a large international population-based study. Am J Epidemiol, 2016. Available from: <u>http://www.ncbi.nlm.nih.gov/pubmed/27045073</u>

Hoyt AT, Canfield MA, Romitti PA, Botto LD, Anderka MT, et al. Associations between maternal periconceptional exposure to secondhand tobacco smoke and major birth defects. Am J Obstet Gynecol, 2016. Available from: <u>http://www.ncbi.nlm.nih.gov/pubmed/27443814</u>

Zadzinska E, Koziel S, Borowska-Struginska B, Rosset I, Sitek A, et al. Parental smoking during pregnancy shortens offspring's legs. Homo, 2016; 67(6):498-507. Available from: http://www.ncbi.nlm.nih.gov/pubmed/27908489

Villablanca A, Pinkerton K, and Rutledge J. Maternal and neonatal exposure to environmental tobacco smoke targets pro-inflammatory genes in neonatal arteries. Journal of Cardiovascular Translational Research, 2010; [Epub ahead of print]. Available from: http://www.springerlink.com/content/04t181mn718836mv/fulltext.html

Suarez L, Ramadhani T, Felkner M, Canfield M, Brender J, et al. Maternal smoking, passive tobacco smoke, and neural tube defects. Birth Defects Research, 2010; [Epub ahead of print]. Available from: http://onlinelibrary.wiley.com/doi/10.1002/bdra.20743/full

Grant SG. Tobacco smoke exposure and somatic mutation in newborns The Open Pediatric Medicine Journal 2010; 4:10–3 (4). Available from: <u>http://www.bentham.org/open/topedj/openaccess2.htm</u>

Mecchia D, Lavezzi AM, Mauri M, and Matturri L. Feto-placental atherosclerotic lesions in intrauterine fetal demise: Role of parental cigarette smoking. Open Cardiovasc Med J, 2009; 3(3):51–6. Available from: https://www.ncbi.nlm.nih.gov/pubmed/19572018

Suarez L, Felkner M, Brender J, Canfield M, and Hendricks K. Maternal exposures to cigarette smoke, alcohol, and street drugs and neural tube defect occurrence in offspring. Maternal and Child Health Journal, 2008; 12(3):394–401. Available from:

http://www.springerlink.com/content/126731126r804142/

4.16.6 Other effects

Putera, AM, Fikri, B, Massi, MN, & Shimojo, N. (2024). Low Ferritin without Anemia in Indonesian Newborns with Mothers having Second-Hand Smoke Exposure. *Indian J Pediatr*. Retrieved from <u>https://www.ncbi.nlm.nih.gov/pubmed/39535695</u>

Hu, Z, Ye, J, Shi, S, Luo, C, Wang, T, Liu, Y et al. (2024). Maternal smoking, consumption of alcohol, and caffeinated beverages during pregnancy and the risk of childhood brain tumors: a meta-analysis of observational studies. *BMC Public Health*, *24*(1), 1238. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/38711042

Chen, S, Zhao, Z, Luo, M, Gao, Y, Zhou, T, Hu, J et al. (2023). Environmental tobacco smoke increased risk of gestational diabetes mellitus: A birth cohort study in Sichuan, China. *Diabetes Metab Res Rev*, e3724. Retrieved from <u>https://www.ncbi.nlm.nih.gov/pubmed/37727006</u>

Zhang, H, Zhou, X, Tian, L, Huang, JE, M & Yin, J. (2023). Passive smoking and risk of gestational diabetes mellitus: A systematic review and meta-analysis. *Tob Induc Dis, 21*, 115. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/37718995

Liu, Y, Li, Z, Li, N, An, H, Zhang, L, Liu, X, & Ye, R. (2023). Effects of passive smoking on severe nausea and vomiting of pregnancy among urban Chinese nonsmoking women. *Heliyon, 9*(4), e15294. Retrieved from <u>https://www.ncbi.nlm.nih.gov/pubmed/37077685</u>

Tanaka, K, Nishigori, H, Watanabe, Z, Tanoue, K, Iwama, N, Satoh, M et al. (2023). Secondhand smoke exposure is associated with the risk of hypertensive disorders of pregnancy: the Japan Environment and Children's Study. *Hypertens Res*. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/36732667

Yildiz, S, & Tammo, O. (2022). Comparison of Vitamin D Levels and Related Factors in Pregnant Women and Neonates Exposed to Second-Hand Smoke. *Cureus, 14*(8), e28287. Retrieved from <u>https://www.ncbi.nlm.nih.gov/pubmed/36168344</u>

Uchiyama K, Haruyama Y, Shiraishi H, Katahira K, Abukawa D, et al. Association between passive smoking from the mother and pediatric crohn's disease: A japanese multicenter study. Int J Environ Res Public Health, 2020; 17(8). Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/32340304</u>

Li J, Du YJ, Wang HL, Du JY, Qu PF, et al. [association between maternal passive smoking during perinatal period and congenital heart disease in their offspring-based on a case-control study]. Zhonghua Liu Xing Bing Xue Za Zhi, 2020; 41(6):884–9. Available from: https://www.ncbi.nlm.nih.gov/pubmed/32564554

Hannan KE, Smith RA, Barfield WD, and Hwang SS. Association between nicu admission and supine sleep positioning, breastfeeding, and postnatal smoking among mothers of late preterm infants. J Pediatr, 2020. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/32698029</u>

Ren S, Xie S, Li X, Li G, Wang Y, et al. The association between maternal exposure to secondhand smoke during pregnancy and their children's cerebral palsy, shandong, China. Tob Induc Dis, 2020; 18:87. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/33132801</u>

Wang Z, Wang L, Zhong F, Wu C, and Hou ST. Early postnatal tobacco smoke exposure aggravates experimental autoimmune encephalomyelitis in adult rats. Neurochem Int, 2020; 141:104892. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/33127393</u>

Wang L, Zou Y, Wu P, Meng J, and Zhang R. Phthalate exposure in pregnant women and the influence of exposure to environmental tobacco smoke. J Matern Fetal Neonatal Med, 2019:1-5. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/30700187</u>

Lee M, Ha M, Hong YC, Park H, Kim Y, et al. Exposure to prenatal secondhand smoke and early neurodevelopment: Mothers and children's environmental health (moceh) study. Environ Health, 2019; 18(1):22. Available from: https://www.ncbi.nlm.nih.gov/pubmed/30894196

Suzuki D, Wariki WMV, Suto M, Yamaji N, Takemoto Y, et al. Secondhand smoke exposure during pregnancy and mothers' subsequent breastfeeding outcomes: A systematic review and metaanalysis. Sci Rep, 2019; 9(1):8535. Available from: <u>https://www.ncbi.nlm.nih.gov/pubmed/31189894</u> Meng X, Sun Y, Duan W, and Jia C. Meta-analysis of the association of maternal smoking and passive smoking during pregnancy with neural tube defects. Int J Gynaecol Obstet, 2018; 140(1):18–25. Available from: https://www.ncbi.nlm.nih.gov/pubmed/28963797

Hung HJ, Chen CY, Wang SL, Wu TN, Lee CH, et al. Environmental tobacco smoke: Relationship to early pregnancy discomforts. Am J Health Behav, 2017; 41(3):320–8. Available from: https://www.ncbi.nlm.nih.gov/pubmed/28376976

Australian Institute of Health and Welfare. 2010 National Drug Strategy Household Survey: Survey report. Drug statistics series no. 25, AIHW cat. no. PHE 145.Canberra: AIHW, 2011. Available from: http://www.aihw.gov.au/publication-detail/?id=32212254712&libID=32212254712&tab=2.

Lee B, Hong Y, Park H, Ha M, Hyeong Kim J, et al. Secondhand smoke exposure during pregnancy and infantile neurodevelopment. Environment Research, 2011; [Epub ahead of print]. Available from: http://www.ncbi.nlm.nih.gov/pubmed/21397902

Fabry D, Davila E, Arheart K, Serdar B, Dietz N, et al. Secondhand smoke exposure and the risk of hearing loss. Tobacco Control, 2010; [Epub ahead of print]. Available from: http://tobaccocontrol.bmj.com/content/early/2010/10/14/tc.2010.035832.full?sid=34d61e02-a5ad-41b5-a1bb-9a9b3132ec47

Braun JM, Daniels JL, Poole C, Olshan AF, Hornung R, et al. Prenatal environmental tobacco smoke exposure and early childhood body mass index. Paediatric and Perinatal Epidemiology, 2010; 24(6):524–34. Available from: <u>http://onlinelibrary.wiley.com/doi/10.1111/j.1365-3016.2010.01146.x/full</u>

van der Heide F, Dijkstra A, Weersma R, Albersnagel F, van der Logt E, et al. Effects of active and passive smoking on disease course of crohn's disease and ulcerative colitis. Inflammatory Bowel Diseases, 2009; 15(8):1199–207. Available from: http://onlinelibrary.wiley.com/doi/10.1002/ibd.20884/full

Llewellyn DJ, Lang IA, Langa KM, Naughton F, and Matthews FE. Exposure to secondhand smoke and cognitive impairment in non-smokers: National cross sectional study with cotinine measurement. British Medical Journal, 2009; 338:b462. Available from: https://www.ncbi.nlm.nih.gov/pubmed/19213767

Eisner M. Passive smoking and cognitive impairment. BMJ (Clinical Research Ed.), 2009; 338:A3070. Available from:

http://www.bmj.com/cgi/content/full/338/feb12_2/a3070?view=long&pmid=19213764

Newman R, Momirova V, Dombrowski M, Schatz M, Wise R, et al. The effect of active and passive household cigarette smoke exposure on pregnant women with asthma. Chest, 2009; 137(3):601–8. Available from: <u>http://chestjournal.chestpubs.org/content/137/3/601.long</u>

Nishida N, Yamamoto Y, Tanaka M, Kataoka K, Kuboniwa M, et al. Association between involuntary smoking and salivary markers related to periodontitis: A 2-year longitudinal study. Journal of Periodontology, 2008; 79(12):2233–40. Available from: http://www.joponline.org/doi/abs/10.1902/jop.2008.080149 Jones D, Osterman M, Bewtra M, and Lewis J. Passive smoking and inflammatory bowel disease: A meta-analysis. American Journal of Gastroenterology, 2008; 103(9):2382–93. Available from: <a href="http://www.amjgastro.com/search/search.asp?SessionGUID="http://www.amjgastro.com/search/search.asp?SessionGUID="http://www.amjgastro.com/search/search.asp?SessionGUID="http://www.amjgastro.com/search/search.asp?SessionGUID="http://www.amjgastro.com/search/search.asp?SessionGUID="http://www.amjgastro.com/search/search.asp?SessionGUID="http://www.amjgastro.com/search/search.asp?SessionGUID="http://www.amjgastro.com/search/search.asp?SessionGUID="http://www.amjgastro.com/search/search.asp?SessionGUID="http://www.amjgastro.com/search/search.asp?SessionGUID="http://www.amjgastro.com/search/search.asp?SessionGUID="http://www.amjgastro.com/search/search.asp?SessionGUID="http://www.amjgastro.com/search/search.asp?SessionGUID="http://www.amjgastro.com/search/search.asp?SessionGUID="http://www.amjgastro.com/search/search.asp?SessionGUID="http://www.amjgastro.com/search/search.asp?SessionGUID="http://www.amjgastro.com/search/search.asp?SessionGUID="http://www.amjgastro.com/search/search.asp?SessionGUID="http://www.amjgastro.com/search/search.asp?SessionGUID="http://www.amjgastro.com/search.asp?SessionGUID="http://www.amjgastro.com/search.asp?SessionGUID="http://www.amjgastro.com/search.asp?SessionGUID="http://www.amjgastro.com/search.asp?SessionGUID="http://www.amjgastro.com/search.asp?SessionGUID="http://www.amjgastro.com/search.asp?SessionGUID="http://www.amjgastro.com/search.asp?SessionGUID="http://www.amjgastro.com/search.asp?SessionGUID="http://www.amjgastro.com/search.asp?SessionGUID="http://www.amjgastro.com/search.asp?SessionGUID="http://www.amjgastro.com/search.asp?SessionGUID="http://www.amjgastro.com/search.asp?SessionGUID="http://www.amjgastro.com/search.asp?SessionGUID="http://www.amjgastro.com/search.asp?SessionGUID="http://www.amjgastro.com/search.asp?SessionGUID="http://www.amjgastro.com/search.asp?SessionGUID="http

Ebers G. Passive smoking and replication. European Journal of Neurology, 2008; 15(12):1263–4. Available from: <u>http://www3.interscience.wiley.com/journal/121517400/abstract</u>

Dobson AR. Childhood exposure to smoke may increase risk of back pain in later life. BMJ (Clinical Research Ed.), 2004; 329:250. Available from: <u>http://www.bmj.com/cgi/content/full/329/7460/250</u>

4.16.7 Maternal secondhand smoke exposure and infant and child health

Salim, NZ, & Diab, BS. (2024). Pre and postnatal effect of maternal environmental tobacco smoke exposure on infant's growth parameters. *J Pak Med Assoc, 74*(10 (Supple-8)), S72-S75. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/39434276

Ye, H, Yang, X, & Hanna, F. (2023). The Impact of Prenatal Environmental Tobacco Smoking (ETS) and Exposure on Chinese Children: A Systematic Review. *Children (Basel), 10*(8). Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/37628353

News:

4.16 Secondhand smoke and pregnancy

No authors listed. Breastfeeding mothers stop nursing sooner when living with smokers. Bright Surf, 2018. Available from: <u>https://www.brightsurf.com/news/article/062718459908/breastfeeding-mothers-stop-nursing-sooner-when-living-with-smokers.html</u>

No authors listed. Nicotine exposure during pregnancy nearly twice as high as reported. Medical Xpress, 2016. Available from: <u>http://medicalxpress.com/news/2016-07-nicotine-exposure-pregnancy-high.html</u>

4.16.1 Fertility

4.16.2 Foetal growth and preterm delivery

listed Na. Pregnant women exposed to passive smoking deliver babies earlier - research. Guernsey Press, 2015. Available from: <u>http://guernseypress.com/news/uk-news/2015/11/24/pregnant-women-exposed-to-passive-smoking-deliver-babies-earlier-research/</u>

- 4.16.3 Lung development in the unborn child
- 4.16.4 Spontaneous abortion (miscarriage) and stillbirth

4.16.5 Birth defects

- 4.16.6 Other effects
- 4.16.7 Maternal secondhand smoke exposure and infant and child health