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Date: 21 January 2020

Sources Searched: Medline, Embase, CINAHL, BNI,

Effects of Poverty during the Perinatal Period

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1. Impact of environmental factors and poverty on pregnancy outcomes.

Author(s): Weck, Rebekah L; Paulose, Tessie; Flaws, Jodi A

Source: Clinical obstetrics and gynecology; Jun 2008; vol. 51 (no. 2); p. 349-359

Publication Date: Jun 2008

Publication Type(s): Research Support, Non-u.s. Gov't Research Support, N.i.h., Extramural Journal Article Review

PubMedID: 18463465

Available at [Clinical obstetrics and gynecology](#) - from Ovid (LWW Total Access Collection 2019 - with Neurology)

Abstract: Studies have indicated that various societal factors such as toxicant exposure, maternal habits, occupational hazards, psychosocial factors, socioeconomic status, racial disparity, chronic stress, and infection may impact pregnancy outcomes. These outcomes include spontaneous abortion, preterm birth, alterations in the development of the fetus, and long-term health of offspring. Although much is known about individual pregnancy outcomes, little is known about the associations between societal factors and pregnancy outcomes. This manuscript reviews some of the literature available on the effects of the above-mentioned societal factors on pregnancy outcomes and examines some potential remedies for preventing adverse pregnancy outcomes in the future.

Database: Medline

2. Poverty, near-poverty, and hardship around the time of pregnancy.

Author(s): Braveman, Paula; Marchi, Kristen; Egarter, Susan; Kim, Soowon; Metzler, Marilyn; Stancil, Tonya; Libet, Moreen

Source: Maternal and child health journal; Jan 2010; vol. 14 (no. 1); p. 20-35

Publication Date: Jan 2010

Publication Type(s): Journal Article Research Support, U.S. Gov't, P.h.s.

PubMedID: 19037715

Available at [Maternal and child health journal](#) - from SpringerLink - Medicine

Available at [Maternal and child health journal](#) - from ProQuest (Health Research Premium) - NHS Version

Abstract:To describe income levels and the prevalence of major hardships among women during or just before pregnancy. We separately analyzed 2002-2006 population-based postpartum survey data from California's Maternal and Infant Health Assessment (n = 18,332) and 19 states participating in CDC's Pregnancy Risk Assessment Monitoring System (n = 143,452) to examine income and several hardships (divorce/separation, domestic violence, homelessness, financial difficulties, spouse/partner's or respondent's involuntary job loss or incarceration, and, in California only, food insecurity and no social support) during/just before pregnancy. In both samples, over 30% of women were poor (income 400% FPL experienced one or more hardships. These findings paint a disturbing picture of experiences around the time of pregnancy in the United States for many women giving birth and their children, particularly because 60% had previous births. The high prevalence of low income and of serious hardships during pregnancy is of concern, given previous research documenting the adverse health consequences of these experiences and recognition of pregnancy as a critical period for health throughout the life course. Low income and major hardships around the time of pregnancy should be addressed as mainstream U.S. maternal-infant health and social policy issues.

Database: Medline

3. Poverty, Pregnancy, and Birth Outcomes: A Study of the Earned Income Tax Credit.

Author(s): Hamad, Rita; Rehkopf, David H

Source: Paediatric and perinatal epidemiology; Sep 2015; vol. 29 (no. 5); p. 444-452

Publication Date: Sep 2015

Publication Type(s): Research Support, N.i.h., Extramural Journal Article Review

PubMedID: 26212041

Available at [Paediatric and perinatal epidemiology](#) - from Wiley Online Library

Available at [Paediatric and perinatal epidemiology](#) - from Unpaywall

Abstract:BACKGROUND Economic interventions are increasingly recognised as a mechanism to address perinatal health outcomes among disadvantaged groups. In the US, the earned income tax credit (EITC) is the largest poverty alleviation programme. Little is known about its effects on perinatal health among recipients and their children. We exploit quasi-random variation in the size of EITC payments to examine the effects of income on perinatal health. METHODS The study sample includes women surveyed in the 1979 National Longitudinal Survey of Youth (n = 2985) and their children born during 1986-2000 (n = 4683). Outcome variables include utilisation of prenatal and postnatal care, use of alcohol and tobacco during pregnancy, term birth, birthweight, and breast-feeding status. We first examine the health effects of both household income and EITC payment size using multivariable linear regressions. We then employ instrumental variables analysis to estimate the causal effect of income on perinatal health, using EITC payment size as an instrument for household income. RESULTS We find that EITC payment size is associated with better levels of several indicators of perinatal health. Instrumental variables analysis, however, does not reveal a causal association between household income and these health measures. CONCLUSIONS Our findings suggest that associations between income and perinatal health may be confounded by unobserved characteristics, but that EITC income improves perinatal health. Future studies should continue to explore the impacts of economic interventions on perinatal health outcomes, and investigate how different forms of income transfers may have different impacts.

Database: Medline

4. Poverty during pregnancy: Its effects on child health outcomes.

Author(s): Larson, Charles P

Source: Paediatrics & child health; Oct 2007; vol. 12 (no. 8); p. 673-677

Publication Date: Oct 2007

Publication Type(s): Journal Article

PubMedID: 19030445

Available at [Paediatrics & child health](#) - from Europe PubMed Central - Open Access

Available at [Paediatrics & child health](#) - from Unpaywall

Abstract: It is estimated that nearly 100,000 children are born into poverty each year in Canada. During pregnancy, their mothers are likely to face multiple stressful life events, including lone-mother and teenage pregnancies, unemployment, more crowded or polluted physical environments, and far fewer resources to deal with these exposures. The early child health consequences of poverty and pregnancy are multiple, and often set a newborn child on a life-long course of disparities in health outcomes. Included are greatly increased risks for preterm birth, intrauterine growth restriction, and neonatal or infant death. Poverty has consistently been found to be a powerful determinant of delayed cognitive development and poor school performance. Behaviour problems among young children and adolescents are strongly associated with maternal poverty.

Sound evidence in support of policies and programs to reduce these disparities among the poor, including the role of health practitioners, is difficult to find. This is partly because many interventions and programs targeting the poor are not properly evaluated or critically appraised.

Database: Medline

5. Diet and deprivation in pregnancy.

Author(s): Haggarty, Paul; Campbell, Doris M; Duthie, Susan; Andrews, Katherine; Hoad, Gwen; Piyathilake, Chandrika; McNeill, Geraldine

Source: The British journal of nutrition; Nov 2009; vol. 102 (no. 10); p. 1487-1497

Publication Date: Nov 2009

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article

PubMedID: 19682400

Available at [The British journal of nutrition](#) - from ProQuest (Health Research Premium) - NHS Version

Available at [The British journal of nutrition](#) - from Unpaywall

Abstract:Deprivation is associated with poor pregnancy outcome but the role of nutrition as a mediating factor is not well understood. We carried out a prospective cohort study of 1461 singleton pregnancies in Aberdeen, UK during 2000-6. We measured nutrient intake and supplement use, B vitamin and homocysteine status, birth weight, gestational age, neonatal treatment and socio-economic deprivation status. Women in the most deprived deciles were approximately 6 years younger and half as likely to take folic acid supplements periconceptually as the least deprived mothers. Deprivation was associated with low blood folate, high homocysteine and diets low in protein, fibre and many of the vitamins and minerals. The diets of the more deprived women were also characterised by low intakes of fruit, vegetables and oily fish and higher intakes of processed meat, fried potatoes, crisps and snacks. Deprivation was related to preterm birth (OR 1.14 (95 % CI 1.03, 1.25); P = 0.009) and whether the baby required neonatal treatment (OR 1.07 (95 % CI 1.01, 1.14); P = 0.028). Low birth weight was more common in women consuming diets low in vitamin C (OR 0.79 (95 % CI 0.64, 0.97); P = 0.028), riboflavin (OR 0.77 (95 % CI 0.63, 0.93); P = 0.008), pantothenic acid (OR 0.79 (95 % CI 0.65, 0.97); P = 0.023) and sugars (OR 0.78 (95 % CI 0.64, 0.96); P = 0.017) even after adjustment for deprivation index, smoking, marital status and parity. Deprivation in pregnancy is associated with diets poor in specific nutrients and poor diet appears to contribute to inequalities in pregnancy outcome. Improving the nutrient intake of disadvantaged women of childbearing age may potentially improve pregnancy outcome.

Database: Medline

6. Area-level poverty and preterm birth risk: a population-based multilevel analysis.

Author(s): DeFranco, Emily A; Lian, Min; Muglia, Louis A; Schootman, Mario

Source: BMC public health; Sep 2008; vol. 8 ; p. 316

Publication Date: Sep 2008

Publication Type(s): Research Support, Non-u.s. Gov't Comparative Study Journal Article

PubMedID: 18793437

Available at [BMC public health](#) - from BioMed Central

Available at [BMC public health](#) - from SpringerLink - Medicine

Available at [BMC public health](#) - from Europe PubMed Central - Open Access

Available at [BMC public health](#) - from Unpaywall

Abstract:BACKGROUND Preterm birth is a complex disease with etiologic influences from a variety of social, environmental, hormonal, genetic, and other factors. The purpose of this study was to utilize a large population-based birth registry to estimate the independent effect of county-level poverty on preterm birth risk. To accomplish this, we used a multilevel logistic regression approach to account for multiple co-existent individual-level variables and county-level poverty rate. METHODS Population-based study utilizing Missouri's birth certificate database (1989-1997). We conducted a multilevel logistic regression analysis to estimate the effect of county-level poverty on PTB risk. Of 634,994 births nested within 115 counties in Missouri, two levels were considered. Individual-level variables included demographics factors, prenatal care, health-related behavioral risk factors, and medical risk factors. The area-level variable included the percentage of the population within each county living below the poverty line (US census data, 1990). Counties were divided into quartiles of poverty; the first quartile (lowest rate of poverty) was the reference group. RESULTS PTB < 35 weeks occurred in 24,490 pregnancies (3.9%). The rate of PTB < 35 weeks was 2.8% in counties within the lowest quartile of poverty and increased through the 4th quartile (4.9%), $p < 0.0001$. High county-level poverty was significantly associated with PTB risk. PTB risk (< 35 weeks) was increased for women who resided in counties within the highest quartile of poverty, adjusted odds ratio (adj OR) 1.18 (95% CI 1.03, 1.35), with a similar effect at earlier gestational ages (< 32 weeks), adj OR 1.27 (95% CI 1.06, 1.52). CONCLUSION Women residing in socioeconomically deprived areas are at increased risk of preterm birth, above other underlying risk factors. Although the risk increase is modest, it affects a large number of pregnancies.

Database: Medline

7. Socio-economic disparities in pregnancy outcome: why do the poor fare so poorly?

Author(s): Kramer, M S; Séguin, L; Lydon, J; Goulet, L

Source: Paediatric and perinatal epidemiology; Jul 2000; vol. 14 (no. 3); p. 194-210

Publication Date: Jul 2000

Publication Type(s): Journal Article Review

PubMedID: 10949211

Available at [Paediatric and perinatal epidemiology](#) - from Wiley Online Library

Abstract:In this paper, we review the evidence bearing on socio-economic disparities in pregnancy outcome, focusing on aetiological factors mediating the disparities in intrauterine growth restriction (IUGR) and preterm birth. We first summarise what is known about the attributable determinants of IUGR and preterm birth, emphasising their quantitative contributions (aetiological fractions) from a public health perspective. We then review studies relating these determinants to socio-economic status and, combined with the evidence about their aetiological fractions, reach some tentative conclusions about their roles as mediators of the socio-economic disparities. Cigarette smoking during pregnancy appears to be the most important mediating factor for IUGR, with low gestational weight gain and short stature also playing substantial roles. For preterm birth, socio-economic gradients in bacterial vaginosis and cigarette smoking appear to explain some of the socio-economic disparities; psychosocial factors may prove even more important, but their aetiological links with preterm birth require further clarification. Research that identifies and quantifies the causal pathways and mechanisms whereby social disadvantage leads to higher risks of IUGR and preterm birth may eventually help to reduce current disparities and improve pregnancy outcome across the entire socio-economic spectrum.

Database: Medline

8. Poor mothers, unhealthy children: the transmission of health inequalities in the INMA study, Spain.

Author(s): Larrañaga, Isabel; Santa-Marina, Loreto; Molinuevo, Amaia; Álvarez-Pedrerol, Mar; Fernández-Somoano, Ana; Jimenez-Zabala, Ana; Rebagliato, Marisa; Rodríguez-Bernal, Clara L; Tardón, Adonina; Vrijheid, Martine; Ibarluzea, Jesús

Source: European Journal of Public Health; Jun 2019; vol. 29 (no. 3); p. 568-574

Publication Date: Jun 2019

Publication Type(s): Academic Journal

Available at [European Journal of Public Health](#) - from Oxford Journals - Medicine

Abstract:Background The health of pregnant women and their fetuses are especially sensitive to socioeconomic conditions. This study analyzes the impact of maternal socioeconomic status (SES), evaluated by occupation and maternal education level, in preterm births (PTBs) and in small for gestational age (SGA) fetuses, considering the effect of the potential mediating factors on the SES and birth outcomes. Methods A total of 2497 mother/newborn dyads from the INMA-Spain project were studied. We examined maternal occupation and education in relation to PTB and SGA along with covariate data, using logistic regression analysis. Adjusted models for each of the outcome variables in relation to SES indicators were estimated, considering potential mediating factors. Results About 4.7% of babies were PTB and 9.7% SGA. Full adjusted logistic regression models showed similar odds ratio (OR) for SGA in both SES indicators. Manual working women or without university studies had higher risk of SGA than their counterpart groups (OR = 1.39% CI = 1.03–1.88 and OR = 1.39% CI = 1.00–2.00, respectively). Likewise, mothers with a manual occupation were at more risk of PTB than those with a non-manual occupation (OR = 1.74 95% CI = 1.13–2.74), but there

was no association between education and PTB. Smoking, pre-pregnancy BMI and underweight gain during pregnancy were significantly associated to SGA births. The mother's age, presence of complications and overweight gain during pregnancy were related to PTB. Conclusion The mother's socioeconomic disadvantage was consistently associated with birth outcomes giving rise to intergenerational transmission of health inequalities. Reducing inequalities requires eliminating the upstream causes of poverty itself.

Database: CINAHL

9. The experiences of socioeconomically disadvantaged postpartum women in the first 4 weeks at home.

Author(s): Kurtz Landy C; Sword W; Valaitis R

Source: Qualitative Health Research; Feb 2009; vol. 19 (no. 2); p. 194-206

Publication Date: Feb 2009

Publication Type(s): Academic Journal

PubMedID: NLM19095894

Abstract:We used a qualitative descriptive approach to explore and describe the situated experiences of socioeconomically disadvantaged (SED) postpartum women in the first 4 weeks after hospital discharge. Qualitative content analysis was used to analyze the data from in-depth interviews with 24 SED postpartum women. Two intertwining, overarching themes emerged: (a) the ongoing burden of their day-to-day lives, with subthemes of poverty and material deprivation, stigmatization through living publicly examined lives, and precarious social support; and (b) the ongoing struggles to adjust to changes that came with the baby's arrival, with subthemes of 'the first weeks were hard,' 'feeling out of control,' 'absence of help at home,' 'complex relationship with the baby's father,' and 'health and well-being.' Knowledge of SED women's situated experiences is vital to the development of health policies and services that will truly meet their needs.

Database: CINAHL

10. The effect of neighbourhood income and deprivation on pregnancy outcomes in Amsterdam, The Netherlands.

Author(s): Agyemang C; Vrijkotte TGM; Droomers M; van der Wal MF; Bonsel GJ; Stronks K

Source: Journal of Epidemiology & Community Health; Sep 2009; vol. 63 (no. 9); p. 755-760

Publication Date: Sep 2009

Publication Type(s): Academic Journal

PubMedID: NLM19679715

Available at [Journal of epidemiology and community health](#) - from BMJ Journals - NHS

Available at [Journal of epidemiology and community health](#) - from ProQuest (Health Research Premium) - NHS Version

Available at [Journal of epidemiology and community health](#) - from Unpaywall

Abstract:BACKGROUND: Studies suggest that the neighbourhoods in which people live influence their health. The main objective of this study was to investigate the associations of neighbourhood-level income and unemployment/social security benefit on pregnancy outcomes: preterm delivery, small for gestational age (SGA), pregnancy-induced hypertension (PIH) and miscarriage/perinatal death in Amsterdam. METHODS: A random sample of 7883 from 82 neighbourhoods in Amsterdam. Individual-level data from the Amsterdam Born Children and their Development (ABCD) study were linked to data on neighbourhood-level factors. Multilevel logistic regression was used to estimate odds ratios and neighbourhood-level variance. RESULTS: After adjustment for individual-level factors, women living in low-income neighbourhoods (third, second and first quartiles) were more likely than women living in high-income neighbourhoods (fourth quartile) to have SGA births: OR 1.32 (95% CI 1.04 to 1.68), 1.42 (1.11 to 1.82) and 1.62 (1.25 to 2.08) respectively. Women living in the quartile of neighbourhoods with the highest unemployment/social security benefit were more likely than those living in the quartile with the lowest unemployment/social security benefit to have SGA births 1.36 (1.08 to 1.72). The neighbourhood-level variance was significant only for SGA births. No significant associations were found between neighbourhood-level factors and other pregnancy outcomes. CONCLUSION: The findings suggest that neighbourhood income and deprivation are related to SGA births. More research is needed to explore possible mechanisms underlying poor neighbourhood environment and pregnancy outcomes, in particular through stress mechanisms. Such information might be necessary to help improve maternal and fetal health.

Database: CINAHL

11. Economic Downturns and Inequities in Birth Outcomes: Evidence From 149 Million US Births.

Author(s): Noelke, Clemens; Chen, Yu-Han; Osypuk, Theresa L; Acevedo-Garcia, Dolores

Source: American Journal of Epidemiology; Jun 2019; vol. 188 (no. 6); p. 1092-1100

Publication Date: Jun 2019

Publication Type(s): Academic Journal

Available at [American journal of epidemiology](#) - from Oxford Journals - Medicine

Abstract:Using birth certificate data for nearly all registered US births from 1976 to 2016 and monthly data on state unemployment rates, we reexamined the link between macroeconomic variation and birth outcomes. We hypothesized that economic downturns reduce exposure to work-related stressors and pollution while increasing exposure to socioeconomic stressors like job loss. Because of preexisting inequalities in health and other resources, we expected that less-educated mothers and black mothers would be more exposed to macroeconomic variation. Using fixed-effect regression models, we found that a 1-percentage-point increase in state unemployment during the first trimester of pregnancy increased the probability of preterm birth by 0.1 percentage points, while increases in the state unemployment rate during the second/third trimester reduced the probability of preterm birth by 0.06 percentage points. During the period encompassing the Great Recession, the magnitude of these associations doubled in size. We found substantial variation in the impact of economic conditions across different groups, with highly educated white women least affected and less-educated black women most affected. The results highlight the increased relevance of economic conditions for birth outcomes and population health as well as continuing, large inequities in the exposure and impact of macroeconomic fluctuations on birth outcomes.

Database: CINAHL

12. Economic conditions during pregnancy and preterm birth: A maternal fixed-effects analysis.

Author(s): Margerison, Claire E.; Luo, Zhehui; Li, Yu

Source: Paediatric & Perinatal Epidemiology; Mar 2019; vol. 33 (no. 2); p. 154-161

Publication Date: Mar 2019

Publication Type(s): Academic Journal

PubMedID: NLM30675915

Available at [Paediatric and Perinatal Epidemiology](#) - from Wiley Online Library

Abstract:Background: Making causal inference regarding impacts of macrolevel economic conditions during pregnancy on pregnancy outcomes is hampered by the presence of unmeasured variables that may influence women's probability of giving birth under certain economic conditions (ie, exposure) as well as her pregnancy outcomes. Maternal fixed-effects (FE) analyses, in which the association between exposure and outcomes is estimated within mothers who had discordant outcomes, can control for such unmeasured variables when they are invariant across pregnancies.Methods: We utilised a maternally linked data set of all singleton births in Michigan from 1990 to 2012 (n = 2 657 272 for full sample; n = 269 943 for FE analytic sample) to examine the relationship between state-level unemployment rates during pregnancy and preterm birth (PTB, <37 weeks' gestation). Measured maternal characteristics that change across pregnancies, for example, age, marital status, education, parity, and infant sex, were included as covariates in the model.Results: Using an FE approach, we found that each one percentage point increase in state unemployment in the first trimester of pregnancy was associated with a modest 3% increase in odds of PTB. Our results were consistent with previously published results in a national sample and held across random- versus fixed-effect models, analytic samples, and outcome measures.Conclusions:

Our findings provide further evidence that economic downturn during early pregnancy may be associated with modest increases in PTB.

Database: CINAHL

13. Economic Conditions During Pregnancy and Adverse Birth Outcomes Among Singleton Live Births in the United States, 1990-2013.

Author(s): Margerison-Zilko, Claire E.; Yu Li; Zhehui Luo

Source: American Journal of Epidemiology; Nov 2017; vol. 186 (no. 10); p. 1131-1139

Publication Date: Nov 2017

Publication Type(s): Academic Journal

Available at [American journal of epidemiology](#) - from Oxford Journals - Medicine

Available at [American journal of epidemiology](#) - from HighWire - Free Full Text

Available at [American journal of epidemiology](#) - from Unpaywall

Abstract:We know little about the relationship between the macroeconomy and birth outcomes, in part due to the methodological challenge of distinguishing effects of economic conditions on fetal health from effects of economic conditions on selection into live birth. We examined associations between state-level unemployment rates in the first 2 trimesters of pregnancy and adverse birth outcomes, using natality data on singleton live births in the United States during 1990-2013. We used fixed-effect logistic regression models and accounted for selection by adjusting for state-level unemployment before conception and maternal characteristics associated with both selection and birth outcomes. We also tested whether associations between macroeconomic conditions and birth outcomes differed during and after (compared with before) the Great Recession (2007-2009). Each 1 -percentage-point increase in the first-trimester unemployment rate was associated with a 5% increase in odds of preterm birth, while second-trimester unemployment was associated with a 3% decrease in preterm birth odds. During the Great Recession, however, first-trimester unemployment was associated with a 16% increase in odds of preterm birth. These findings increase our understanding of the effects of the Great Recession on health and add to growing literature suggesting that macro-level social and economic factors contribute to perinatal health.

Database: CINAHL

14. Spontaneous Pregnancy Loss in Denmark Following Economic Downturns.

Author(s): Bruckner, Tim A.; Mortensen, Laust H.; Catalano, Ralph A.

Source: American Journal of Epidemiology; Apr 2016; vol. 183 (no. 8); p. 701-708

Publication Date: Apr 2016

Publication Type(s): Academic Journal

Available at [American journal of epidemiology](#) - from Oxford Journals - Medicine

Abstract:An estimated 11%-20% of clinically recognized pregnancies result in spontaneous abortion. The literature finds elevated risk of spontaneous abortion among women who report adverse financial life events. This work suggests that, at the population level, national economic decline--an ambient and plausibly unexpected stressor--will precede an increase in spontaneous abortion. We tested this hypothesis using high-quality information on pregnancy and spontaneous loss for all women in Denmark. We applied time-series methods to monthly counts of clinically detected spontaneous abortions (n= 157,449) and the unemployment rate in Denmark beginning in January 1995 and ending in December 2009. Our statistical methods controlled for temporal patterns in spontaneous abortion (e.g., seasonality, trend) and changes in the population of pregnancies at risk of loss. Unexpected increases in the unemployment rate preceded by 1 month a rise in the number of spontaneous abortions ($\beta = 33.19$ losses/ month, 95% confidence interval: 8.71, 57.67). An attendant analysis that used consumption of durable household goods as an indicator of financial insecurity supported the inference from our main test. Changes over time in elective abortions and in the cohort composition of high-risk pregnancies did not account for results. It appears that in Denmark, ambient stressors as common as increasing unemployment may precede a population-level increase in spontaneous abortion.

Database: CINAHL

15. Economic contraction and maternal health behaviors during pregnancy in a national sample of U.S. women.

Author(s): Margerison-Zilko, Claire

Source: Annals of Epidemiology; Jun 2014; vol. 24 (no. 6); p. 432-440

Publication Date: Jun 2014

Publication Type(s): Academic Journal

PubMedID: NLM24703197

Available at [Annals of Epidemiology](#) - from Unpaywall

Abstract:**Purpose:** The purpose of this study was to examine associations between maternal exposure to unexpected economic contraction and health behaviors during pregnancy using methods to account for impacts of economic contraction on selection into pregnancy.**Methods:** Data on health behaviors among 7074 pregnancies in the National Longitudinal Survey of Youth 1979 were linked to monthly unemployment rates in maternal state of residence. The study examined associations between exposure to unexpected economic contraction (higher than expected state-level unemployment) during each trimester of pregnancy and maternal smoking, alcohol use, and gestational weight gain using generalized linear models.**Results:** Economic contraction was not associated with maternal smoking or gestational weight gain. Associations between economic contraction and maternal alcohol use differed by maternal race-ethnicity and education. Among black-non-Hispanic women, exposures to economic contraction during the first and second trimester of pregnancy were associated with a 42% (95% confidence interval, 1.08, 1.85) and 33% (95% confidence interval, 1.01, 1.74) increased risk of alcohol use, respectively.**Conclusions:** Findings suggest that exposure to extreme economic contraction during pregnancy may be associated with

increased use of alcohol with differences by maternal race-ethnicity and educational attainment. Economic contraction was not associated with other maternal pregnancy behaviors.

Database: CINAHL

16. Is socio-economic status associated with adverse birth outcomes in Poland?

Author(s): Genowska, Agnieszka; Fryc, Justyna; Szpak, Andrzej; Tyszko, Piotr

Source: Annals of agricultural and environmental medicine : AAEM; Jun 2019; vol. 26 (no. 2); p. 369-374

Publication Date: Jun 2019

Publication Type(s): Journal Article

PubMedID: 31232073

Available at [Annals of agricultural and environmental medicine : AAEM](#) - from Free Medical Journals . com

Available at [Annals of agricultural and environmental medicine : AAEM](#) - from Unpaywall

Abstract:INTRODUCTIONLow birth weight (LBW) is an important indicator of the healthy of the population and reflects the living conditions, health and health behaviours of pregnant women.OBJECTIVETo assess the relationship between Gross Enrollment Rate at the Tertiary Education Level, average salary, Gross Domestic Product per capita, unemployment, housing area, urbanization and low birth weight in Polish sub-regions.MATERIAL AND METHODSAn ecological study was undertaken using data on socio-economic and demographic features and LBW in 2005-2014. The units of observation were 66 Polish sub-regions according to the NUTS-3 classification. Two models were used to assess the influence of SES variables on LBW incidence rate in a 10-year study period. The first was the Poisson regression model adjusted for density of population, which was followed by the multivariable model using the GEE method of model parameters estimation.RESULTSIn Poland, significant slow changes in the LBW incidence rate were observed in 2005-2014 (AAPC = -0.44%/year). In model 1, the increase in LBW was associated with an increase in unemployment (1.005) and decrease of average salary (0.987), GERTEL (0.990) and housing area (0.991). In model 2, an unfavorable association was detected between the density of population (1.068) and a still existing relationship with unemployment (1.004), average salary (0.990) and GERTEL (0.991).CONCLUSIONSProtective factors for newborns' health were a higher level of education and income. The results indicate the need to take actions to reduce the risk factors of LBW among pregnant women living in densely populated areas.

Database: Medline

17. Unemployment and pregnancy outcomes: a study within the Danish National Birth Cohort.

Author(s): Morales-Suárez-Varela, Maria; Kaerlev, Linda; Zhu, Jin Liang; Bonde, Jens P; Nohr, Ellen A; Llopis-González, Agustín; Gimeno-Clemente, Natalia; Olsen, Jørn

Source: Scandinavian journal of public health; Jul 2011; vol. 39 (no. 5); p. 449-456

Publication Date: Jul 2011

Publication Type(s): Research Support, Non-u.s. Gov't Comparative Study Journal Article

PubMedID: 21558297

Abstract:AIMSTo explore the relation between employment status, type of unemployment and pregnancy outcomes.METHODSA cohort study of 7,282 pregnancies of unemployed women and 56,014 pregnancies among women in paid jobs was performed within the Danish National Birth Cohort. Pregnancy outcomes were ascertained and information about lifestyle, occupational, medical, and obstetric factors was obtained. Logistic regression was used to calculate odds ratios (OR) for fetal loss, congenital anomalies, multiple births, sex ratio, preterm and very preterm birth and small for gestational age status, adjusting for lifestyle, medical and obstetric factors.RESULTSThere were no differences in pregnancy outcomes between employed and unemployed women but women receiving unemployment benefit had an increased risk of preterm birth (adjusted OR (aOR) 1.16, 95% confidence interval (95% CI) 1.03-1.31) and having a small for gestational age child (aOR 1.08, 95% CI 1.00-1.19) compared with employed women. Women receiving sickness or maternity benefit had an increased risk of multiple birth (aOR 1.70, 95% CI 1.43-2.04), preterm (aOR 1.47, 95% CI 1.22-1.77) and very preterm birth (aOR 1.88, 95% CI 1.22-2.89), while those receiving an unreported type of support had an increased risk of preterm birth (aOR 1.40, 95% CI 1.02-1.93).CONCLUSIONSWe found no indication that being unemployed during pregnancy benefits or endangers the health of the child. Within the subgroups of unemployed women, we observed that women receiving unemployment and sickness or maternity benefits were at higher risk for some adverse pregnancy outcomes.

Database: Medline

18. Does unemployment in family affect pregnancy outcome in conditions of high quality maternity care?

Author(s): Raatikainen, Kaisa; Heiskanen, Nonna; Heinonen, Seppo

Source: BMC public health; Feb 2006; vol. 6 ; p. 46

Publication Date: Feb 2006

Publication Type(s): Journal Article

PubMedID: 16504118

Available at [BMC public health](#) - from BioMed Central

Available at [BMC public health](#) - from SpringerLink - Medicine

Available at [BMC public health](#) - from Europe PubMed Central - Open Access

Abstract:BACKGROUNDThe influence of unemployment in the family on pregnancy outcome is controversial. Only a few studies have involved investigation of the effect of unemployment of the father on pregnancy. The objective of this study was to assess the effects of unemployment of one or both parents on obstetric outcome in conditions of free antenatal care attended by the entire pregnant population.METHODSThe data of 24,939 pregnancies included maternal risk factors, pregnancy characteristics and outcome, and was based on a self administered questionnaire at 20 weeks of pregnancy and on clinical records.RESULTSUnemployment was associated with adolescent maternal age, unmarried status and overweight, anemia, smoking, alcohol consumption and prior pregnancy terminations. Multivariate logistic regression analysis indicated that after controlling for

these maternal risk factors small differences only were found in pregnancy outcomes between unemployed and employed families. Unemployed women had significantly more often small-for-gestational-age (SGA) infants, at an OR of 1.26 (95% CI: 1.12-1.42) whereas, in families where both parents were unemployed, the risk of SGA was even higher at an OR of 1.43 (95% CI: 1.18-1.73). Otherwise, pregnancy outcome was comparable in the groups studied. CONCLUSION Free antenatal care was unable to fully overcome the adverse pregnancy outcomes associated with unemployment, SGA risk being highest when both parents are unemployed.

Database: Medline

19. Pathways of neighbourhood-level socio-economic determinants of adverse birth outcomes.

Author(s): Meng, Gang; Thompson, Mary E; Hall, G Brent

Source: International journal of health geographics; Jun 2013; vol. 12 ; p. 32

Publication Date: Jun 2013

Publication Type(s): Journal Article

PubMedID: 23786633

Available at [International journal of health geographics](#) - from BioMed Central

Available at [International journal of health geographics](#) - from SpringerLink - Medicine

Available at [International journal of health geographics](#) - from ProQuest (Health Research Premium) - NHS Version

Abstract: BACKGROUND Although socio-economic factors have been identified as one of the most important groups of neighbourhood-level risks affecting birth outcomes, uncertainties still exist concerning the pathways through which they are transferred to individual risk factors. This poses a challenge for setting priorities and developing appropriate community-oriented public health interventions and planning guidelines to reduce the level of adverse birth outcomes. METHOD This study examines potential direct and mediated pathways through which neighbourhood-level socio-economic determinants exert their impacts on adverse birth outcomes. Two hypothesized models, namely the materialist and psycho-social models, and their corresponding pathways are tested using a binary-outcome multilevel mediation analysis. Live birth data, including adverse birth outcomes and person-level exposure variables, were obtained from three public health units in the province of Ontario, Canada. Corresponding neighbourhood-level socio-economic, psycho-social and living condition variables were extracted or constructed from the 2001 Canadian Census and the first three cycles (2001, 2003, and 2005) of the Canadian Community Health Surveys. RESULTS Neighbourhood-level socio-economic-related risks are found to have direct effects on low birth weight and preterm birth. In addition, 20-30% of the total effects are contributed by indirect effects mediated through person-level risks. There is evidence of four person-level pathways, namely through individual socio-economic status, psycho-social stress, maternal health, and health behaviours, with all being simultaneously at work. Psycho-social pathways and buffering social capital-related variables are found to have more impact on low birth weight than on preterm birth. CONCLUSION The evidence supports both the materialist and psycho-social conceptualizations and the pathways that describe them, although the magnitude of the former is greater than the latter.

Database: Medline

20. Investigating socio-economic disparities in preterm birth: evidence for selective study participation and selection bias.

Author(s): Kramer, Michael S; Wilkins, Russell; Goulet, Lise; Séguin, Louise; Lydon, John; Kahn, Susan R; McNamara, Helen; Dassa, Clément; Dahhou, Mourad; Masse, André; Miner, Louise; Asselin, Guylaine; Gauthier, Henriette; Ghanem, Antoinette; Benjamin, Alice; Platt, Robert W; Montreal Prematurity Study Group

Source: Paediatric and perinatal epidemiology; Jul 2009; vol. 23 (no. 4); p. 301-309

Publication Date: Jul 2009

Publication Type(s): Research Support, Non-u.s. Gov't Multicenter Study Journal Article

PubMedID: 19523077

Available at [Paediatric and perinatal epidemiology](#) - from Wiley Online Library

Abstract: Selective study participation can theoretically lead to selection bias. We explored this issue in the context of a multicentre cohort study of socio-economic disparities in preterm birth. Women with singleton pregnancies were recruited from four large Montreal maternity hospitals and invited to return for an interview, vaginal examination and venepuncture at 24-26 weeks of gestation. We compared the observed preterm birth rate (ultrasound confirmed) among the 5146 cohort women to that expected based on all 108 724 Montreal Census Metropolitan Area (CMA) singleton births for 1998-2000. The observed preterm birth rate in the study cohort was 5.1%, compared with 6.3% in the CMA ($P < 0.001$) (unadjusted morbidity ratio [95% CI] = 0.80 [0.71, 0.90]). Within each stratum of maternal education and neighbourhood income (the latter based on postal code matched links to the 2001 Canadian census), cohort women had substantially lower rates of preterm birth than women from the CMA. No significant association between socio-economic status (SES) and preterm birth was observed in the study cohort, except among 'indicated' (non-spontaneous) cases. The association between neighbourhood income and preterm birth was biased to the null in the study cohort, with adjusted odds ratios in the poorest vs. richest quintiles of 1.01 [0.63, 1.64] in the cohort vs. 1.28 [1.18, 1.39] in the CMA, although no such bias was observed for the association with maternal education assessed at the individual level. We speculate that the lower-than-expected preterm birth rate and attenuated association between neighbourhood income and preterm birth may be related to selective participation by women more psychologically invested in their pregnancies. Investigators should consider the potential for biased associations in pregnancy/birth cohort studies, especially associations based on SES or race/ethnicity, and carry out sensitivity analyses to gauge their effects.

Database: Medline

21. Obstetrical and neonatal outcome in young adolescents of low socio-economic status: a case control study.

Author(s): Hidalgo, Luis A; Chedraui, Peter A; Chávez, María J

Source: Archives of gynecology and obstetrics; Mar 2005; vol. 271 (no. 3); p. 207-211

Publication Date: Mar 2005

Publication Type(s): Journal Article

PubMedID: 15029506

Available at [Archives of gynecology and obstetrics](#) - from SpringerLink - Medicine

Abstract:OBJECTIVEThe purpose of this study was to determine obstetrical and neonatal outcome among early adolescent pregnancies (< or =15 years).METHODWe compared obstetrical and neonatal outcome of early adolescent nulliparas with outcome of nulliparous women aged 20-30 years.RESULTSTwo hundred and one (201) early adolescent nulliparous patients of low socio-economic status were enrolled at the Enrique C. Sotomayor Obstetrics and Gynecology Hospital, Guayaquil-Ecuador, and matched for gestational age with 201 low socio-economic nulliparous controls aged 20-30. Mean maternal age of the adolescent group was 14.2+/-0.6 years. The incidence of cervicovaginal infections during current pregnancy was significantly higher among adolescents (trichomoniasis: 11.4% vs. 5% and candidiasis: 27.8% vs. 12.4%, p<0.05). The incidence of eclampsia was higher in adolescents (2.5% vs. 0%, p<0.05). The preterm rate in each group was 4.9%. There were no differences in labor characteristics and the rate of cesarean section, labor complications and abnormal puerperium between both studied groups. Nevertheless, mean neonatal weight was lower and the incidence of low birth weight infants (<2,500 g) and adverse neonatal outcome was significantly higher in the adolescent group (2,837.6+/-454 g vs. 3,017+/-547 g; 19.9% vs. 11.4% [OR=1.92, 95% CI: 1-3.5] and 9.5% vs. 3.5% [OR=2.9, 95% CI: 1.1-7.7] respectively, p<0.05).CONCLUSIONPregnancy in young adolescents (< or =15 years) of low socio-economic status did not impose adverse obstetrical outcome, however it did increase the risk for low birth weight, adverse neonatal outcome and cervicovaginal infections.

Database: Medline

22. The association of low socio-economic status in metropolitan Adelaide with maternal demographic and obstetric characteristics and pregnancy outcome.

Author(s): Jonas, O; Roder, D; Chan, A

Source: European journal of epidemiology; Sep 1992; vol. 8 (no. 5); p. 708-714

Publication Date: Sep 1992

Publication Type(s): Journal Article

PubMedID: 1426171

Available at [European journal of epidemiology](#) - from SpringerLink - Medicine

Abstract:The South Australian perinatal statistics collection for 1988 was used to consider the association of low socio-economic status in metropolitan Adelaide (South Australia) with maternal demographic and obstetric characteristics and pregnancy outcome in 12047 singleton births. Socio-economic status--low, middle or high--was inferred from the socio-economic rating of the postcode of residence. Chi-squared analyses were carried out to test for significant trends in proportions of pregnancy and pregnancy outcome variables across the socio-economic groupings. There was trend for the proportions of adverse obstetric and perinatal outcomes to decrease with increasing level of socio-economic status. Logistic regression analysis, adjusted for maternal age, marital status, race, parity and gestational age, confirmed the findings of the trend analyses, namely that mothers from the poor socio-economic areas were at a greater risk for poor pregnancy outcome. These poor outcomes included Apgar scores of less than 7 at both 1 and 5 minutes after birth, delay in onset of regular breathing of 5 minutes or longer; the need for intubation; the use of narcotic antagonists; low birthweight of under 2500 g; the need for special nursery care; and neonatal death.

Database: Medline

23. Socioeconomic differences in perinatal health and disease.

Author(s): Mortensen, Laust Hvas; Helweg-Larsen, Karin; Andersen, Anne-Marie Nybo

Source: Scandinavian journal of public health; Jul 2011; vol. 39 (no. 7)

Publication Date: Jul 2011

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article Review

PubMedID: 21775367

Available at [Scandinavian journal of public health](#) - from Unpaywall

Abstract:INTRODUCTIONThe Danish Medical Birth Register has been used extensively in conjunction with other national registers to examine different aspects of socioeconomic differences in perinatal health outcomes. Here, we review some recent findings.RESEARCH TOPICSSocioeconomic differences were observed in stillbirth, preterm birth, birthweight, congenital anomalies, and infant death. The patterns varied according to the health outcome and measure of socioeconomic position, but also according to the time period and the country under study. Our review also shows how many different strategies have been used to examine the influence of socioeconomic factors on perinatal health.CONCLUSIONDanish register data is an invaluable source of information on socioeconomic differences in perinatal health. Danish registers continue to provide excellent opportunities for research and surveillance in this area.

Database: Medline

24. SOCIOECONOMIC STATUS AND ADVERSE BIRTH OUTCOMES: A POPULATION-BASED CANADIAN SAMPLE.

Author(s): Campbell, Emily E; Gilliland, Jason; Dworatzek, Paula D N; De Vrijer, Barbra; Penava, Debbie; Seabrook, Jamie A

Source: Journal of biosocial science; Jan 2018; vol. 50 (no. 1); p. 102-113

Publication Date: Jan 2018

Publication Type(s): Journal Article

PubMedID: 28270256

Available at [Journal of biosocial science](#) - from ProQuest (Health Research Premium) - NHS Version

Abstract: This study assessed the strength of the association between socioeconomic status (SES) and low birth weight (LBW) and preterm birth (PTB) in Southwestern Ontario. Utilizing perinatal and neonatal databases at the London Health Science Centre, maternal postal codes were entered into a Geographic Information System to determine home neighbourhoods. Neighbourhoods were defined by dissemination areas (DAs). Median household income for each DA was extracted from the latest Canadian Census and linked to each mother. All singleton infants born between February 2009 and February 2014 were included. Of 26,654 live singleton births, 6.4% were LBW and 9.7% were PTB. Top risk factors for LBW were: maternal amphetamine use, chronic hypertension and maternal marijuana use (OR respectively: 17.51, 3.18, 2.72); previously diagnosed diabetes, maternal narcotic use and insulin-controlled gestational diabetes predicted PTB (OR respectively: 17.95, 2.69, 2.42). Overall, SES had little impact on adverse birth outcomes, although low maternal education increased the likelihood of a LBW neonate (OR: 1.01).

Database: Medline

25. Income inequality, parental socioeconomic status, and birth outcomes in Japan.

Author(s): Fujiwara, Takeo; Ito, Jun; Kawachi, Ichiro

Source: American journal of epidemiology; May 2013; vol. 177 (no. 10); p. 1042-1052

Publication Date: May 2013

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article

PubMedID: 23576676

Available at [American journal of epidemiology](#) - from Oxford Journals - Medicine

Available at [American journal of epidemiology](#) - from HighWire - Free Full Text

Abstract: The purpose of this study was to investigate the impact of income inequality and parental socioeconomic status on several birth outcomes in Japan. Data were collected on birth outcomes and parental socioeconomic status by questionnaire from Japanese parents nationwide ($n = 41,499$) and then linked to Gini coefficients at the prefectural level in 2001. In multilevel analysis, z scores of birth weight for gestational age decreased by 0.018 (95% confidence interval (CI): -0.029, -0.006) per 1-standard-deviation (0.018-unit) increase in the Gini coefficient, while gestational age at delivery was not associated with the Gini coefficient. For dichotomous outcomes, mothers living in prefectures with middle and high Gini coefficients were 1.24 (95% CI: 1.05, 1.47) and 1.23 (95% CI: 1.02, 1.48) times more likely, respectively, to deliver a small-for-gestational-age infant than mothers living in more egalitarian prefectures (low Gini coefficients), although preterm births were not significantly associated with income distribution. Parental educational level, but not household income, was significantly associated with the z score of birth weight for gestational age and small-for-gestational-age status. Higher income inequality at the prefectural level and parental educational level, rather than household income, were associated with intrauterine growth but not with shorter gestational age at delivery.

Database: Medline

26. Socioeconomic gradients and low birth-weight: empirical and policy considerations.

Author(s): Finch, Brian Karl

Source: Health services research; Dec 2003; vol. 38 (no. 6); p. 1819-1841

Publication Date: Dec 2003

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article

PubMedID: 14727799

Available at [Health services research](#) - from Europe PubMed Central - Open Access

Available at [Health services research](#) - from PubMed

Available at [Health services research](#) - from Unpaywall

Abstract:OBJECTIVETo examine whether socioeconomic status (SES) gradients emerge in health outcomes as early as birth and to examine the magnitude, potential sources, and explanations of any observed SES gradients.DATA SOURCEThe National Maternal and Infant Health Survey conducted in 1988.STUDY DESIGNA multinomial logistic regression of trichotomized birth-weight categories was conducted for normal birth-weight (2,500-5,500 grams), low birth-weight (LBWT; < 2,500 grams). Key variables included income, education, occupational grade, state-level income inequality, and length of participation in Women-Infants-Children (WIC) for pregnant mothers.PRINCIPAL FINDINGSA socioeconomic gradient for low birth-weight was discovered for an adjusted household income measure, net of all covariates in the unrestricted models. A gross effect of maternal education was explained by maternal smoking behaviors, while no effect of occupational grade was observed, net of household income. There were no significant state-level income inequality effects (Gini coefficient) for any of the models. In addition, participation in WIC was discovered to substantially flatten income gradients for short-term participants and virtually eliminate an income gradient among long-term participants.CONCLUSIONSAlthough a materialist explanation for early-life SES gradients seems the most plausible (vis-à-vis psychosocial and occupational explanations), more research is needed to discover potential interventions. In addition, the notion of a monotonic gradient in which income is salutary across the full range of the distribution is challenged by these data such that income may cease to be beneficial after a given threshold. Finally, the success of WIC participation in flattening SES gradients argues for either: (a) the experimental efficacy of WIC, or (b) the biasing selection characteristics of WIC participants; either conclusion suggests that interventions or characteristics of participants deserves further study as a potential remedy for socioeconomic disparities in early-life health outcomes such as LBWT.

Database: Medline

27. Socioeconomic factors and adolescent pregnancy outcomes: distinctions between neonatal and post-neonatal deaths?

Author(s): Markovitz, Barry P; Cook, Rebeka; Flick, Louise H; Leet, Terry L

Source: BMC public health; Jul 2005; vol. 5 ; p. 79

Publication Date: Jul 2005

Publication Type(s): Comparative Study Journal Article

PubMedID: 16042801

Available at [BMC public health](#) - from BioMed Central

Available at [BMC public health](#) - from SpringerLink - Medicine

Abstract:BACKGROUNDYoung maternal age has long been associated with higher infant mortality rates, but the role of socioeconomic factors in this association has been controversial. We sought to investigate the relationships between infant mortality (distinguishing neonatal from post-neonatal deaths), socioeconomic status and maternal age in a large, retrospective cohort study.METHODSWe conducted a population-based cohort study using linked birth-death certificate data for Missouri residents during 1997-1999. Infant mortality rates for all singleton births to adolescent women (12-17 years, n = 10,131; 18-19 years, n = 18,954) were compared to those for older women (20-35 years, n = 28,899). Logistic regression was used to estimate adjusted odds ratios (OR) and 95% confidence intervals (CI) for all potential associations.RESULTSThe risk of infant (OR 1.95, CI 1.54-2.48), neonatal (1.69, 1.24-2.31) and post-neonatal mortality (2.47, 1.70-3.59) were significantly higher for younger adolescent (12-17 years) than older (20-34 years) mothers. After adjusting for race, marital status, age-appropriate education level, parity, smoking status, prenatal care utilization, and poverty status (indicated by participation in WIC, food stamps or Medicaid), the risk of post-neonatal mortality (1.73, 1.14-2.64) but not neonatal mortality (1.43, 0.98-2.08) remained significant for younger adolescent mothers. There were no differences in neonatal or post-neonatal mortality risks for older adolescent (18-19 years) mothers.CONCLUSIONSocioeconomic factors may largely explain the increased neonatal mortality risk among younger adolescent mothers but not the increase in post-neonatal mortality risk.

Database: Medline

28. The effects of high parity and socioeconomic status on obstetric and neonatal outcome.

Author(s): Seidman, D S; Dollberg, S; Stevenson, D K; Gale, R

Source: Archives of gynecology and obstetrics; 1991; vol. 249 (no. 3); p. 119-127

Publication Date: 1991

Publication Type(s): Comparative Study Journal Article

PubMedID: 1772264

Available at [Archives of gynecology and obstetrics](#) - from SpringerLink - Medicine

Abstract:We studied the interaction of social status and high parity in 15,102 consecutive births in one inner-city hospital, of which 1874 (12.4%) occurred in mothers who had given birth to seven or more infants (Grand multiparae). Group 1 consisted of 1258 grand multiparae from a socioeconomically stable and homogeneous ultra-orthodox Jewish community in Jerusalem, and group 2, included all other grand multiparae of relatively greater age and lower socioeconomic status. A significantly higher rate of small for gestational age, low birth weight and preterm infants was found in group 2 compared with group 1. The results suggest that grand multiparity is not of itself a risk factor, but reflects the confounding effect of environmental conditions.

Database: Medline

29. Socioeconomic disparities in adverse birth outcomes: a systematic review.

Author(s): Blumenshine, Philip; Egarter, Susan; Barclay, Colleen J; Cubbin, Catherine; Braveman, Paula A

Source: American journal of preventive medicine; Sep 2010; vol. 39 (no. 3); p. 263-272

Publication Date: Sep 2010

Publication Type(s): Research Support, Non-u.s. Gov't Research Support, N.i.h., Extramural Journal Article Review Systematic Review

PubMedID: 20709259

Abstract:CONTEXTAdverse birth outcomes, such as preterm birth and low birth weight, have serious health consequences across the life course. Socioeconomic disparities in birth outcomes have not been the subject of a recent systematic review. The aim of this study was to systematically review the literature on the association of socioeconomic disadvantage with adverse birth outcomes, with specific attention to the strength and consistency of effects across socioeconomic measures, birth outcomes, and populations.EVIDENCE ACQUISITIONRelevant articles published from 1999 to 2007 were obtained through electronic database searches and manual searches of reference lists. English-language studies from industrialized countries were included if (1) study objectives included examination of a socioeconomic disparity in a birth outcome and (2) results were presented on the association between a socioeconomic predictor and a birth outcome related to birth weight, gestational age, or intrauterine growth. Two reviewers extracted data and independently rated study quality; data were analyzed in 2008-2009.EVIDENCE SYNTHESISNinety-three of 106 studies reported a significant association, overall or within a population subgroup, between a socioeconomic measure and a birth outcome. Socioeconomic disadvantage was consistently associated with increased risk across socioeconomic measures, birth outcomes, and countries; many studies observed racial/ethnic differences in the effect of socioeconomic measures.CONCLUSIONSSocioeconomic differences in birth outcomes remain pervasive, with substantial variation by racial or ethnic subgroup, and are associated with disadvantage measured at multiple levels (individual/family, neighborhood) and time points (childhood, adulthood), and with adverse health behaviors that are themselves socially patterned. Future reviews should focus on identifying interventions to successfully reduce socioeconomic disparities in birth outcomes.

Database: Medline

30. Invited commentary: the socioeconomic causes of adverse birth outcomes.

Author(s): Messer, Lynne C; Kaufman, Jay S

Source: American journal of epidemiology; Jul 2010; vol. 172 (no. 2); p. 135

Publication Date: Jul 2010

Publication Type(s): Journal Article

PubMedID: 20576755

Available at [American journal of epidemiology](#) - from Oxford Journals - Medicine

Available at [American journal of epidemiology](#) - from HighWire - Free Full Text

Available at [American journal of epidemiology](#) - from Unpaywall

Abstract:Weathering-the cumulative burden of adverse psychosocial and economic circumstances on the bodies of minority women-has been repeatedly described in epidemiologic studies. The most common application has been the documentation of rapidly increasing risks of adverse birth outcomes as African-American women age. Previous work has been based largely on cross-sectional data that aggregate women across a variety of socioeconomic circumstances. When more specific information about women's life-course socioeconomic status is taken into account, however, heterogeneity in the weathering experience of African-American women becomes more readily apparent. Adverse birth outcome risk trajectories with advancing age for African-American women who reside in wealthier neighborhoods look much more similar to those of white women. The accompanying article by Love et al. (Am J Epidemiol. 2010;172(2):127-134) provides a more nuanced investigation of the social conditions that contribute to the weathering of African-American women and points to the critical role played by social and economic conditions over the life course in producing adverse birth outcome disparities.

Database: Medline

31. Relations between neighbourhood socioeconomic status and birth outcomes are mediated by maternal weight.

Author(s): Clayborne, Zahra M; Giesbrecht, Gerald F; Bell, Rhonda C; Tomfohr-Madsen, Lianne M

Source: Social science & medicine (1982); Feb 2017; vol. 175 ; p. 143-151

Publication Date: Feb 2017

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article

PubMedID: 28088620

Abstract:Lower neighbourhood-level socioeconomic status (SES) has been repeatedly associated with an increased risk of adverse birth outcomes, even after controlling for individual-level SES. Few studies have empirically assessed potential mechanisms underlying the associations. The objectives of this study were to (1) examine relations between neighbourhood SES and birth outcomes, and (2) explore if maternal weight variables mediated these relations. Data came from a provincial prospective pregnancy cohort study in Canada. Census data was used to create a continuous measure of neighbourhood SES. Using information from maternal questionnaires and medical records, two mediators (pre-pregnancy body mass index (BMI), and gestational weight gain (GWG)) and five birth outcomes (preterm birth, low birth weight, macrosomia, small for gestational age (SGA), large for gestational age (LGA)) were examined. After adjusting for individual-level covariates, mediation analyses supported significant associations between lower neighbourhood SES and increased risk of macrosomia ($b = 0.1183$, 95% BCa CI: 0.0607-0.1896) and LGA ($b = 0.0565$, 95% BCa CI: 0.0040-0.1186) through higher pre-pregnancy BMI. Significant associations were also observed between neighbourhood SES and macrosomia, LGA, and preterm birth ($b = 0.0105$, 95% BCa CI: 0.0014-0.0246) through pre-pregnancy BMI and GWG in tandem; pairwise comparisons suggested

that associations with macrosomia and LGA through pre-pregnancy BMI alone were significant over associations through pre-pregnancy BMI and GWG together. These findings add to a growing body of literature assessing potential mechanisms underlying relations between neighbourhood SES and adverse birth outcomes, and suggest that neighbourhood-level SES may influence birth outcomes through maternal weight.

Database: Medline

32. Neighborhood socioeconomic status, maternal race and preterm delivery: a case-control study.

Author(s): Pickett, Kate E; Ahern, Jennifer E; Selvin, Steve; Abrams, Barbara

Source: Annals of epidemiology; Aug 2002; vol. 12 (no. 6); p. 410-418

Publication Date: Aug 2002

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article

PubMedID: 12160600

Abstract:**PURPOSE**To explore associations between neighborhood socioeconomic context and preterm delivery, independent of maternal and family socioeconomic status, in African-American and white women.**METHOD**SA case-control study of African-American (n = 417) and white (n = 1244) women delivering infants at the University of California, San Francisco's Moffitt Hospital, between 1980 and 1990.**RESULTS**Neighborhood socioeconomic contexts were associated with preterm delivery but associations were non-linear and varied with race/ethnicity. For African-American women, living in a neighborhood with either high or low median household income was associated with an increased risk of spontaneous preterm delivery, as was living in a neighborhood with large increases or decreases in the proportion of African-American residents during the study decade. Residence in neighborhoods with high and low rates of male unemployment was associated with a decreased risk of preterm delivery. Among white women only large positive and negative changes in neighborhood male unemployment were associated with risk of preterm delivery.**CONCLUSIONS**Neighborhood factors and changes in neighborhoods over time are related to preterm delivery, although the mechanisms linking local environments to maternal risk remain to be specified.

Database: Medline

33. Maternal Socioeconomic Mobility and Preterm Delivery: A Latent Class Analysis.

Author(s): Tian, Yan; Holzman, Claudia; Slaughter-Acey, Jaime; Margerison-Zilko, Claire; Luo, Zhehui; Todem, David

Source: Maternal and child health journal; Nov 2018; vol. 22 (no. 11); p. 1647-1658

Publication Date: Nov 2018

Publication Type(s): Journal Article

PubMedID: 29959600

Available at [Maternal and child health journal](#) - from SpringerLink - Medicine

Available at [Maternal and child health journal](#) - from ProQuest (Health Research Premium) - NHS Version

Abstract: Objective Growing evidence suggests that maternal socioeconomic mobility (SM) is associated with pregnancy outcomes. Our study investigated the association between maternal SM from childhood to adulthood and the risk of preterm delivery (PTD), and examined heterogeneity of associations by race/ethnicity. Methods In this study, 3019 pregnant women enrolled from 5 Michigan communities at 16-27 weeks' gestation (1998-2004) provided their parents' socioeconomic position (SEP) indicators (education, occupation, receipt of public assistance) and their own and child's father's SEP indicators (education, occupation, Medicaid status, and household income) at the time of enrollment. Latent class analysis was used to identify latent classes of childhood SEP indicators, adulthood SEP indicators, and SM from childhood to adulthood, respectively. A model-based approach to latent class analysis with distal outcome assessed relations between latent class and PTD, overall and within race/ethnicity groups. Results Three latent classes (low, middle, high) were identified for childhood SEP indicators and adulthood SEP indicators, respectively; while four latent classes (static low, upward, downward, and static high) best described SM. Women with upward SM had decreased odds of PTD (Odds ratio = 0.60, 95% confidence interval: 0.42, 0.87), compared to those with static low SEP. This SM advantage was true for all women and most pronounced in white/others women. Conclusions Maternal experiences of upward SM may be important considerations when assessing PTD risk. Our results support the argument that policies and programs aimed at improving women's SEP could lower PTD rates.

Database: Medline

34. Socioeconomic status can affect pregnancy outcomes and complications, even with a universal healthcare system.

Author(s): Kim, Min Kyoung; Lee, Seung Mi; Bae, Sung-Hee; Kim, Hyun Joo; Lim, Nam Gu; Yoon, Seok-Jun; Lee, Jin Yong; Jo, Min-Woo

Source: International journal for equity in health; Jan 2018; vol. 17 (no. 1); p. 2

Publication Date: Jan 2018

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article

PubMedID: 29304810

Available at [International journal for equity in health](#) - from BioMed Central

Available at [International journal for equity in health](#) - from SpringerLink - Medicine

Available at [International journal for equity in health](#) - from ProQuest (Health Research Premium) - NHS Version

Available at [International journal for equity in health](#) - from Unpaywall

Abstract:BACKGROUND Low socioeconomic status can increase the risk of adverse pregnancy outcomes, but it remains unclear whether this negative association is attributed to inadequate prenatal care. Korea has been adopting a universal healthcare system. All Korean citizens must be enrolled National Health Insurance (NHI) or be recipient of Medical Aid (MA). In addition, Korean government launched a financial support system for antenatal care for all pregnant women in 2008. Therefore, in theory, there is no financial barrier to receive prenatal cares regardless of someone's social class. However, it is still unclear whether adverse pregnancy outcomes observed in low-income women are attributable to low SES or to economic barriers specific to the utilization of medical services. The purpose of this study was to investigate whether socioeconomic status affects pregnancy outcomes after the introduction of this support system, which allows all pregnant women to receive adequate prenatal care regardless of socioeconomic status. METHODS Using the National Health Insurance database in Korea, we selected women who gave birth between January 1, 2010 and December 31, 2010. As a proxy indicator reflecting socioeconomic status, we classified subjects as MA recipient ("low" SES) or a NHI beneficiary ("middle/high" SES). RESULTS In the MA group, 29.4% women received inadequate prenatal care, compared to 11.4% in the NHI group. Mothers in the MA group were more likely to have an abortion (30.1%), rather than deliver a baby, than those in the NHI group (20.7%, $P < 0.001$). Mothers in the MA group were also more likely to undergo a Caesarean delivery (45.8%; NHI group: 39.6%, $P < 0.001$), and have preeclampsia (1.5%; NHI group: 0.6%, $P < 0.001$), obstetric hemorrhage (4.7%; NHI group: 3.9%, $P = 0.017$), and a preterm delivery (2.1%; NHI group: 1.4%, $P < 0.001$) than those in the NHI group. CONCLUSIONS Women in the MA group tended to show higher rates of abortion, Caesarean delivery, preeclampsia, preterm delivery, and obstetrical hemorrhage than those in the NHI group. Therefore, health authorities should consider investigating what kind of barriers exist or what factors may affect these inequitable outcomes.

Database: Medline

35. The relationship of neighborhood socioeconomic characteristics to birthweight among 5 ethnic groups in California.

Author(s): Pearl, M; Braveman, P; Abrams, B

Source: American journal of public health; Nov 2001; vol. 91 (no. 11); p. 1808-1814

Publication Date: Nov 2001

Publication Type(s): Journal Article Research Support, U.S. Gov't, P.h.s.

PubMedID: 11684609

Available at [American journal of public health](#) - from Free Medical Journals . com

Available at [American journal of public health](#) - from ProQuest (Health Research Premium) - NHS Version

Available at [American journal of public health](#) - from EBSCO (Psychology and Behavioral Sciences Collection)

Available at [American journal of public health](#) - from Unpaywall

Abstract:OBJECTIVEThis study sought to examine relationships between neighborhood socioeconomic characteristics and birthweight, accounting for individual socioeconomic characteristics, among 5 ethnic groups.METHODSBirth records were linked to census block-group data for 22 304 women delivering infants at 18 California hospitals during 1994-1995. Information on income and additional factors was obtained from a surveyed subset of 8457 women. Neighborhood levels of poverty, unemployment, and education were examined.RESULTSAfter adjustment for mothers' individual socioeconomic characteristics and other risk factors, less-favorable neighborhood socioeconomic characteristics were associated with lower birthweight among Blacks and Asians. No consistent relationship between neighborhood socioeconomic characteristics and birthweight was found among Whites, US-born Latinas, or foreign-born Latinas overall, but birthweight increased with less-favorable neighborhood socioeconomic characteristics among foreign-born Latinas in high-poverty or high-unemployment neighborhoods. These findings were not explained by measured behavioral or cultural factors.CONCLUSIONSIn addition to individual socioeconomic characteristics, living in neighborhoods that are less socioeconomically advantaged may differentially influence birthweight, depending on women's ethnicity and nativity.

Database: Medline

36. Socioeconomic Position and Reproduction: Findings from the Australian Longitudinal Study on Women's Health.

Author(s): Holowko, N; Jones, M; Tooth, L; Koupil, I; Mishra, G D

Source: Maternal and child health journal; Dec 2018; vol. 22 (no. 12); p. 1713-1724

Publication Date: Dec 2018

Publication Type(s): Journal Article

PubMedID: 29956129

Available at [Maternal and child health journal](#) - from SpringerLink - Medicine

Available at [Maternal and child health journal](#) - from ProQuest (Health Research Premium) - NHS Version

Abstract:OBJECTIVETo investigate the association of socioeconomic position (SEP) with reproductive outcomes among Australian women.METHODSData from the Australian Longitudinal Study on Women's Health's (population-based cohort study) 1973-1978 cohort were used (N = 6899, aged 37-42 years in 2015). The association of SEP (childhood and own, multiple indicators) with age at first birth, birth-to-pregnancy (BTP) intervals and total number of children was analysed using multinomial logistic regression.RESULTS14% of women had their first birth aged < 24 years. 29% of multiparous women had a BTP interval within the WHO recommendation (18-27 months). Women with a low SEP had increased odds of a first birth < 24 years: low (OR 7.0: 95% C.I. 5.3, 9.3) or intermediate education (OR 3.8: 2.8, 5.1); living in rural (OR 1.8: 1.5, 2.2) or remote (OR 2.1: 1.7, 2.7) areas; who found it sometimes (OR 1.8: 1.5, 2.2) or always difficult (OR 2.0: 1.6, 2.7) to manage on their income; and did not know their parent's education (OR 4.5: 3.2, 6.4). Low SEP was associated with having a much longer than recommended BTP interval.CONCLUSIONAs the first Australian study describing social differences in reproductive characteristics, these findings provide a base for reducing social inequalities in reproduction. Assisting adequate BTP spacing is important, particularly for women with existing elevated risks due to social disadvantage; including having a first birth < 24 years of age and a longer than recommended BTP interval. This includes reviewing services/access to postnatal support, free family planning/contraception clinics, and improved family policies.

Database: Medline

37. Socioeconomic inequalities in outcome of pregnancy and neonatal mortality associated with congenital anomalies: population based study.

Author(s): Smith, Lucy K; Budd, Judith L S; Field, David J; Draper, Elizabeth S

Source: BMJ (Clinical research ed.); Jul 2011; vol. 343 ; p. d4306

Publication Date: Jul 2011

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article

PubMedID: 21771825

Available at [BMJ \(Clinical research ed.\)](#) - from BMJ Journals - NHS

Available at [BMJ \(Clinical research ed.\)](#) - from Unpaywall

Abstract:OBJECTIVE To investigate socioeconomic inequalities in outcome of pregnancy and neonatal mortality associated with congenital anomalies. DESIGN Retrospective population based registry study. SETTING East Midlands and South Yorkshire regions of England (representing about 10% of births in England and Wales). PARTICIPANTS All registered cases of nine selected congenital anomalies with poor prognostic outcome audited as part of the United Kingdom's fetal anomaly screening programme with an end of pregnancy date between 1 January 1998 and 31 December 2007. MAIN OUTCOME MEASURES Socioeconomic variation in the risk of selected congenital anomalies; outcome of pregnancy; incidence of live birth and neonatal mortality over time. Deprivation measured with the index of multiple deprivation 2004 at super output area level. RESULTS There were 1579 fetuses registered with one of the nine selected congenital anomalies. There was no evidence of variation in the overall risk of these anomalies with deprivation (rate ratio for the most deprived 10th with the least deprived 10th: 1.05, 95% confidence interval 0.89 to 1.23). The rate ratio varied with type of anomaly and maternal age (deprivation rate ratio adjusted for maternal age: 1.43 (1.17 to 1.74) for non-chromosomal anomalies; 0.85 (0.63 to 1.15) for chromosomal anomalies). Of the nine anomalies, 86% were detected in the antenatal period, and there was no evidence that this varied with deprivation (rate ratio 0.99, 0.84 to 1.17). The rate of termination after antenatal diagnosis of a congenital anomaly was lower in the most deprived areas compared with the least deprived areas (63% v 79%; rate ratio 0.80, 0.65 to 0.97). Consequently there were significant socioeconomic inequalities in the rate of live birth and neonatal mortality associated with the presence of any of these nine anomalies. Compared with the least deprived areas, the most deprived areas had a 61% higher rate of live births (1.61, 1.21 to 2.15) and a 98% higher neonatal mortality rate (1.98, 1.20 to 3.27) associated with a congenital anomaly. CONCLUSIONS Antenatal screening for congenital anomalies has reduced neonatal mortality through termination of pregnancy. Socioeconomic variation in decisions regarding termination of pregnancy after antenatal detection, however, has resulted in wide socioeconomic inequalities in liveborn infants with a congenital anomaly and subsequent neonatal mortality.

Database: Medline

38. Patterns of social inequalities across pregnancy and birth outcomes: a comparison of individual and neighborhood socioeconomic measures.

Author(s): Daoud, Nihaya; O'Campo, Patricia; Minh, Anita; Urquia, Marcelo L; Dzakpasu, Susie; Heaman, Maureen; Kaczorowski, Janusz; Levitt, Cheryl; Smylie, Janet; Chalmers, Beverley

Source: BMC pregnancy and childbirth; Mar 2015; vol. 14 ; p. 393

Publication Date: Mar 2015

Publication Type(s): Journal Article

PubMedID: 25494970

Available at [BMC pregnancy and childbirth](#) - from BioMed Central

Available at [BMC pregnancy and childbirth](#) - from SpringerLink - Medicine

Available at [BMC pregnancy and childbirth](#) - from Europe PubMed Central - Open Access

Available at [BMC pregnancy and childbirth](#) - from ProQuest (Health Research Premium) - NHS Version

Available at [BMC pregnancy and childbirth](#) - from Unpaywall

Abstract:BACKGROUND This paper identifies patterns of health inequalities (consistency and magnitude) of socioeconomic disparities for multiple maternal and child health (MCH) outcomes that represent different health care needs of mothers and infants. METHODS Using cross-sectional national data (unweighted sample = 6,421, weighted = 76,508) from the Canadian Maternity Experiences Survey linked with 2006 Canadian census data, we categorized 25 health indicators of mothers of singletons into five groups of MCH outcomes (A. maternal and infant health status indicators; B. prenatal care; C. maternal experience of labor and delivery; D. neonatal medical care; and E. postpartum infant care and maternal perceptions of health care services). We then examined the association of these health indicators with individual socioeconomic position (SEP) (education and income), neighborhood SEP and combined SEP (a four-level measure of low and high individual and neighborhood SEP), and compared the magnitude (odds ratios and 95% confidence intervals) and direction of the associations within and between MCH outcome groups. RESULTS We observed consistent positive gradients of socioeconomic inequalities within most groups and for 23/25 MCH outcomes. However, more significant associations and stronger gradients were observed for the MCH outcomes in the maternal and infant health status group as opposed to other groups. The neonatal medical care outcomes were weakly associated with SEP. The direction of associations was negative between some SEP measures and HIV testing, timing of the first ultrasound, caesarean section, epidural for vaginal births, infant needing non-routine neonatal care after discharge and any breastfeeding at 3 or 6 months. Gradients were steep for individual SEP but moderate for neighborhood SEP. Combined SEP had no consistent gradients but the subcategory of low individual-high neighborhood SEP often showed the poorest health outcomes compared to the categories within this SEP grouping. CONCLUSION By examining SEP gradients in multiple MCH outcomes categorized into groups of health care needs, we identified large and consistent inequalities both within and between these groups. Our results suggest differences in pathways and mechanisms contributing to SEP inequalities across groups of MCH outcomes that can be examined in future research and inform prioritization of policies for reducing these inequalities.

Database: Medline

39. Socioeconomic status and perinatal outcomes in a setting with universal access to essential health care services.

Author(s): Joseph, K S; Liston, Robert M; Dodds, Linda; Dahlgren, Leanne; Allen, Alexander C

Source: CMAJ : Canadian Medical Association journal = journal de l'Association medicale canadienne; Sep 2007; vol. 177 (no. 6); p. 583-590

Publication Date: Sep 2007

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article

PubMedID: 17846440

Available at [Canadian Medical Association Journal](#) - from Europe PubMed Central - Open Access

Available at [Canadian Medical Association Journal](#) - from ProQuest (Health Research Premium) - NHS Version

Available at [Canadian Medical Association Journal](#) - from Unpaywall

Abstract:BACKGROUNDThe health care system in Canada provides essential health services to all women irrespective of socioeconomic status. Our objective was to determine whether perinatal and infant outcomes varied by family income and other socioeconomic factors in this setting.METHODSWe included all 92,914 women who delivered in Nova Scotia between 1988 and 1995 following a singleton pregnancy. Family income was obtained for 76,440 of these women through a confidential link to income tax records and was divided into 5 groups. Outcomes studied included pregnancy complications, preterm birth, small-for-gestational-age live birth, perinatal death, serious neonatal morbidity, postneonatal death and infant death. Logistic regression models were used to adjust for potential confounders.RESULTSCompared with women in the highest family income group, those in the lowest income group had significantly higher rates of gestational diabetes (crude rate ratio [RR] 1.44, 95% confidence interval [CI] 1.21-1.73), preterm birth (crude RR 1.20, 95% CI 1.06-1.35), small-for-gestational-age live birth (crude RR 1.81, 95% CI 1.66-1.97) and postneonatal death (crude RR 5.54, 95% CI 2.21-13.9). The opposite was true for rates of perinatal death (crude RR 0.74, 95% CI 0.56-0.96), and there was no significant difference between the 2 groups in the composite of perinatal death or serious neonatal morbidity (crude RR 1.01, 95% CI 0.82-1.24). Adjustment for behavioural and lifestyle factors accentuated or attenuated socioeconomic differences.INTERPRETATIONLower family income is associated with increased rates of gestational diabetes, small-for-gestational-age live birth and postneonatal death despite health care services being widely available at no out-of-pocket expense.

Database: Medline

40. Is the socioeconomic status of immigrant mothers in Brussels relevant to predict their risk of adverse pregnancy outcomes?

Author(s): Sow, Mouctar; Racape, Judith; Schoenborn, Claudia; De Spiegelaere, Myriam

Source: BMC pregnancy and childbirth; Oct 2018; vol. 18 (no. 1); p. 422

Publication Date: Oct 2018

Publication Type(s): Journal Article

PubMedID: 30367602

Available at [BMC pregnancy and childbirth](#) - from BioMed Central

Available at [BMC pregnancy and childbirth](#) - from SpringerLink - Medicine

Available at [BMC pregnancy and childbirth](#) - from Europe PubMed Central - Open Access

Available at [BMC pregnancy and childbirth](#) - from ProQuest (Health Research Premium) - NHS Version

Available at [BMC pregnancy and childbirth](#) - from Unpaywall

Abstract:BACKGROUND Understanding and tackling perinatal health inequities in industrialized countries requires analysing the socioeconomic determinants of adverse pregnancy outcomes among immigrant populations. Studies show that among certain migrant groups, education is not associated with adverse pregnancy outcomes. We aim to extend this analysis to further dimensions of socioeconomic status (SES) and to other settings. The objective of this study is to identify sociodemographic characteristics associated with adverse pregnancy outcomes, according to the origin of mothers residing in Brussels. METHODS We analysed all singleton live births in Brussels between 2005 and 2010 (n = 97,844). The data arise from the linkage between three administrative databases. Four groups of women were included according to their place of birth: Belgium, EU, North Africa, and Sub-Saharan Africa. For each group, logistic regression was carried out to estimate the odds ratios of low birthweight (LBW) and small for gestational age (SGA) according to SES indicators (household income, maternal employment status, maternal education) and single parenthood. RESULTS Three key findings emerge from this study: 1) 25% of children were born into a household under the poverty threshold. This proportion was much higher for mothers born outside of the EU. 2) For North African immigrants, SES indicators didn't influence the pregnancy outcomes, whereas their risk of LBW increased with single parenthood. 3) For Sub-Saharan Africans the risk of LBW increased with low household income. CONCLUSION In a region where immigrant mothers are at high poverty risk, we observe a classic social gradient in perinatal outcomes only for mothers born in Belgium or the EU. In the other groups, SES influences perinatal outcomes less systematically. To develop interventions to reduce inequities from birth, it's important to identify the determinants of perinatal health among immigrants and to understand the underlying mechanisms in different contexts.

Database: Medline

41. The effect of socioeconomic status on treatment and pregnancy outcomes in women with epilepsy in Scotland.

Author(s): Campbell, E; Hunt, S; Kinney, M O; Guthrie, E; Smithson, W H; Parsons, L; Irwin, B; Morrison, P J; Morrow, J; Craig, J; Russell, A J

Source: Epilepsy & behavior : E&B; Sep 2013; vol. 28 (no. 3); p. 354-357

Publication Date: Sep 2013

Publication Type(s): Journal Article

PubMedID: 23827318

Abstract: Compared to the background population, people with epilepsy tend to have lower rates of education and employment, lower rates of marriage and childbearing, and lower overall socioeconomic status (SES). Disparities in epilepsy care based on sociodemographic factors have been observed in the literature, but it is not known whether any such disparities exist in the UK. The UK Epilepsy and Pregnancy Register is a prospective, observational, registration and follow-up study that was set up to determine the relative safety of all AEDs taken in pregnancy. Here, we report outcomes of registered pregnancies to women with epilepsy living in Scotland from December 1996 to June 2012, based on the degree of socioeconomic deprivation of their postcode area. The Scottish Index of Multiple Deprivation (SIMD) quintile scores from 2006 were used to determine degree of socioeconomic deprivation, and group 1 (most deprived) and group 5 (least deprived) were compared. There were 1526 pregnancies with complete outcome data to women living in Scotland. Of these, 1453 (95.1%) resulted in a live birth and 68 (4.7%) had a major congenital malformation (MCM). Postcodes could not be reliably identified or verified for an additional three women, who have been excluded from SIMD group analysis. Of all women included in this study, 32.4% were in group 1 and 13.2% in group 5. No difference in MCM rate was observed between the two groups (4.4% in group 1 compared to 4.7% in group 5, $p=0.84$). Women in group 5 were more likely to take preconceptual folic acid (56.8% compared to 14.0%, relative risk: 4.1; 95% CI: 3.1-5.2) and less likely to have generalized tonic-clonic seizures in pregnancy (13.0% compared to 29.2%, relative risk: 0.4; 95% CI: 0.3-0.7) than those in group 1. Women in group 5 were more likely to be on monotherapy regimens (80.2% compared to 65.9%, relative risk: 1.2; 95% CI: 1.1-1.3), less likely to be on valproate (19.5% compared to 28.0%, $p=0.05$), and more likely to be on lower doses of the drug (825.9mg/day compared to 1012.0mg/day, $p=0.05$) compared to those in group 1. Although no change in MCM rate was seen based on SES, differences in treatment between socioeconomic groups do exist, particularly for preconceptual folic acid consumption, AED regimen, and seizure frequency. Greater emphasis on the importance of preconceptual counseling, both to discuss AED choice and folic acid intake, would be of benefit, particularly to those living in areas of high socioeconomic deprivation, to improve equity of healthcare delivery for women with epilepsy in Scotland.

Database: Medline

42. Association of socioeconomic position with maternal pregnancy and infant health outcomes in birth cohort studies from Brazil and the UK.

Author(s): Matijasevich, A; Victora, C G; Lawlor, D A; Golding, J; Menezes, A M B; Araújo, C L; Barros, A J D; Santos, I S; Barros, F C; Smith, G Davey

Source: Journal of epidemiology and community health; Feb 2012; vol. 66 (no. 2); p. 127-135

Publication Date: Feb 2012

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article

PubMedID: 20628081

Available at [Journal of epidemiology and community health](#) - from BMJ Journals - NHS

Available at [Journal of epidemiology and community health](#) - from ProQuest (Health Research Premium) - NHS Version

Available at [Journal of epidemiology and community health](#) - from Unpaywall

Abstract:BACKGROUND Socioeconomic inequalities in health outcomes are dynamic and vary over time. Differences between countries can provide useful insights into the causes of health inequalities. The study aims to compare the associations between two measures of socioeconomic position (SEP)-maternal education and family income-and maternal and infant health outcomes between ALSPAC and Pelotas cohorts. METHODS Birth cohort studies were started in Avon, UK, in 1991 (ALSPAC) and in the city of Pelotas, Brazil, in 1982, 1993 and 2004. Maternal outcomes included smoking during pregnancy, caesarean section and delivery not attended by a doctor. Infant outcomes were preterm birth, intra-uterine growth restriction (IUGR) and breast feeding for <3 months. The relative index of inequality was used for each measure of SEP so that results were comparable between cohorts. RESULTS An inverse association (higher prevalence among the poorest and less educated) was observed for almost all outcomes, with the exception of caesarean sections where a positive association was found. Stronger income-related inequalities for smoking and education-related inequalities for breast feeding were found in the ALSPAC study. However, greater inequalities in caesarean section and education-related inequalities in preterm birth were observed in the Pelotas cohorts. CONCLUSIONS Mothers and infants have more adverse health outcomes if they are from poorer and less well-educated socioeconomic backgrounds in both Brazil and the UK. However, our findings demonstrate the dynamic nature of the association between SEP and health outcomes. Examining differential socioeconomic patterning of maternal and infant health outcomes might help understanding of mechanisms underlying such inequalities.

Database: Medline

43. The association of maternal and socioeconomic characteristics in metropolitan Adelaide with medical, obstetric and labour complications and pregnancy outcomes.

Author(s): Jonas, O; Roder, D; Chan, A

Source: The Australian & New Zealand journal of obstetrics & gynaecology; Feb 1992; vol. 32 (no. 1); p. 1-5

Publication Date: Feb 1992

Publication Type(s): Journal Article

PubMedID: 1586324

Available at [The Australian & New Zealand journal of obstetrics & gynaecology](#) - from Patricia Bowen Library & Knowledge Service West Middlesex University Hospital NHS Trust (lib302631) Local Print Collection [location] : Patricia Bowen Library and Knowledge Service West Middlesex university Hospital.

Abstract:Multiple regression analysis was used to measure associations of maternal age, race, gravidity, marital status and socioeconomic status with medical problems and pregnancy outcomes. The study population comprised all singleton births to residents of metropolitan Adelaide (in South Australia) during 1988 that were included in the State's perinatal statistics collection. The results indicate that in metropolitan Adelaide, low socioeconomic status is related to a higher risk profile of mothers and babies. It also highlights that there is a strong association of divorce and separation with medical problems and an adverse pregnancy outcome. Poorer outcomes are also seen in never married women, teenage women, older women, non-Caucasian women and primigravid women. These poorer outcomes in older women and primigravidas include higher risks of low birth-weight and prematurity of their babies. The study also demonstrates that groups that are less likely to have choice of obstetric care, eg. teenage women, non-Caucasian women, and women of low socioeconomic status, have a lower odds of obstetric intervention as characterized by nonspontaneous labour and elective Caesarean section.

Database: Medline

44. Adverse effect of the financial crisis in Greece on perinatal factors.

Author(s): Zografaki, Irini; Papamichail, Dimitris; Panagiotopoulos, Takis

Source: European journal of public health; Dec 2018; vol. 28 (no. 6); p. 1116-1121

Publication Date: Dec 2018

Publication Type(s): Journal Article

PubMedID: 29788184

Available at [European journal of public health](#) - from Oxford Journals - Medicine

Available at [European journal of public health](#) - from HighWire - Free Full Text

Available at [European journal of public health](#) - from Unpaywall

Abstract:BackgroundStarting in 2008 recession affected many European countries and especially Greece. Previous studies have reported increases in low birth weight, preterm birth and stillbirth rates in Greece during early crisis. In our study we used data on births from 1980 to 2014 that allowed us to distinguish recent changes, which could possibly be attributed to the financial crisis, from long term trends, and controlled for maternal age and country of origin as potential confounders. Our study covered a longer period (up to 2014) than what has been studied before and looked separately at the effect of early and established crisis.MethodsWe used national vital statistics data from 1980 to 2014. We performed age standardization and calculated age standardized rates and standardized rate ratios (SRRs) for perinatal factors for three time periods

(pre-crisis, early crisis and established crisis) for Greek and non-Greek women. Results We found an increase in low birth weight deliveries independent of maternal age and origin and an increased stillbirth rate in Greek women younger than 25 in early (RR = 1.42 95%CI: 1.12-1.80) and established crisis periods (RR = 1.36 95%CI: 1.07-1.72) compared with pre-crisis. Non-Greek women have also been affected, with their advantage regarding birth outcomes becoming less profound in the established crisis period (low birth weight: established crisis SRR = 0.84 95%CI: 0.82-0.87, pre-crisis SRR = 0.79 95% CI: 0.76- 0.81). Conclusions The financial crisis has possibly adversely affected perinatal factors in Greece. Our results highlight the need of appropriate public health interventions and family support policies, especially for younger people, unemployed and immigrants.

Database: Medline

45. Economic contraction and birth outcomes: an integrative review.

Author(s): Zilko, C E Margerison

Source: Human reproduction update; 2010; vol. 16 (no. 4); p. 445-458

Publication Date: 2010

Publication Type(s): Journal Article Review

PubMedID: 20085917

Available at [Human reproduction update](#) - from Oxford Journals - Medicine

Available at [Human reproduction update](#) - from HighWire - Free Full Text

Available at [Human reproduction update](#) - from Unpaywall

Abstract: BACKGROUND Previous research has demonstrated an association between economic contraction at both the individual and aggregate level, and adverse health outcomes. Proposed mechanisms include increased psychosocial stress and loss of resources. The aim of this review is to assess the quantity, validity and consistency of empirical evidence examining economic contraction and birth outcomes. METHODS Empirical, English-language articles examining the effects of economic change at either the aggregate or individual level on birthweight, length of gestation, neonatal mortality and the secondary sex ratio were identified using PubMed and ISI Web of Knowledge. Studies were organized by level of analysis and birth outcome and evaluated for internal and external validity. RESULTS One individual-level study reported a strong association between individual shift to inadequate employment and decreased birthweight. Of seven aggregate-level studies on birthweight, five exhibited moderate to strong validity but reported inconsistent findings. Similarly, findings from five studies (four with moderate to strong validity) examining rates of neonatal mortality reported inconsistent findings. Three of four moderate to strong studies reported a reduced secondary sex ratio following economic contraction. CONCLUSIONS Associations between economic contraction and birthweight, neonatal mortality and the secondary sex ratio remain speculative. Consensus on methodology is needed to compare findings across studies. Further research on economic contraction and the secondary sex ratio, as well as individual-level birthweight and length of gestation, is warranted.

Database: Medline

46. A Scoping Review of Socioeconomic Inequalities in Distributions of Birth Outcomes: Through a Conceptual and Methodological Lens.

Author(s): Ramraj, Chantel; Pulver, Ariel; O'Campo, Patricia; Urquia, Marcelo L; Hildebrand, Vincent; Siddiqi, Arjumand

Source: Maternal and child health journal; Jan 2020

Publication Date: Jan 2020

Publication Type(s): Journal Article Review

PubMedID: 31894509

Available at [Maternal and child health journal](#) - from SpringerLink - Medicine

Abstract:INTRODUCTIONThe extant literature has examined social inequalities in high-risk categories of birth weight and gestational age (i.e., low birth weight and preterm birth) with little attention given to their distributional nature. As such, a scoping review was conducted to understand how researchers have conceptualized and analyzed socioeconomic inequalities in entire distributions of these birth outcomes.METHODSBibliographic databases were searched from their inception until August 2016 for articles from five similar, English-speaking, advanced capitalist democracies: Canada, United States, United Kingdom, Australia and New Zealand.RESULTSTwenty-one studies were included in the review, all of which provided rationales for examining socioeconomic inequalities in the entire distribution of birth weight. Yet, only three studies examined non-uniform associations of socioeconomic factors across the distribution of birth weight using conditional quantile regression, while the majority focused on mean birth weight using descriptive analysis or linear regression to analyze inequalities. Nevertheless, study results indicated that socioeconomic inequalities exist throughout the distribution of birth weight, extending beyond the high-risk category of low birth weight.DISCUSSIONAlthough social inequalities in distributions of birth weight have been conceptualized, few studies have analytically engaged with this concept. As such, this review supports further investigation of distributional inequalities in birth outcomes using methodology which allows one to empirically quantify and explain differences in population risk distributions, rather than solely between infants born low birth weight or preterm birth, versus not.

Database: Medline

47. Socioeconomic inequalities in pregnancy outcome associated with Down syndrome: a population-based study.

Author(s): Budd, Judith L S; Draper, Elizabeth S; Lotto, Robyn R; Berry, Laura E; Smith, Lucy K

Source: Archives of disease in childhood. Fetal and neonatal edition; Sep 2015; vol. 100 (no. 5); p. F400

Publication Date: Sep 2015

Publication Type(s): Research Support, Non-u.s. Gov't Journal Article

PubMedID: 26071456

Available at [Archives of disease in childhood. Fetal and neonatal edition](#) - from BMJ Journals - NHS

Available at [Archives of disease in childhood. Fetal and neonatal edition](#) - from Unpaywall

Abstract:OBJECTIVE To investigate socioeconomic inequalities in outcome of pregnancy associated with Down syndrome (DS) compared with other congenital anomalies screened for during pregnancy. DESIGN AND SETTING Retrospective population-based registry study (East Midlands & South Yorkshire in England). PARTICIPANTS All registered cases of DS and nine selected congenital anomalies with poor prognostic outcome (the UK Fetal Anomaly Screening Programme (FASP)9) with an end of pregnancy date between 1 January 1998 and 31 December 2007. MAIN OUTCOME MEASURES Poisson regression models were used to explore outcome measures, including socioeconomic variation in rates of anomaly; antenatal detection; pregnancy outcome; live birth incidence and neonatal mortality. Deprivation was measured using the Index of Multiple Deprivation 2004 at super output area level. RESULTS There were 1151 cases of DS and 1572 cases of the nine severe anomalies combined. The overall rate of antenatal detection was 57% for DS, which decreased with increasing deprivation (rate ratio comparing the most deprived tenth with the least deprived: 0.76 (0.60 to 0.97)). Antenatal detection rates were considerably higher for FASP9 anomalies (86%), with no evidence of a trend with deprivation (0.99 95% CI (0.84 to 1.17)). The termination of pregnancy rate following antenatal diagnosis was higher for DS (86%) than the FASP9 anomalies (70%). Both groups showed wide socioeconomic variation in the termination of pregnancy rate (rate ratio: DS: 0.76 (0.58 to 0.99); FASP9 anomalies: 0.80 (0.65 to 0.97)). Consequently, socioeconomic inequalities in live birth and neonatal mortality rates associated with these anomalies arise that were not observed in utero. CONCLUSIONS Socioeconomic inequalities exist in the antenatal detection of DS, and subsequent termination rates are much higher for DS than other anomalies. Termination rates for all anomalies are lower in more deprived areas leading to wide socioeconomic inequalities in live born infants with a congenital anomaly, particularly DS, and subsequent neonatal mortality.

Database: Medline

48. Longitudinal measures of neighborhood poverty and income inequality are associated with adverse birth outcomes in Texas

Author(s): Cubbin C.; Vohra-Gupta S.; Kim Y.; Margerison C.

Source: Social Science and Medicine; Jan 2020; vol. 245

Publication Date: Jan 2020

Publication Type(s): Article

PubMedID: 31778899

Abstract:Background: Inequity in adverse birth outcomes between black and white women in the U.S. is persistent, despite decades of research and prevention efforts. Neighborhood environments are plausibly related to pre-pregnancy health and other risk factors for adverse birth outcomes and may help explain black/white inequities. Despite the fact that neighborhoods change over time, most prior work has relied upon cross-sectional measures of neighborhood economic contexts. Method(s): We used birth certificates for non-Hispanic black and white women in Texas (2009-2011, N = 470,896) to examine whether longitudinal measures of neighborhood economic context (poverty and income inequality, based on census tract data from 1990 to 2010) were associated with preterm birth, low birthweight and small-for-gestational-age (SGA) with hierarchical generalized linear models. We also tested whether (1) the longitudinal measures explained black/white inequities or (2) moderated the effect of race on the birth outcomes. Finally, we compared the models with longitudinal measures to models with cross-sectional measures of neighborhood economic context. Result(s): Longitudinal measures of neighborhood economic context were associated with all three birth outcomes, but did not explain racial inequities. Except for income inequality and SGA, there was no evidence of moderation by race. Substituting cross-sectional measures of economic context for longitudinal ones resulted in similar findings. Conclusion(s): Policies that either address structural neighborhood-level economic disadvantage or mitigate the effects of such disadvantage are warranted to improve the health of mothers and prevent adverse birth outcomes. Copyright © 2019 Elsevier Ltd

Database: EMBASE

49. Pregnant women at increased risk of adverse perinatal outcomes: A combination of less healthy behaviors and adverse psychosocial and socio-economic circumstances

Author(s): Crone M.R.; Luurssen-Masurel N.; Bruinsma-van Zwicht B.S.; van Lith J.M.M.; Rijnders M.E.B.

Source: Preventive Medicine; Oct 2019; vol. 127

Publication Date: Oct 2019

Publication Type(s): Article

PubMedID: 31445113

Abstract:Smoking during pregnancy is associated with a multitude of health behaviors and with the psychosocial and socio-economic circumstances of pregnant women. Limited research has so far been conducted on the clustering of these characteristics and on their effect on pregnancy outcomes. This study aimed to identify different groups of pregnant women based on their behavioral, psychosocial and socio-economic characteristics and their pregnancy outcomes. In total, 2455 women who were 12 weeks pregnant completed a questionnaire on smoking behavior, health behaviors and psychosocial and socio-economic characteristics. Neonatal and maternal outcomes were extracted from the Dutch perinatal registration. Subgroups were identified with latent class analysis and adverse pregnancy outcomes were compared between subgroups with logistic regression. Women were classified into four latent classes. Two classes represented the healthy higher-educated pregnant women who did not smoke: one group of multigravida women and one of primigravida women, also characterized by less pregnancy-specific knowledge and more pregnancy-related stress. The remaining women were grouped into two less healthy groups. One group frequently quit smoking, reported less healthy eating, less physical activity and comparable stress levels as the healthy higher-educated groups. The last group contained the most smokers, had the highest scores on psychosocial and pregnancy-related stress and the most adverse socio-economic circumstances. This group had an increased risk of adverse maternal outcomes, in particular developing diabetes during pregnancy. A comprehensive and integrated approach is needed to improve outcomes in pregnancies with a combination of adverse health, psychosocial, and socio-economic conditions. Copyright © 2019

Database: EMBASE

50. Changing the realities of poverty in pregnancy

Author(s): Pearce L.

Source: Nursing standard (Royal College of Nursing (Great Britain) : 1987); Jan 2016; vol. 30 (no. 20); p. 18-19

Publication Date: Jan 2016

Publication Type(s): Article

PubMedID: 26758143

Abstract:Pregnant women from disadvantaged, vulnerable or excluded groups are more likely to have poorer maternal and neonatal outcomes. In Bradford, a three-year pilot project is targeting pregnant women in some of the poorest areas to improve the health of mothers and babies.

Database: EMBASE

51. Poverty, pregnancy and childbirth

Author(s): Hunt S.

Source: The practising midwife; Jan 2004; vol. 7 (no. 1); p. 12-16

Publication Date: Jan 2004

Publication Type(s): Review

PubMedID: 14969031

Database: EMBASE

54. Unemployment and stillbirth risk among foreign-born and Spanish pregnant women in Spain, 2007-2010: A multilevel analysis study

Author(s): Luque-Fernandez M.A.; Gelaye B.; Williams M.A.; Franco M.; Schomaker M.; Garitano I.G.; D'Este C.

Source: European Journal of Epidemiology; Dec 2013; vol. 28 (no. 12); p. 991-999

Publication Date: Dec 2013

Publication Type(s): Article

PubMedID: 24142267

Available at [European journal of epidemiology](#) - from SpringerLink - Medicine

Available at [European journal of epidemiology](#) - from ProQuest (Health Research Premium) - NHS Version

Abstract: We describe stillbirth and unemployment rates by autonomous region in Spain and analyse whether women who gave birth in regions with high unemployment rates were more likely to have a stillborn. We designed a multilevel population-based observational study of births from 2007 to 2010. We defined stillbirth as the outcome, individual maternal socioeconomic and pregnancy-related characteristics as covariates, and maternal autonomous region of residence as the contextual covariate. We used mixed-logistic regression models to account for differences across regions. In total, 1,920,235 singleton births and 5,560 stillbirths were included in the study. Women residing in autonomous regions with the highest rates of unemployment had a two-times-greater chance of delivering a stillborn (adjusted OR 2.60; 95 % CI 2.08-3.21). The region where women resided explained 14 % of the total individual differences in the risk of delivering a stillborn. The odds of stillbirth were 1.82 (95 % CI 1.62-2.05) times higher for African-born women than for Spanish-born women and 1.90 (95 % CI 1.68-2.15) times higher for women with low educational attainment than for women with higher education. In conclusion, regional disparities in stillbirth rates in Spain in the period 2007-2010 were mainly associated with mothers who had low levels of education, were African-born, and lived in regions with higher unemployment. © 2013 Springer Science+Business Media Dordrecht.

Database: EMBASE

55. Poverty, maternal health, and adverse pregnancy outcomes.

Author(s): Nagahawatte, N Tanya; Goldenberg, Robert L

Source: Annals of the New York Academy of Sciences; 2008; vol. 1136 ; p. 80-85

Publication Date: 2008

Publication Type(s): Journal Article

PubMedID: 17954684

Available at [Annals of the New York Academy of Sciences](#) - from Wiley Online Library

Abstract: Pregnancy outcomes in the United States are generally worse than those in most developed countries. Contributing to these adverse outcomes are the relatively high levels of poverty in the United States, a characteristic that is associated with decreased utilization of appropriate prenatal care and delivery services as well as having an increased number of other risk factors. Poor women tend to be more obese, to have more medical conditions, such as hypertension and diabetes, to be more likely to be stressed or depressed, and to smoke cigarettes and use illicit drugs. We present some of the potential mechanisms that explain the association between these characteristics and adverse pregnancy outcomes--focusing on preterm birth.

Database: Medline

56. Low income postpartum women are at risk of iron deficiency

Author(s): Bodnar L.M.; Cogswell M.E.; Scanlon K.S.

Source: Journal of Nutrition; 2002; vol. 132 (no. 8); p. 2298-2302

Publication Date: 2002

Publication Type(s): Article

PubMedID: 12163678

Available at [The Journal of nutrition](#) - from HighWire - Free Full Text

Available at [The Journal of nutrition](#) - from Unpaywall

Abstract: We estimated the prevalence of postpartum iron deficiency, anemia and iron deficiency anemia in the United States and compared risk of iron deficiency between women 0-24 mo postpartum (n = 680) and never-pregnant women, 20-40 y old (n = 587). We used data from National Health and Nutrition Examination Survey, 1988-1994. Iron deficiency was defined as abnormal values for ≥ 2 of 3 iron status measures (serum ferritin, free erythrocyte protoporphyrin, transferrin saturation). Iron deficiency prevalences for women 0-6, 7-12 and 13-24 mo postpartum were 12.7, 12.4 and 7.8%, respectively, and 6.5% among never-pregnant women. After adjustment for confounding, the risk of iron deficiency among women with a poverty index ratio $> 130\%$ who were 0-6, 7-12 and 13-24 mo postpartum was 4.1 (95% confidence interval 2.0, 7.2), 3.1 (1.3, 6.5) and 2.0 (0.8, 4.1) times as great, respectively, as never-pregnant women with a poverty index ratio $> 130\%$, but risk was not elevated for never-pregnant women with a poverty index ratio $\leq 130\%$. Compared with the same referent, the risk of iron deficiency was not meaningfully different for women with a poverty index ratio $> 130\%$ who were 0-6, 7-12 or 13-24 mo postpartum. Given that low income postpartum women bear a substantially greater iron deficiency risk than never-pregnant women, more attention should be given to preventing iron deficiency among low income women during and after pregnancy.

Database: EMBASE

Strategy 790353

#	Database	Search term	Results
1	Medline	(poverty).ti	4391
2	Medline	*POVERTY/ OR *"WORKING POOR"/	15722
3	Medline	(1 OR 2)	17007
4	Medline	(pregnan* OR maternal).ti	288913
5	Medline	exp PREGNANCY/	818865
6	Medline	("perinatal period").ti,ab	6033
7	Medline	exp "POSTPARTUM PERIOD"/	58375
8	Medline	("postpartum period").ti,ab	7783
9	Medline	(4 OR 5 OR 6 OR 7 OR 8)	912218
10	Medline	(3 AND 9)	1413
11	Medline	*"PREGNANCY OUTCOME"/	17458
12	Medline	(3 AND 11)	60
13	CINAHL	(poverty).ti	2842
15	CINAHL	*POVERTY/ OR *"POVERTY AREAS"/	9537
16	CINAHL	(13 OR 15)	10282
17	CINAHL	(pregnan*).ti	60099
18	CINAHL	*PREGNANCY/	2995
19	CINAHL	*"PREGNANCY OUTCOMES"/	9351
20	CINAHL	(17 OR 18 OR 19)	66182

21	CINAHL	(16 AND 20)	209
22	CINAHL	*PUERPERIUM/ OR *"POSTNATAL PERIOD"/	4461
23	CINAHL	(16 AND 22)	50
24	CINAHL	*"SOCIAL WELFARE"/	3146
25	CINAHL	(20 AND 24)	5
26	CINAHL	*"ECONOMIC STATUS"/	53
27	CINAHL	(20 AND 26)	0
28	CINAHL	(economic* ADJ2 depriv*).ti,ab	485
29	CINAHL	(20 AND 28)	12
30	CINAHL	(poverty ADJ2 pregnan*).ti,ab	46
31	CINAHL	("social security").ti,ab	2398
32	CINAHL	(20 AND 31)	19
33	CINAHL	exp UNEMPLOYMENT/	3947
34	CINAHL	(20 AND 33)	33
35	Medline	exp UNEMPLOYMENT/	6302
36	Medline	(unemployment).ti	1732
37	Medline	(socioeconomic OR economic).ti	51502
38	Medline	(35 OR 36 OR 37)	57615
39	Medline	(11 AND 38)	92
40	Medline	((pregnancy OR birth) ADJ2 outcome*).ti	10883
41	Medline	(38 AND 40)	78

42	EMBASE	*POVERTY/ OR *"POVERTY AREAS"/ OR *SOCIOECONOMICS/	32722
43	EMBASE	(poverty).ti	4641
44	EMBASE	(42 OR 43)	0
45	EMBASE	*"PREGNANCY OUTCOME"/	18349
46	EMBASE	(pregnan*).ti	246931
47	EMBASE	(45 OR 46)	253069
48	EMBASE	(44 AND 47)	500
49	EMBASE	(conference OR letter OR comment OR note).pt	6341983
50	EMBASE	48 not 49	478
51	EMBASE	*"SOCIAL SECURITY"/	4495
52	EMBASE	(47 AND 51)	17
53	EMBASE	*UNEMPLOYMENT/	3720
54	EMBASE	(47 AND 53)	16
55	EMBASE	*PUERPERIUM/	12033
56	EMBASE	(44 AND 55)	38
57	BNI	((pregnancy OR birth) ADJ2 outcome*).ti	722
58	BNI	(poverty OR socioeconomic* OR economic).ti	2715
59	BNI	"LOW INCOME GROUPS"/ OR POVERTY/	3716
60	BNI	UNEMPLOYMENT/	381
61	BNI	"SOCIAL SECURITY"/	582

62	BNI	(58 OR 59 OR 60 OR 61)	6881
63	BNI	(57 AND 62)	15