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AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY

A randomized clinical trial of exercise during pregnancy to prevent gestational diabetes mellitus and improve pregnancy outcome in overweight and obese pregnant women.

Wang, C.; Wei, Y.; Zhang, X.; Zhang, Y.; Xu, Q.; Sun, Y.; Su, S.; Zhang, L.; Liu, C.; Feng, Y.; Shou, C.; Guelfi, K.J.; Newnham, J.P.; Yang, H.Vol. 216 Nr. 4 Página: 340 - 351 Fecha de publicación: 01/04/2017

Resumen:

BACKGROUND: Obesity and being overweight are becoming epidemic, and indeed, the proportion of such women of reproductive age has increased in recent times. Being overweight or obese prior to pregnancy is a risk factor for gestational diabetes mellitus, and increases the risk of adverse pregnancy outcome for both mothers and their offspring. Furthermore, the combination of gestational diabetes mellitus with obesity/overweight status may increase the risk of adverse pregnancy outcome attributable to either factor alone. Regular exercise has the potential to reduce the risk of developing gestational diabetes mellitus and can be used during pregnancy; however, its efficacy remain controversial. At present, most exercise training interventions are implemented on Caucasian women and in the second trimester, and there is a paucity of studies focusing on overweight/obese pregnant women. OBJECTIVE: We sought to test the efficacy of regular exercise in early pregnancy to prevent gestational diabetes mellitus in Chinese overweight/obese pregnant women. STUDY DESIGN: This was a prospective randomized clinical trial in which nonsmoking women age >18 years with a singleton pregnancy who met the criteria for overweight/obese status (body mass index 24=28 kg/m(2)) and had an uncomplicated pregnancy at <12(+6) weeks of gestation were randomly allocated to either exercise or a control group. Patients did not have contraindications to physical activity. Patients allocated to the exercise group were assigned to exercise 3 times per week (at least 30 min/session with a rating of perceived exertion between 12-14) via a cycling program begun within 3 days of randomization until 37 weeks of gestation. Those in the control group continued their usual daily activities. Both groups received standard prenatal care, albeit without special dietary recommendations. The primary outcome was incidence of gestational diabetes mellitus. RESULTS: From December 2014 through July 2016, 300 singleton women at 10 weeks' gestational age and with a mean prepregnancy body mass index of 26.78 ± 2.75 kg/m(2) were recruited. They were randomized into an exercise group (n = 150) or a control group (n = 150). In all, 39 (26.0%) and 38 (25.3%) participants were obese in each group, respectively. Women randomized to the exercise group had a significantly lower incidence of gestational diabetes mellitus (22.0% vs 40.6%; P < .001). These women also had significantly less gestational weight gain by 25 gestational weeks (4.08 ± 3.02 vs 5.92 ± 2.58 kg; P < .001) and at the end of pregnancy (8.38 ± 3.65 vs 10.47 ± 3.33 kg; P < .001), and reduced insulin resistance levels (2.92 ± 1.27 vs 3.38 ± 2.00; P = .033) at 25 gestational weeks. Other secondary outcomes, including gestational weight gain between 25-36 gestational weeks (4.55 ± 2.06 vs 4.59 ± 2.31 kg; P = .9), insulin resistance levels at 36 gestational weeks (3.56 ± 1.89 vs 4.07 ± 2.33; P = .1), hypertensive disorders of pregnancy (17.0% vs 19.3%; odds ratio, 0.854;

95% confidence interval, 0.434-2.683; P = .6), cesarean delivery (except for scar uterus) (29.5% vs 32.5%; odds ratio, 0.869; 95% confidence interval, 0.494-1.529; P = .6), mean gestational age at birth (39.02 ± 1.29 vs 38.89 ± 1.37 weeks' gestation; P = .5); preterm birth (2.7% vs 4.4%, odds ratio, 0.600; 95% confidence interval, 0.140-2.573; P = .5), macrosomia (defined as birthweight >4000 g) (6.3% vs 9.6%; odds ratio, 0.624; 95% confidence interval, 0.233-1.673; P = .3), and large-for-gestational-age infants (14.3% vs 22.8%; odds ratio, 0.564; 95% confidence interval, 0.284-1.121; P = .1) were also lower in the exercise group compared to the control group, but without significant difference. However, infants born to women following the exercise intervention had a significantly lower birthweight compared with those born to women allocated to the control group (3345.27 ± 397.07 vs 3457.46 ± 446.00 g; P = .049). CONCLUSION: Cycling exercise initiated early in pregnancy and performed at least 30 minutes, 3 times per week, is associated with a significant reduction in the frequency of gestational diabetes mellitus in overweight/obese pregnant women. And this effect is very relevant to that exercise at the beginning of pregnancy decreases the gestational weight gain before the mid-second trimester. Furthermore, there was no evidence that the exercise prescribed in this study increased the risk of preterm birth or reduced the mean gestational age at birth.

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Syphilis during pregnancy: a preventable threat to maternal-fetal health.

Rac, M.W.; Revell, P.A.; Eppes, C.S.Vol. 216 Nr. 4 Página: 352 - 363 Fecha de publicación: 01/04/2017
Resumen:

Syphilis remains the most common congenital infection worldwide and has tremendous consequences for the mother and her developing fetus if left untreated. Recently, there has been an increase in the number of congenital syphilis cases in the United States. Thus, recognition and appropriate treatment of reproductive-age women must be a priority. Testing should be performed at initiation of prenatal care and twice during the third trimester in high-risk patients. There are 2 diagnostic algorithms available and physicians should be aware of which algorithm is utilized by their testing laboratory. Women testing positive for syphilis should undergo a history and physical exam as well as testing for other sexually transmitted infections, including HIV. Serofast syphilis can occur in patients with previous adequate treatment but persistent low nontreponemal titers (<1:8). Syphilis can infect the fetus in all stages of the disease regardless of trimester and can sometimes be detected with ultrasound >20 weeks. The most common findings include hepatomegaly and placentomegaly, but also elevated peak systolic velocity in the middle cerebral artery (indicative of fetal anemia), ascites, and hydrops fetalis. Pregnancies with ultrasound abnormalities are at higher risk of compromise during syphilotherapy as well as fetal treatment failure. Thus, we recommend a pretreatment ultrasound in viable pregnancies when feasible. The only recommended treatment during pregnancy is benzathine penicillin G and it should be administered according to maternal stage of infection per Centers for Disease Control and Prevention guidelines.

Women with a penicillin allergy should be desensitized and then treated with penicillin appropriate for their stage of syphilis. The Jarisch-Herxheimer reaction occurs in up to 44% of gravidas and can cause contractions, fetal heart rate abnormalities, and even stillbirth in the most severely affected pregnancies. We recommend all viable pregnancies receive the first dose of benzathine penicillin G in a labor and delivery department under continuous fetal monitoring for at least 24 hours. Thereafter, the remaining benzathine penicillin G doses can be given in an outpatient setting. The rate of maternal titer decline is not tied to pregnancy outcomes. Therefore, after adequate syphilotherapy, maternal titers should be checked monthly to ensure they are not increasing four-fold, as this may indicate reinfection or treatment failure.

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Risk perception regarding drug use in pregnancy.

Widnes, S.F.; Schjøtt, J.Vol. 216 Nr. 4 Página: 375 - 378 Fecha de publicación: 01/04/2017
Resumen:

Pregnant women, but also physicians, have unrealistically high perceptions of teratogenic drug effects. This may result in suboptimal treatment of disease and even influence decisions of whether to continue pregnancy. To attain more realistic teratogenic risk perceptions, several factors that influence this issue should be considered, and these are further discussed in this Clinical Opinion. Importantly, drug use may have several benefits, both for the pregnant woman's health and to avoid negative fetal effects of untreated maternal disease. A greater focus on this aspect may act to balance risk perceptions. Furthermore, both pregnant women and physicians need access to drug information sources that provide realistic risk estimates to increase confidence in appropriate drug use and prescribing. We suggest that access to decision support and individually tailored information provided by drug information centers may contribute to this goal.

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Long-acting reversible contraception in adolescents: a systematic review and meta-analysis.

Diedrich, J.T.; Klein, D.A.; Peipert, J.F.Vol. 216 Nr. 4 Página: 364.e1 - 364.e12 Fecha de publicación: 01/04/2017
Resumen:

BACKGROUND: Among adolescent pregnancies, 75% are unintended. Greater use of highly-effective contraception can reduce unintended pregnancy. Although multiple studies discuss adolescent contraceptive use, there is no consensus regarding the use of long-acting reversible contraception as a first-line contraception option. OBJECTIVE: We performed a systematic review of the medical literature to assess the continuation of long-acting reversible

contraceptives among adolescents. STUDY DESIGN: Ovid-MEDLINE, Cochrane databases, and Embase databases were searched using key words relevant to the provision of long-acting contraception to adolescents. Articles published from January 2002 through August 2016 were selected for inclusion based on specific key word searches and detailed review of bibliographies. For inclusion, articles must have provided data on method continuation, effectiveness, or satisfaction of at least 1 long-acting reversible contraceptive method in participants <25 years of age. Duration of follow-up had to be =6 months. Long-acting reversible contraceptive methods included intrauterine devices and the etonogestrel implant. Only studies in the English language were included. Guidelines, systematic reviews, and clinical reviews were examined for additional citations and relevant points for discussion. Of 1677 articles initially identified, 90 were selected for full review. Of these, 12 articles met criteria for inclusion. All studies selected for full review were extracted by multiple reviewers; inclusion was determined by consensus among authors. For studies with similar outcomes, forest plots of combined effect estimates were created using the random effects model. The meta-analysis of observational studies in epidemiology guidelines were followed. Primary outcomes measured were continuation of method at 12 months, and expulsion rates for intrauterine devices. RESULTS: This review included 12 studies, including 6 retrospective cohort studies, 5 prospective observational studies, and 1 randomized controlled trial. The 12 studies included 4886 women age <25 years: 4131 intrauterine device users and 755 implant users. The 12-month continuation of any long-acting reversible contraceptive device was 84.0% (95% confidence interval, 79.0-89.0%). Intrauterine device continuation was 74.0% (95% confidence interval, 61.0-87.0%) and implant continuation was 84% (95% confidence interval, 77.0-91.0%). Among postpartum adolescents, the 12-month long-acting reversible contraceptive continuation rate was 84.0% (95% confidence interval, 71.0-97.0%). The pooled intrauterine device expulsion rate was 8.0% (95% confidence interval, 4.0-11.0%). CONCLUSION: Adolescents and young women have high 12-month continuation of long-acting reversible contraceptive methods. Intrauterine devices and implants should be offered to all adolescents as first-line contraceptive options.

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Reducing health disparities by removing cost, access, and knowledge barriers.

Goodman, M.; Onwumere, O.; Milam, L.; Peipert, J.F.Vol. 216 Nr. 4 Página: 382.e1 - 382.e5
Fecha de publicación: 01/04/2017
Resumen:

BACKGROUND: While the rate of unintended pregnancy has declined in the United States in recent years, unintended pregnancy among teens in the United States is the highest among industrialized nations, and disproportionately affects minority teens. OBJECTIVE: Our objective of this secondary analysis was to estimate the risk of unintended pregnancy for both Black and White teens age 15-19 years when barriers to access, cost, and knowledge are removed. Our hypothesis was that the Black-White disparities would be reduced when access, education,

and cost barriers are removed. STUDY DESIGN: We performed an analysis of the Contraceptive CHOICE Project database. CHOICE is a longitudinal cohort study of 9256 sexually active girls and women ages 14-45 years in the St Louis, MO, region from 2007 through 2013. Two measures of disparities were used to analyze teenage pregnancy rates and pregnancy risk from 2008 through 2013 among teens ages 15-19 years. These rates were then compared to the rates of pregnancy among all sexually active teens in the United States during the years 2008, 2009, 2010, and 2011. We estimated an absolute measure (rate difference) and a relative measure (rate ratio) to examine Black-White disparities in the rates of unintended pregnancy. RESULTS: While national rates of unintended pregnancy are decreasing, racial disparities in these rates persist. The Black-White rate difference dropped from 158.5 per 1000 in 2008 to 120.1 per 1000 in 2011; however, the relative ratio disparity decreased only from 2.6-2.5, suggesting that Black sexually active teens in the United States have 2.5 times the rate of unintended pregnancy as White teenagers. In the CHOICE Project, there was a decreasing trend in racial disparities in unintended pregnancy rates among sexually active teens (age 15-19 years): 2008 through 2009 (rate difference, 18.2; rate ratio, 3.7), 2010 through 2011 (rate difference, 4.3; rate ratio, 1.2), and 2012 through 2013 (rate difference, -1.5; rate ratio, 1.0). CONCLUSION: When barriers to cost, access, and knowledge were removed, such as in the Contraceptive CHOICE Project, Black-White disparities in unintended pregnancy rates among sexually active teens were reduced on both absolute and relative scales. The rate of unintended pregnancy was almost equal between Black and White teens compared to large Black-White disparities on the national level.

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Effects of high-intensity training on cardiovascular risk factors in premenopausal and postmenopausal women.

Mandrup, C.M.; Egelund, J.; Nyberg, M.; Lundberg Slingsby, M.H.; Andersen, C.B.; Løgstrup, S.; Bangsbo, J.; Suetta, C.; Stallknecht, B.; Hellsten, Y.Vol. 216 Nr. 4 Página: 384.e1 - 384.e11 Fecha de publicación: 01/04/2017
Resumen:

BACKGROUND: Menopause is associated with increased risk of cardiovascular disease and the causal factors have been proposed to be the loss of estrogen and the subsequent alterations of the hormonal milieu. However, which factors contribute to the deterioration of cardiometabolic health in postmenopausal women is debated as the menopausal transition is also associated with increased age and fat mass. Furthermore, indications of reduced cardiometabolic adaptations to exercise in postmenopausal women add to the adverse health profile. OBJECTIVE: We sought to evaluate risk factors for type 2 diabetes and cardiovascular disease in late premenopausal and early postmenopausal women, matched by age and body composition, and investigate the effect of high-intensity training. STUDY DESIGN: A 3-month high-intensity aerobic training intervention, involving healthy, nonobese, late premenopausal (n = 40) and early postmenopausal (n = 39) women was conducted and anthropometrics, body

composition, blood pressure, lipid profile, glucose tolerance, and maximal oxygen consumption were determined at baseline and after the intervention. RESULTS: At baseline, the groups matched in anthropometrics and body composition, and only differed by 4.2 years in age (mean [95% confidence limits] 49.2 [48.5-49.9] vs 53.4 [52.4-54.4] years). Time since last menstrual period for the postmenopausal women was (mean [95% confidence limits] 3.1 [2.6-3.7] years). Hormonal levels (estrogen, follicle stimulation hormone, luteinizing hormone) confirmed menopausal status. At baseline the postmenopausal women had higher total cholesterol ($P < .001$), low-density lipoprotein-cholesterol ($P < .05$), and high-density lipoprotein-cholesterol ($P < .001$) than the premenopausal women. The training intervention reduced body weight ($P < .01$), waist circumference ($P < .01$), and improved body composition by increasing lean body mass ($P < .001$) and decreasing fat mass ($P < .001$) similarly in both groups. Moreover, training resulted in lower diastolic blood pressure ($P < .05$), resting heart rate ($P < .001$), total cholesterol ($P < .01$), low-density lipoprotein-cholesterol ($P < .01$), total cholesterol/high-density lipoprotein-cholesterol index ($P < .01$), and improved plasma insulin concentration during the oral glucose tolerance test ($P < .05$) in both groups. CONCLUSION: Cardiovascular risk factors are similar in late premenopausal and early postmenopausal women, matched by age and body composition, with the exception that postmenopausal women have higher high- and low-density lipoprotein-cholesterol levels. A 3-month intervention of high-intensity aerobic training reduces risk factors for type 2 diabetes and cardiovascular disease to a similar extent in late premenopausal and early postmenopausal women.

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The effect of intrauterine devices on acquisition and clearance of human papillomavirus.

Averbach, S.H.; Ma, Y.; Smith-McCune, K.; Shiboski, S.; Moscicki, A.B.Vol. 216 Nr. 4 Página: 386.e1 - 386.e5 Fecha de publicación: 01/04/2017
Resumen:

BACKGROUND: Previous studies have shown a decrease in cervical cancer associated with intrauterine device use. It has been hypothesized that intrauterine device use may alter the natural history of human papillomavirus infections, preempting development of precancerous lesions of the cervix and cervical cancer, but the effect of intrauterine devices on the natural history of human papillomavirus infection and subsequent development of cervical cancer is poorly understood. OBJECTIVE: The purpose of this study was to evaluate the association between intrauterine device use and cervical high-risk human papillomavirus acquisition and clearance. STUDY DESIGN: This is a prospective cohort study conducted from October 2000 through June 2014 among 676 sexually active young women and girls enrolled from family planning clinics in San Francisco, CA. Data were analyzed using a Cox proportional hazards model, including time-varying indicators of intrauterine device use, and adjusting for fixed and

time-dependent predictor variables. RESULTS: A total of 85 women used an intrauterine device at some time during follow-up. Among 14,513 study visits, women reported intrauterine device use at 505 visits. After adjusting for potential behavioral confounders, there was no association between intrauterine device use and human papillomavirus acquisition (hazard ratio, 0.50; 95% confidence interval, 0.20-1.23; P = .13) or clearance of human papillomavirus infection (hazard ratio, 1.44; 95% confidence interval, 0.76-2.72; P = .26). CONCLUSION: Current intrauterine device use is not associated with acquisition or persistence of human papillomavirus infection. Intrauterine device use is safe among women and girls with human papillomavirus infections and at risk for human papillomavirus acquisition. Intrauterine device use may play a role further downstream in the natural history of cervical cancer by inhibiting the development of precancerous lesions of the cervix in human papillomavirus-infected women, or enhancing clearance of established precancerous lesions.

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Assessment of vulvar discomfort with sexual activity among women in the United States.

Flynn, K.E.; Carter, J.; Lin, L.; Lindau, S.T.; Jeffery, D.D.; Reese, J.B.; Schlosser, B.J.; Weinfurt, K.P.Vol. 216 Nr. 4 Página: 391.e1 - 391.e8 Fecha de publicación: 01/04/2017
Resumen:

BACKGROUND: Multidimensional self-report measures of sexual function for women do not include the assessment of vulvar discomfort, limiting our understanding of its prevalence. In an effort to improve the measurement of patient-reported health, the National Institutes of Health funded the creation of the Patient Reported Outcomes Measurement Information System (PROMIS). This included the development of the PROMIS Sexual Function and Satisfaction measure, and version 2.0 of the Sexual Function and Satisfaction measure included 2 scales to measure vulvar discomfort with sexual activity. OBJECTIVES: The objectives of the study were to describe the development of 2 self-reported measures of vulvar discomfort with sexual activity, describe the relationships between these scales and scales for lubrication and vaginal discomfort, and report the prevalence of vulvar discomfort with sexual activity in a large, nationally representative sample of US women. STUDY DESIGN: We followed PROMIS measure development standards, including qualitative development work with patients and clinicians and psychometric evaluation of candidate items based on item response theory, in a probability sample of 1686 English-speaking US adult women. We tested 16 candidate items on vulvar discomfort. We present descriptive statistics for these items, correlation coefficients among the vulvar and vaginal scales, and mean PROMIS scores with 95% confidence intervals separately by menopausal status for the 1046 women who reported sexual activity in the past 30 days. RESULTS: Based on the psychometric evaluation of the candidate items, we created 2 separate 4 item scales, one to measure labial discomfort and pain and one to measure clitoral discomfort and pain. Additional items not included in the scales assess pain quality, numbness, and bleeding. The correlations between the lubrication, vaginal discomfort, and the 2 vulvar discomfort measures ranged from 0.46 to 0.77, suggesting

that these measures represent related yet distinct concepts. In our nationally representative sample, 1 in 5 US women endorsed some degree of vulvar discomfort with sexual activity in the past 30 days. Menopausal status was associated with lower lubrication and higher vaginal discomfort but not with vulvar discomfort. CONCLUSION: The PROMIS Vulvar Discomfort with Sexual Activity-Labial and Vulvar Discomfort with Sexual Activity-Clitoral scales are publicly available for use in research and clinical settings. There is limited overlap between vulvar discomfort and lubrication or vaginal discomfort. The importance of measuring vulvar discomfort as part of a comprehensive assessment of sexual function is underscored by its prevalence.

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A longitudinal study of sleep duration in pregnancy and subsequent risk of gestational diabetes: findings from a prospective, multiracial cohort.

Rawal, S.; Hinkle, S.N.; Zhu, Y.; Albert, P.S.; Zhang, C.Vol. 216 Nr. 4 Página: 399.e1 - 399.e8
Fecha de publicación: 01/04/2017
Resumen:

BACKGROUND: Both short and prolonged sleep duration have been linked to impaired glucose metabolism. Sleep patterns change during pregnancy, but prospective data are limited on their relation to gestational diabetes. OBJECTIVE: We sought to prospectively examine the trimester-specific (first and second trimester) association between typical sleep duration in pregnancy and subsequent risk of gestational diabetes, as well as the influence of compensatory daytime napping on this association. STUDY DESIGN: In the prospective, multiracial Eunice Kennedy Shriver National Institute of Child Health and Human Development Fetal Growth Studies-Singleton Cohort, 2581 pregnant women reported their typical sleep duration and napping frequency in the first and second trimesters. Diagnosis of gestational diabetes (n = 107; 4.1%) was based on medical records review. Adjusted relative risks with 95% confidence intervals for gestational diabetes were estimated with Poisson regression, adjusting for demographics, prepregnancy body mass index, and other risk factors. RESULTS: From the first and second trimester, sleep duration and napping frequency declined. Sleeping duration in the second but not first trimester was significantly related to risk of gestational diabetes. The association between second-trimester sleep and gestational diabetes differed by prepregnancy obesity status (P for interaction = .04). Among nonobese but not obese women, both sleeping >8-9 hours or <8-9 hours were significantly related to risk of gestational diabetes: 5-6 hours (adjusted relative risk, 2.52; 95% confidence interval, 1.27-4.99); 7 hours (adjusted relative risk, 2.01; 95% confidence interval, 1.09-3.68); or =10 hours (adjusted relative risk, 2.17; 95% confidence interval, 1.01-4.67). Significant effect modification by napping frequency was also observed in the second trimester (P for interaction = .03).

Significant and positive association between reduced sleep (5-7 hours) and gestational diabetes was observed among women napping rarely/never (adjusted relative risk, 2.48; 95% confidence interval, 1.20-5.13), whereas no comparable associations were observed among women napping most/sometimes. CONCLUSION: Our data suggest a U-shaped association between sleep duration and gestational diabetes, and that napping and prepregnancy obesity status may modify this association.

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Planned home births: the need for additional contraindications.

Grünebaum, A.; McCullough, L.B.; Sapra, K.J.; Arabin, B.; Chervenak, F.A.Vol. 216 Nr. 4 Página: 401.e1 - 401.e8 Fecha de publicación: 01/04/2017
Resumen:

BACKGROUND: Planned home births in the United States are associated with fewer interventions but with increased adverse neonatal outcomes such as perinatal and neonatal deaths, neonatal seizures or serious neurologic dysfunction, and low 5-minute Apgar scores. The American College of Obstetricians and Gynecologists' Committee on Obstetric Practice states that, to reduce perinatal death and to improve outcomes at planned home births, strict criteria are necessary to guide the selection of appropriate candidates for planned home birth. The committee lists 3 absolute contraindications for a planned home birth: fetal malpresentation, multiple gestations, and a history of cesarean delivery. OBJECTIVE: The aim of this study was to evaluate whether there are risk factors that should be considered contraindications to planned home births in addition to the 3 that are listed by the American College of Obstetricians and Gynecologists. STUDY DESIGN: We conducted a population-based, retrospective cohort study of all term (=37 weeks gestation), normal weight (=2500 grams), singleton, nonanomalous births from 2009-2013 using the Centers for Disease Control and Prevention's period-linked birth-infant death files that allowed for identification of intended and unintended home births. We examined neonatal deaths (days 0-27 after birth) across 3 groups (hospital-attended births by certified nurse midwives, hospital-attended births by physicians, and planned home births) for 5 risk factors: 2 of the 3 absolute contraindications to home birth listed by the American College of Obstetricians and Gynecologists (breech presentation and previous cesarean delivery) and 3 additional risk factors (parity [nulliparous and multiparous], maternal age [women <35 and =35 years old], and gestational age at delivery [37-40 and =41 weeks]). RESULTS: The overall risk of neonatal death was significantly higher in planned home births (12.1 neonatal death/10,000 deliveries; P<.001) compared with hospital births by certified nurse midwives (3.08 neonatal death/10,000 deliveries) or physicians (5.09 neonatal death/10,000 deliveries). Neonatal mortality rates were increased significantly at planned home births, with the following individual risk factors: breech presentation (neonatal mortality rate, 127.52/10.000 births), nulliparous pregnant women

(neonatal mortality rate, 22.5/10,000), previous cesarean delivery (18.91/10,000 births), and a gestational age =41 weeks (neonatal mortality rate, 17.17/10,000 births). Planned home births with =1 of the 5 risk factors had significantly higher neonatal death risks compared with deliveries with none of the risks. Neonatal death risk was further increased when a woman's age of =35 years was combined with either a first-time birth or a gestational age of =41 weeks. CONCLUSIONS: In this study, we show 2 risk factors with significantly increased neonatal mortality rates at planned home births in addition to the 3 factors that are listed by the American College of Obstetricians and Gynecologists. These additional risks factors have neonatal mortality rates that are approaching or exceeding those for planned home birth after cesarean delivery: first-time births and a gestational age of = 41 weeks. Therefore, 2 additional risk factors (first-time births and a gestational age of =41 weeks) should be added to the 3 absolute contraindications of planned home births that are listed by the American College of Obstetricians and Gynecologists (previous cesarean delivery, malpresentation, multiple gestations) for a total of 5 contraindications for planned home births.