Obstetrics

Associated factors of prenatal depression among teenage pregnant women at King Chulalongkorn Memorial Hospital.

Uthaipaisanwong A, **Rungruxsirivorn T**, Roomruangwong C, **Taechakraichana N, Chaithongwongwatthana S.**

Abstract

OBJECTIVE:

Depression during pregnancy is associated with deteriorating maternal health and increasing risk of preterm birth, fetal growth restriction, and suicidal attempt. The problems may be worse in adolescents who are more vulnerable. This study was conducted to determine the percentage of depression among teenage mothers and its associated factors.

MATERIAL AND METHOD:

Two hundred teenage pregnant women aged between 13 and 19 years who visited King Chulalongkorn Memorial Hospital (KCMH) participated in the present study. They were asked to complete the validated Thai Edinburgh Postnatal Depression Scale (EPDS) questionnaire for depression screening. The cut-offscore of 11 was used for the diagnosis of prenatal depression.

RESULTS:

Ninety-two (46%) teenage pregnant women were found to have prenatal depression using the EPDS cut-off score of 11. The mean age of participants was 17.5 years with the mean gestational ages of 23 weeks. Most of the participants (67%) resignedfrom school and 16% had history of attempted abortion during current pregnancy. There was no significant association between prenatal depression and unplanned pregnancy, unemployment, leaving school, or trimester at screening. Logistic regression analyses showed that history of attempted abortion and inadequate income were significantly associated with prenatal depression (odd ratio = 8.03, 95% CI 1.59 to 40.37 and 4.16, 95% CI 1.35 to 12.83, respectively).

CONCLUSION:

Prenatal depression was common among teenage pregnant women who visited KCMH. Attempted abortion and inadequate income were found to be significantly associated with prenatal depression.

Interventions for heartburn in pregnancy.

Phupong V, Hanprasertpong T.

Abstract

BACKGROUND:

Heartburn is one of the most common gastrointestinal symptoms in pregnant women. It can occur in all trimesters of pregnancy. The symptoms of heartburn in pregnancy may be frequent, severe and distressing, but serious complications are rare. Many interventions have been used for the treatment of heartburn in pregnancy. These interventions include advice on diet, lifestyle modification and medications. However, there has been no evidence-based recommendation for the treatment of heartburn in pregnancy.

OBJECTIVES:

To assess the effects of interventions for relieving heartburn in pregnancy.

SEARCH METHODS:

We searched the Cochrane Pregnancy and Childbirth Group's Trials Register (30 June 2015), ClinicalTrials.gov (2 March 2015), Asian & Oceanic Congress of Obstetrics & Gynaecology (AOCOG) conference proceedings (20-23 October 2013, Centara Grand & Bangkok Convention Centre, Bangkok, Thailand), and reference lists of retrieved studies.

SELECTION CRITERIA:

Randomised controlled trials (RCTs) and quasi-RCTS of interventions for heartburn in pregnancy compared with another intervention, or placebo, or no intervention. Cluster-RCTs would have been eligible for inclusion but none were identified. We excluded studies available as abstracts only and those using a cross-over design.Interventions could include advice on diet, lifestyle modification and medications (such as antacids, sucralfate, histamine 2-receptor antagonists, promotility drugs and proton pump inhibitors (PPIs)).

DATA COLLECTION AND ANALYSIS:

Two review authors independently assessed trials for inclusion and risk of bias, extracted data and checked them for accuracy.

MAIN RESULTS:

We included nine RCTs involving 725 women. However, five trials did not contribute data. Four trials involving 358 women contributed data. Trials were generally at mixed risk of bias. We only identified data for three comparisons: pharmaceutical treatment versus placebo or no treatment; acupuncture versus no treatment and pharmacological intervention versus advice on dietary and lifestyle changes. Pharmaceutical treatment compared with placebo or no treatmentTwo trials evaluated any pharmaceutical treatment compared with placebo or no treatment. One trial examined a treatment rarely used nowadays (intramuscular prostigmine 0.5 mg versus placebo). One trial evaluated the effect of magnesium and aluminium hydroxide plus simethicone liquid and tablet compared with placebo. For the primary outcome of this review (relief of heartburn), women who received pharmaceutical treatment reported complete heartburn relief more often than women receiving no treatment or placebo (risk ratio (RR) 1.85, 95% confidence interval (CI) 1.36 to 2.50 in two RCTs of 256 women, I(2) = 0%, moderate-quality evidence). Data on partial relief of heartburn were heterogenous and showed no clear difference (average RR 1.35, 95% CI 0.38 to 4.76 in two RCTs of 256 women, very low-quality evidence). In terms of secondary outcomes, there was no clear difference in the rate of side effects between the pharmaceutical treatment group and the placebo/no treatment group (RR 0.63, 95% CI 0.21 to 1.89 in two RCTs of 256 women, very low-quality evidence). Pharmacological intervention versus advice on dietary and lifestyle choicesOne study compared 1 g of sucralfate with advice on dietary and lifestyle choices in treating heartburn. More women in the sucralfate group experienced complete relief of heartburn compared to women who received advice on diet and lifestyle choices (RR 2.41, 95% CI 1.42 to 4.07; participants = 65; studies = one). The only secondary outcome of interest addressed by this trial was side effects. The evidence was not clear on intervention side effects rate between the two groups (RR 1.74, 95% CI 0.07 to 41.21; participants = 66; studies = one). There was only one instance of side effects in the pharmacological group. Acupuncture compared with no treatmentOne trial evaluated acupuncture compared with no treatment but did not report data relating to this review's primary outcome (relief of heartburn). In terms of secondary outcomes, there was no difference in the rate of side effects between women who had acupuncture and women who had no treatment (RR 2.43, 95% CI 0.11 to 55.89 in one RCT of 36 women). With regard to quality of life, women who had acupuncture reported improved ability to sleep (RR 2.80, 95% CI 1.14 to 6.86) and eat (RR 2.40, 95% CI 1.11 to 5.18 in one RCT of 36 women).The following secondary outcomes were not reported upon in any of the trials included in the review: miscarriage, preterm labour, maternal satisfaction, fetal anomalies, intrauterine growth restriction, low birthweight.

AUTHORS' CONCLUSIONS:

There are no large-scale RCTs to assess heartburn relief in pregnancy. This review of nine small studies (which involved data from only four small studies) indicates that there are limited data suggesting that heartburn in pregnancy could be completely relieved by pharmaceutical treatment. Three outcomes were assessed and assigned a quality rating using the GRADE methods. Evidence from two trials for the outcome of complete relief of heartburn was assessed as of moderate quality. Evidence for the outcomes of partial heartburn relief and side effects was graded to be of very low quality. Downgrading decisions were based in part on the small size of the trials and on heterogenous and imprecise results.There are insufficient data to assess acupuncture versus no treatment and no data to assess other comparisons (miscarriage, preterm labour, maternal satisfaction, fetal anomalies, intrauterine growth restriction, low birthweight).Further RCTs are needed to fully evaluate the effectiveness of interventions for heartburn in pregnancy. Future research should also address other medications such as histamine 2-receptor antagonists, promotility drugs, proton pump inhibitors, and a raft-forming alginate reflux suppressant in treatment of heartburn in pregnancy. More research is needed on acupuncture and other complimentary therapies as treatments for heartburn in pregnancy. Future research should also evaluate any adverse outcomes, maternal satisfaction with treatment and measure pregnant women's quality of life in relation to the intervention.

Effect of ethnicity on first trimester biomarkers for combined trisomy 21 screening: results from a multicenter study in six Asian countries.

Manotaya S, Zitzler J, Li X, Wibowo N, Pham TM, Kang MS, Lee CN.

Abstract

OBJECTIVE:

To assess differences between first trimester trisomy 21 screening markers free beta chain of the human chorionic gonadotrophin (βhCG) and pregnancy-associated plasma protein A (PAPP-A) in pregnant women of six different Asian countries (China, Indonesia, Korea, Taiwan, Thailand, and Vietnam) and compare serum levels with those in women of European countries.

METHODS:

Median and multiple of median (MoM) values of free βhCG and PAPP-A were determined in more than 3000 pregnant women from the Asian countries during their first trimester of pregnancy. Differences in MoM values between a European reference group from a previous multicenter evaluation and the Asian population were evaluated. Two different types of population correction factors for T21 risk estimation were assessed.

RESULTS:

An at least 10% difference of median MoMs between European and Asian PAPP-A values was found to be statistically significant (p < 0.0001). The specificity of the screening did not show a big difference in individual countries, when using the country-specific correction factor compared with the overall Asian correction factor (<1.4%).

CONCLUSIONS:

The use of a correction factor is recommended based on the differences in European and Asian MoM values. Developing country-specific medians in larger study populations can help identify clinical relevant differences and give the opportunity to explore a more accurate risk calculation.

Evaluation of the performance of the insulin-like growth factor-binding protein-1/alpha-fetoprotein test in diagnosing ruptured fetal membranes in pregnant women.

Ruanphoo P, **Phupong V.**

Abstract
OBJECTIVE:

The objective of this study was to evaluate the efficacy of IGFBP-1/AFP (insulin-like growth factor-binding protein-1/alpha-fetoprotein) immunoassay (Amnioquick Duo+) in diagnosing rupture of membranes (ROM).

STUDY DESIGN:

A prospective, observational study was performed in pregnant women with a history of fluid leakage rom the vagina. The IGFBP-1/AFP immunoassay and conventional methods were used to diagnose ROM. The obstetricians were blinded to the results of the IGFBP-1/AFP immunoassay. The diagnosis of ROM was finally confirmed by reviewing the medical records after delivery.

RESULT:

One hundred patients were recruited into this study. The mean gestational age was 37.6 weeks (range 25 to 41 weeks). Twenty-six percent were preterm and 74% were at term. IGFBP-1/AFP immunoassay had a sensitivity of 94.1%, specificity of 87.5%, positive predictive value of 97.5%, negative predictive value of 73.7% and accuracy of 93% in diagnosing ROM.

CONCLUSION:

IGFBP-1/AFP immunoassay is a rapid immunoassay test for diagnosing ROM with a high sensitivity and specificity. This test can be used as an alternative method for diagnosis of ROM.

Comment in

- RE: Evaluation of the performance of the insulin-like growth factor-binding protein-1/alpha-fetoprotein test in diagnosing ruptured fetal membranes in pregnant women. [J Perinatol. 2016]
- Evaluation of the performance of the insulin-like growth factor-binding protein-1/alpha-fetoprotein test in diagnosing ruptured fetal membranes in pregnant women. [J Perinatol. 2016]

Intrapartum and neonatal outcome of screening non-stress test (NST) compared with no screening NST in healthy women at 40-40 (+6) weeks of gestation.

Kiettisanpipop P1, **Phupong V.**

Abstract

AIM:

The aim of this study was to compare the intrapartum and neonatal outcome between screening non-stress test (NST) and no screening NST groups in healthy pregnant women at a gestational age of 40-40(+6) weeks.

METHODS:

Healthy pregnant women, with a gestational age of 40-40(+6) weeks who had received antenatal care and delivered at King Chulalongkorn Memorial Hospital, Bangkok, Thailand, between 1 July 2011 and 31 March 2013, were included in the study. The treatment group consisted of women who had had screening NST while no NST screening had been performed in the control group. The primary outcome was intrapartum and neonatal outcome, which included stillbirth, the incidence of non-reassuring fetal heart, neonatal morbidity (meconium aspiration, respiratory distress, neonatal asphyxia) and neonatal mortality. Secondary outcome was the cost-effectiveness of the NST screening.

RESULTS:

A total of 460 healthy pregnant women with a gestational age of 40-40(+6) weeks were included in the study. There were 228 cases in the NST screening group and 232 cases in the no NST screening group. There was no significant difference in the incidence of stillbirth, non-reassuring fetal heart, neonatal morbidity (meconium aspiration, respiratory distress, neonatal asphyxia) and neonatal mortality. The cost of NST plus neonatal care was higher in the NST screening group than the no NST screening group.

CONCLUSION:

Routine performing NST at the gestational age of 40-40(+6) weeks has no benefit in intrapartum and neonatal outcome.

KEYWORDS:

neonatal outcome; non-stress test; pregnancy; stillbirth; term

Oral magnesium for relief in pregnancy-induced leg cramps: a randomised controlled trial.

Supakatisant C, **Phupong V.**

Abstract

Leg cramps are common in pregnant women. Currently, there is no standard treatment for pregnancy-induced leg cramps. The objective of this study was to evaluate the therapeutic efficacy of oral magnesium in pregnant women with leg cramps. This double-blinded, randomised, placebo-controlled trial included 86 healthy pregnant women, 14-34 weeks of gestation who had leg cramps at least twice per week. The study period was 4 weeks. Eighty women completed the study. Forty-one women were assigned to magnesium bisglycinate chelate (300 mg per day) and 39 women to placebo. Details of leg cramps were recorded before beginning the treatment and the fourth week of study. Outcome measure was the reduction of cramp frequency after treatment and cramp intensity measured by 100-mm visual analogue scale. Fifty per cent reduction of cramp frequency was significantly higher in the magnesium group than the placebo group (86.0% vs. 60.5%, P=0.007). The 50% reduction of cramp intensity was also significantly higher in the treatment group than in the placebo group (69.8% vs. 48.8%, P=0.048). There were no significant differences between the two groups in terms of side effects such as nausea and diarrhoea. These results demonstrated that oral magnesium supplement can improve the frequency and intensity of pregnancy-induced leg cramps. Therefore, oral magnesium may be a treatment option for women suffering from pregnancy-induced leg cramps. © 2012 Blackwell Publishing Ltd.

KEYWORDS:

leg cramps; magnesium bisglycinate chelate; oral; pregnancy; trial

Pneumococcal vaccination during pregnancy for preventing infant infection.

Chaithongwongwatthana S, Yamasmit W, Limpongsanurak S, Lumbiganon P, Tolosa JE.

Abstract

BACKGROUND:

Approximately 450,000 children worldwide die of pneumococcal infections each year. The developmen of bacterial resistance to antimicrobials adds to the difficulty of treatment of diseases and emphasizes the need for a preventive approach. Newborn vaccination schedules could substantially reduce the impact of pneumococcal disease in immunized children, but do not have an effect on the morbidity and mortality of infants less than three months of age. Pneumococcal vaccination during pregnancy may be a way of preventing pneumococcal disease during the first months of life before the pneumococcal vaccine administered to the infant starts to produce protection.

OBJECTIVES:

To assess the effect of pneumococcal vaccination during pregnancy for preventing infant infection.

SEARCH METHODS:

We searched the Cochrane Pregnancy and Childbirth Group's Trials Register (31 July 2014) and reference lists of retrieved studies.

SELECTION CRITERIA:

Randomized controlled trials in pregnant women comparing pneumococcal vaccine with placebo or doing nothing, or with another vaccine to prevent infant infections.

DATA COLLECTION AND ANALYSIS:

Two review authors independently assessed trials for inclusion and risk of bias, extracted data and checked them for accuracy. We contacted study authors for additional information.

MAIN RESULTS:

Seven trials were included, but only six trials (919 participants) contributed data. There was no evidence that pneumococcal vaccination during pregnancy reduces the risk of neonatal infection (risk ratio (RR) 0.66; 95% confidence interval (CI) 0.30 to 1.46; two trials, 241 pregnancies, low quality evidence). Although the data suggest an effect in reducing pneumococcal colonization in infants by 16 months of age (average RR 0.33; 95% CI 0.11 to 0.98; one trial, 56 pregnancies), there was no evidence of this effect in infants at two to three months of age (average RR 1.13; 95% CI 0.46 to 2.78; two trials, 146 pregnancies, low quality evidence) or by six to seven months of age (average RR 0.67, 95% CI 0.22 to 2.08; two trials, 148 pregnancies, low quality evidence). None of the trials included in this review reported neonatal death as a result of pneumococcal infection.Neonatal antibody levels were reported as geometric mean and 95% CI. There were inconsistent results between studies. Two studies showed significantly higher immunoglobulin G (IgG) levels in cord blood in the pneumococcal vaccine group when compared with the control group for all serotypes. In contrast, another trial showed no difference in neonatal antibody levels between the pneumococcal vaccine group and the control group.Maternal antibody levels were also reported as geometric mean and 95% CI. One study showed significantly higher IgG levels in maternal serum in women immunized with pneumococcal vaccine when compared with control vaccine regardless of any serotypes. Another study showed significantly higher maternal antibody levels only for serotype 14, but no evidence of an effect for other serotypes.The percentage of women with seroprotection was measured in one trial at delivery and at 12 months post-delivery. At delivery, results favored the intervention group for serotype 6 (RR 1.49, 95% CI 1.31 to 1.69), serotype 14 (RR 1.40, 95% CI 1.25 to 1.56) and serotype 19 (RR 2.29, 95% CI 1.89 to 2.76). There were no group differences seen at 12 months post-delivery for serotypes 6 or 14 (RR 1.06, 95% CI 1.00 to 1.12 and RR 1.06, 95% CI 0.98 to 1.15, respectively), but results favored the intervention group for serotype 19 (RR 1.59, 95% CI 1.37 to 1.85).No significant difference for tenderness at the injection site between women who received pneumococcal vaccine and those who received control vaccine (average RR 3.20; 95% CI 0.32 to 31.54; two trials, 130 women).The overall quality of evidence is low for primary outcomes. Most outcomes had wide confidence intervals crossing the line of no effect, and most of the included trials had small numbers of participants and few events which led to downgrading evidence for imprecision of findings.

AUTHORS' CONCLUSIONS:

There is insufficient evidence to assess whether pneumococcal vaccination during pregnancy could reduce infant infections.

Update of Pneumococcal vaccination during pregnancy for preventing infant infection. [Cochrane Database Syst Rev. 2012]

Prophylactic oral betamimetics for reducing preterm birth in women with a twin pregnancy.

Yamasmit W, **Chaithongwongwatthana S**, Tolosa JE, Limpongsanurak S, Pereira L, Lumbiganon P.

Abstract

BACKGROUND:

Twin pregnancies are associated with a high risk of neonatal mortality and morbidity due to an increased rate of preterm birth. Betamimetics can decrease contraction frequency or delay preterm birth in singleton pregnancies by 24 to 48 hours. The efficacy of oral betamimetics in women with a twin pregnancy is unproven.

OBJECTIVES:

To assess the effectiveness of prophylactic oral betamimetics for the prevention of preterm labour and birth for women with twin pregnancies.

SEARCH METHODS:

We searched the Cochrane Pregnancy and Childbirth Group Trials Register (21 September 2015), MEDLINE (January 1966 to 31 July 2015), EMBASE (January 1985 to 31 July 2015) and reference lists of retrieved studies.

SELECTION CRITERIA:

Randomised controlled trials in twin pregnancies comparing oral betamimetics with placebo or any intervention with the specific aim of preventing preterm birth. Quasi-randomised controlled trials, cluster-randomised trials and cross-over trials were not eligible for inclusion.

DATA COLLECTION AND ANALYSIS:

Two review authors independently assessed trials for inclusion and risk of bias, extracted data and checked them for accuracy. Two authors assessed the quality of the evidence using the GRADE approach.

MAIN RESULTS:

Overall, the quality of evidence is low for the primary outcomes. All of the included trials had small numbers of participants and few events. Preterm birth, the most important primary outcome, had wide confidence intervals crossing the line of no effect.Six trials (374 twin pregnancies) were included, but only five trials (344 twin pregnancies) contributed data. All trials compared oral betamimetics with placebo.Betamimetics reduced the incidence of preterm labour (two trials, 194 twin pregnancies, risk ratio (RR) 0.37; 95% confidence interval (CI) 0.17 to 0.78; low quality evidence). However, betamimetics did not reduce prelabour rupture of membranes (one trial, 144 twin pregnancies, RR 1.42; 95% CI 0.42 to 4.82; low quality evidence), preterm birth less than 37 weeks' gestation (four trials, 276 twin pregnancies, RR 0.85; 95% CI 0.65 to 1.10; low quality evidence), or less than 34 weeks' gestation (one trial, 144 twin pregnancies, RR 0.47; 95% CI 0.15 to 1.50; low quality evidence). Mean neonatal birthweight in the betamimetic group was significantly higher than in the placebo group (three trials, 478 neonates, mean difference 111.22 g; 95% CI 22.21 to 200.24). Nevertheless, there was no evidence of an effect of betamimetics in reduction of low birthweight (two trials, 366 neonates, average RR 1.19; 95% CI 0.77 to 1.85, random-effects), or small-for-gestational age neonates (two trials, 178 neonates, average RR 0.90; 95% CI 0.41 to 1.99, random-effects). Two trials showed that betamimetics significantly reduced the incidence of respiratory distress syndrome (388 neonates, RR 0.30; 95% CI 0.12 to 0.77), but the difference was not significant when the analysis was adjusted to account for the non-independence of twins (194 twins, RR 0.35; 95% CI 0.11 to 1.16). Three trials showed no evidence of an effect of betamimetics in reducing neonatal mortality, either with the unadjusted analysis, assuming twins are completely independent of each other (452 neonates, average RR 0.90; 95% CI 0.15 to 5.37, random-effects), or in the adjusted analysis, assuming non-independence of twins (226 twins, average RR 0.74; 95% CI 0.23 to 2.38, random-effects). A maternal death was reported in one trial without a significant difference between the groups (144 women, RR 2.84; 95% CI 0.12 to 68.57).

AUTHORS' CONCLUSIONS:

There is insufficient evidence to support or refute the use of prophylactic oral betamimetics for preventing preterm birth in women with a twin pregnancy.

Update of
• Prophylactic oral betamimetics for reducing preterm birth in women with a twin pregnancy. [Cochrane Database Syst Rev. 2012]