

Nº de abstracts = 10

Does exercise during pregnancy prevent postnatal depression?: A randomized controlled trial.  
SongÅ, ygard KM, Stafne SN, Evensen KA, Salvesen KÅ..., Vik T, MÅ, rkved S -

Acta obstetricia et gynecologica Scandinavica 2012 Feb --91(1):62-7 Objective. To study whether exercise during pregnancy reduces the risk of postnatal depression. Design. Randomized controlled trial. Setting. Trondheim and Stavanger University Hospitals, Norway. Population and Sample. Eight hundred and fifty-five pregnant women were randomized to intervention or control groups. Methods. The intervention was a 12week exercise program, including aerobic and strengthening exercises, conducted between week 20 and 36 of pregnancy. One weekly group session was led by physiotherapists, and home exercises were encouraged twice a week. Control women received regular antenatal care. Main Outcome Measures. Edinburgh Postnatal Depression Scale (EPDS) completed three months after birth. Scores of 10 or more and 13 or more suggested probable minor and major depression, respectively. Results. Fourteen of 379 (3.7%) women in the intervention group and 17 of 340 (5.0%) in the control group had an EPDS score of  $\geq 10$  ( $p=0.46$ ), and four of 379 (1.2%) women in the intervention group and eight of 340 (2.4%) in the control group had an EPDS score of  $\geq 13$  ( $p=0.25$ ). Among women who did not exercise prior to pregnancy, two of 100 (2.0%) women in the intervention group and nine of 95 (9.5%) in the control group had an EPDS score of  $\geq 10$  ( $p=0.03$ ). Conclusions. We did not find a lower prevalence of high EPDS scores among women randomized to regular exercise during pregnancy compared with the

control group. However, a subgroup of women in the intervention group who did not exercise regularly prior to pregnancy had a reduced risk of postnatal depression.

Distribution and predictors of exercise habits among pregnant women in the Danish National Birth Cohort. Juhl M, Madsen M, Andersen AM, Andersen PK, Olsen J

Scandinavian journal of medicine & science in sports

22(1):128-38, 2012 Physical activity is recommended during pregnancy, although strong evidence on reproductive health is lacking. We present exercise habits and predictors of exercise during pregnancy. From the Danish National Birth Cohort (1996-2002), 88 200 singleton pregnancies were analyzed in logistic regression. About one-third of the women exercised in early/mid pregnancy and slightly less in late pregnancy. Bicycling, swimming, and low-impact activities were most common. Exercising more than three times per week was strongly correlated with older age, being a student or out of work, eating disorders, moderate alcohol consumption, and a healthy diet. Multiparity, a normal or less good self-rated health, smoking, and a less health conscious diet were the strongest predictors of not doing exercise. Women of 25 years or older, with metabolic or psychiatric disorders, or who had received subfecundity treatment were more likely to increase their activity level substantially from early to late pregnancy than comparison groups. In conclusion, exercising during pregnancy correlated with a number of maternal characteristics. The findings may be used to identify pregnant women not likely to exercise, to target activities that may fit their needs, and, for research purposes, to identify adjustment variables or guide sensitivity analyses when data on confounders are lacking.

[Does exercise training during pregnancy influence fetal cardiovascular responses to an exercise stimulus? Insights from a randomised, controlled trial \(Ago 2010\)](#)

American Journal of Obstetrics & Gynecology

## **Revisão desde Janeiro de 2009 a Fevereiro de 2010**

**Effects of recommended levels of physical activity on pregnancy outcomes**

[Katarina Melzer](#) , PhD, [Yves Schutz](#) , PhD, [Nina Soehnchen](#) , MD, PhD, [Veronique Othenin-Girard](#)

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Received 14 July 2009; received in revised form 22 August 2009; accepted 27 October 2009.  
published online 21 December 2009.

## Corrected Proof – Article in press

**Objective** - We sought to examine the relation between recommended levels of physical activity during pregnancy and pregnancy outcomes. **Study design** - We conducted an observational study with energy expenditure, aerobic fitness, and sleeping heart rate measured in 44 healthy women in late pregnancy. Medical records were examined for pregnancy outcome.

### Results

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Active women, who engaged in  $\geq 30$  minutes of moderate physical activity per day, had significantly better fitness and lower sleeping heart rate compared to the inactive. Duration of second stage of labor was 88 and 146 minutes in the active vs inactive women, respectively ( $P$

$= .05$ ). Crude odds ratio of operative delivery in the inactive vs the active was 3.7 (95% confidence interval, 0.87–16.08). Birthweight, maternal weight gain, and parity adjusted odds ratio was 7.6 (95% confidence interval, 1.23–45.8). Neonatal condition and other obstetric outcomes were similar between groups.

### Conclusion

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Active women have better aerobic fitness as compared to inactive women. The risk for operative delivery is lower in active women compared to inactive, when controlled for birthweight, maternal weight gain, and parity. Further studies with larger sample size are required to confirm the association between physical activity and pregnancy outcomes.

**Physical exercise during pregnancy and fetal growth measures: a study within the Danish National Birth Cohort**

[Mette Juhl](#) , MPH, PhD, [Jørn Olsen](#) , PhD, [Per Kragh Andersen](#) , dr.med.sci, [Ellen Aagaard Nøhr](#) , PhD, [Anne-Marie Nybo Andersen](#) , PhD

Volume 202, Issue 1, pp 63-68, Jan 2010

**Objective** - The objective of the study was to examine the association between physical exercise during pregnancy and fetal growth measures. **Study Design** - Data on 79,692 liveborn singletons from the Danish National Birth Cohort were collected between 1996 and 2002. Mean differences in birthweight, length, ponderal index, head and abdominal circumference, and placental weight and hazard ratios of small- and large-for-gestational-age babies were calculated.

### Results

- Our data indicated smaller babies in exercising women compared with nonexercisers, but the differences were small, and only a few were statistically significant. Exercising women had a slightly decreased risk of having a child small for gestational age (hazard ratio, 0.87; 95% confidence interval, 0.83–0.92) and large for gestational age (hazard ratio, 0.93; 95% confidence interval, 0.89–0.98).

### Conclusion

- The findings do not indicate sizable effects on fetal growth measures related to exercise apart from a modest decreased risk of small- and large-for-gestational-age infants. These findings do not speak against advising pregnant women to be physically active during pregnancy.

**Type of delivery is not affected by light resistance and toning exercise training during pregnancy: a randomized controlled trial**

[Volume 201](#) , [Issue 6](#) , pp 590-596 (December 2009)

[Ruben Barakat](#) , PhD [a](#) , [Jonatan R. Ruiz](#) , PhD [d](#) , [James R. Stirling](#) , PhD [a](#) , [María Zakynthinaki](#)

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**Objective** - We examined the effect of light-intensity resistance exercise training that is performed during the second and third trimester of pregnancy by previously sedentary and healthy women on the type of delivery and on the dilation, expulsion, and childbirth time.

### **Study Design**

- We randomly assigned 160 sedentary women to either a training (n = 80) or a control (n = 80) group. We recorded several maternal and newborn characteristics, the type of delivery (normal, instrumental, or cesarean), and dilation, expulsion, and childbirth time.

### **Results**

- The percentage of women who had normal, instrumental, or cesarean delivery was similar in the training (70.8%, 13.9%, and 15.3%, respectively) and control (71.4%, 12.9%, and 15.7%, respectively) groups. The mean dilation, expulsion, and childbirth time did not differ between groups.

### **Conclusion**

- Light-intensity resistance training that is performed over the second and third trimester of pregnancy does not affect the type of delivery.

Outros abstracts

n= 5

**Modificado** em 25 de Setembro de 2010

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/\* Style Definitions \*/

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### **Physical activity during pregnancy in obese and normal-weight women as assessed by pedometer.**

Renault K, Nørgaard K, Andreassen KR, Secher NJ, Nilas L.: Acta obstetrica et gynecologica Scandinavica, 2010-07 89(7):956-61. Depart  
ment of Obstetrics and Gynecology, Hvidovre Hospital, University of Copenhagen, Copenhagen, Denmark.

**OBJECTIVE:** To compare physical activity as assessed by a pedometer in obese and normal-weight pregnant women at different gestational ages. To evaluate the use of a pedometer in pregnancy. **DESIGN:** Cross-sectional study. **SETTING:** Department of obstetrics and gynecology in a university hospital in Copenhagen. **POPULATION:** 338 pregnant women, 175 normal-weight women with body mass index (BMI) 20-25 kg/m(2) and 163 obese women with BMI > or = 30 kg/m(2). **METHODS:** Physical activity was assessed by a pedometer (Yamax Digiwalker SW-700/701) on seven consecutive days in six different groups: normal-weight or

obese at gestational ages 11-13, 18-22, and 36-38, and expressed as median number of daily steps during a whole week, working days, and weekends. MAIN OUTCOME MEASURES: Relation between BMI and physical activity during pregnancy and compliance with wearing the pedometer. RESULTS: Noncompliance was more frequent in obese than in normal-weight women (19 vs. 10%, p

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175 normal-weight women with body mass index (BMI) 20-25 kg/m<sup>2</sup> and 163 obese women with BMI  $\geq$  30 kg/m<sup>2</sup>. METHODS: Physical activity was assessed by a pedometer (Yamax Digiwalker SW-700/701) on seven consecutive days in six different groups: normal-weight or obese at gestational ages 11-13, 18-22, and 36-38, and expressed as median number of daily steps during a whole week, working days, and weekends. MAIN OUTCOME MEASURES: Relation between BMI and physical activity during pregnancy and compliance with wearing the pedometer. RESULTS: Noncompliance was more frequent in obese than in normal-weight women (19 vs. 10%, p

### **High prevalence of subtle and severe menstrual disturbances in exercising women: confirmation using daily hormone measures.**

De Souza MJ, Toombs RJ, Scheid JL, O'Donnell E, West SL, Williams NI.: Human Reproduction (Oxford, England), 2010, 25(2):491-503. Women's Health and Exercise Laboratory, Department of Kinesiology, Penn State University, Noll Laboratory, University Park, PA 16802, USA.

Background: The identification of subtle menstrual cycle disturbances requires daily hormone assessments. In contrast, the identification of severe menstrual disturbances, such as amenorrhea and oligomenorrhea, can be established by clinical observation. The primary purpose of this study was to determine the frequency of subtle menstrual disturbances, defined as luteal phase defects (LPD) or anovulation, in exercising women, with menstrual cycles of 26-35 days, who engage in a variety of sports, both recreational and competitive. Secondly, the prevalence of oligomenorrhea and amenorrhea was also determined via measurement of daily urinary ovarian steroids rather than self report alone.

Methods: Menstrual status was documented by daily measurements of estrone and pregnanediol glucuronide and luteinizing hormone across two to three consecutive cycles and subsequently categorized as ovulatory (Ovul), LPD, anovulatory (Anov), oligomenorrheic (Oligo) and amenorrheic (Amen) in sedentary (Sed) and exercising (Ex) women.

Results

: Sed (n = 20) and Ex women (n = 67) were of similar ( $P > 0.05$ ) age ( $26.3 \pm 0.8$  years), weight ( $59.3 \pm 1.8$  kg), body mass index ( $22.0 \pm 0.6$  kg/m<sup>2</sup>), age of menarche ( $12.8 \pm 0.3$  years) and gynecological maturity ( $13.4 \pm 0.9$  years). The Sed group exercised less ( $P$

#### Conclusion

: This study suggests that approximately half of exercising women experience subtle menstrual disturbances, i.e. LPD and anovulation, and that one third of exercising women may be amenorrheic. Estimates of the prevalence of subtle menstrual disturbances in exercising women determined by the presence or absence of short or long cycles does not identify these disturbances. In light of known clinical consequences of menstrual disturbances, these findings underscore the lack of reliability of normal menstrual intervals and self report to infer menstrual status.

## **Association between frequency and intensity of recreational physical activity and epithelial ovarian cancer risk by age period.**

Carnide N, Kreiger N, Cotterchio M.: European Journal of Cancer Prevention, 2009, 18(4):322-30 Institute for Work and Health, Toronto, Ontario, Canada.

The objective of this study was to examine the association between recreational physical activity across the life span and epithelial ovarian cancer. This relationship was investigated using data from the Ontario arm of the National Enhanced Cancer Surveillance Study, a Canadian population-based case-control study. Data were collected from 240 epithelial ovarian cases and 891 female controls using a self-administered questionnaire. The frequency and intensity of recreational activity in four age periods (mid-teens, early 30s, early 50s, 2 years ago) were examined. Odds ratios (OR) and 95% confidence intervals (CI) were estimated using multivariate logistic regression. Participation up to two times/week, but not more than two times/week, in strenuous recreational activity in mid-teens (OR = 1.69, 95% CI=1.15-2.49) and early 30s (OR = 1.45, 95% CI=1.03-2.05) was associated with increased risk of ovarian cancer. For activity 2 years ago, participation in both strenuous activity (OR = 0.69, 95% CI=0.47-1.01) and moderate activity (OR = 0.55, 95% CI=0.34-0.88) up to two times/week was associated with reduced ovarian cancer risk. Participating more than two times/week was not associated with ovarian cancer risk. Strenuous activity performed in early 50s and moderate activity performed in mid-teens, early 30s, and early 50s were unrelated to risk. In conclusion, strenuous recreational activity early in life may increase the risk of ovarian cancer, whereas more recent

recreational activity may reduce the risk.

### **Effects of menstrual cycle on sports performance.**

Kishali, N. F., Imamoglu, O., Katkat, D., Atan, T., & Akyol, P.. International Journal of Neuroscience, 116(12), 1549-1563, 2006.

The aim of this study was to examine the effects of menstrual cycle on female athletes' performance. Forty-eight taekwondo athletes, 76 judoka, 81 volleyball, and 36 basketball players (total 241) elite athletes participated in the study. A questionnaire constituted from 21 questions about menstrual cycle applied. A one-way analysis of variance and scheffe tests were performed to assess differences between sport branches about physical and physiological characteristics. Chi square was used to evaluate the regularity of menstrual cycle, performance, and drug taking. The mean age of taekwondo athletes, judokas, volleyball and basketball players were  $20.71 \pm 0.41$ ,  $16.91 \pm 0.27$ ,  $21.22 \pm 0.26$ , and  $21.03 \pm 0.63$  years, respectively. The menarche ages of the athletes were 13.92, 13.22, 13.75, 13.86 years, respectively. 27.8% participated in regional competitions, 46.1% participated in just the national competitions, and 26.1% participated in the international competitions. Whereas the menstrual disorder was seen in 14.5% of the athletes in normal time, during the intensive exercise this ratio was increased to 20.7%. It was determined that during the competition 11.6% of the athletes used drug, 36.9% had a painful menstruation, 17.4% did not have a painful menstruation, 45.6% sometimes had a painful menstruation, and 63.1% of the athletes said that their pain decreased during the competition. First 14 days after the menstruation began, 71% of the athletes said that they felt themselves well. 71% of the athletes felt worst just before the menstruation period, 62.2% of the athletes said that their performance was same during the menstruation, and 21.2% said that their performance got worse. Both in general and during the training the menstruation period of the athletes was found to be regular (p

