

# ÄIDIN UNI RASKAUDEN JA LAPSIVUOTEEN AIKANA



Turun yliopisto  
University of Turku



**Päivi Polo**

Synnytys-  
ja  
naistentautiopin  
professori

TYKS ja TY

# SIDONNAISUUDET KOLMEN VIIMEISEN VUODEN AJALTA

- **LT, Dos, naistentautien ja synnytysten erikoislääkäri, perinatologi**
- **Päätoimi**
  - synnytys- ja naistentautiopin professori TY
- **Sivutoimet**
  - oa ylilääkäri TYKS
  - yksityislääkäri: Turun Gynekologikeskus
- **Koulustoiminta**
  - Luentoja eri lääkealan yritysten koulutuksissa (MSD, Orion, Gedeon Richter, Novo Nordisk)
  - Osallistunut lääkealan yrityksen koulutusten suunnitteluun (Pfizer, Gedeon Richter)

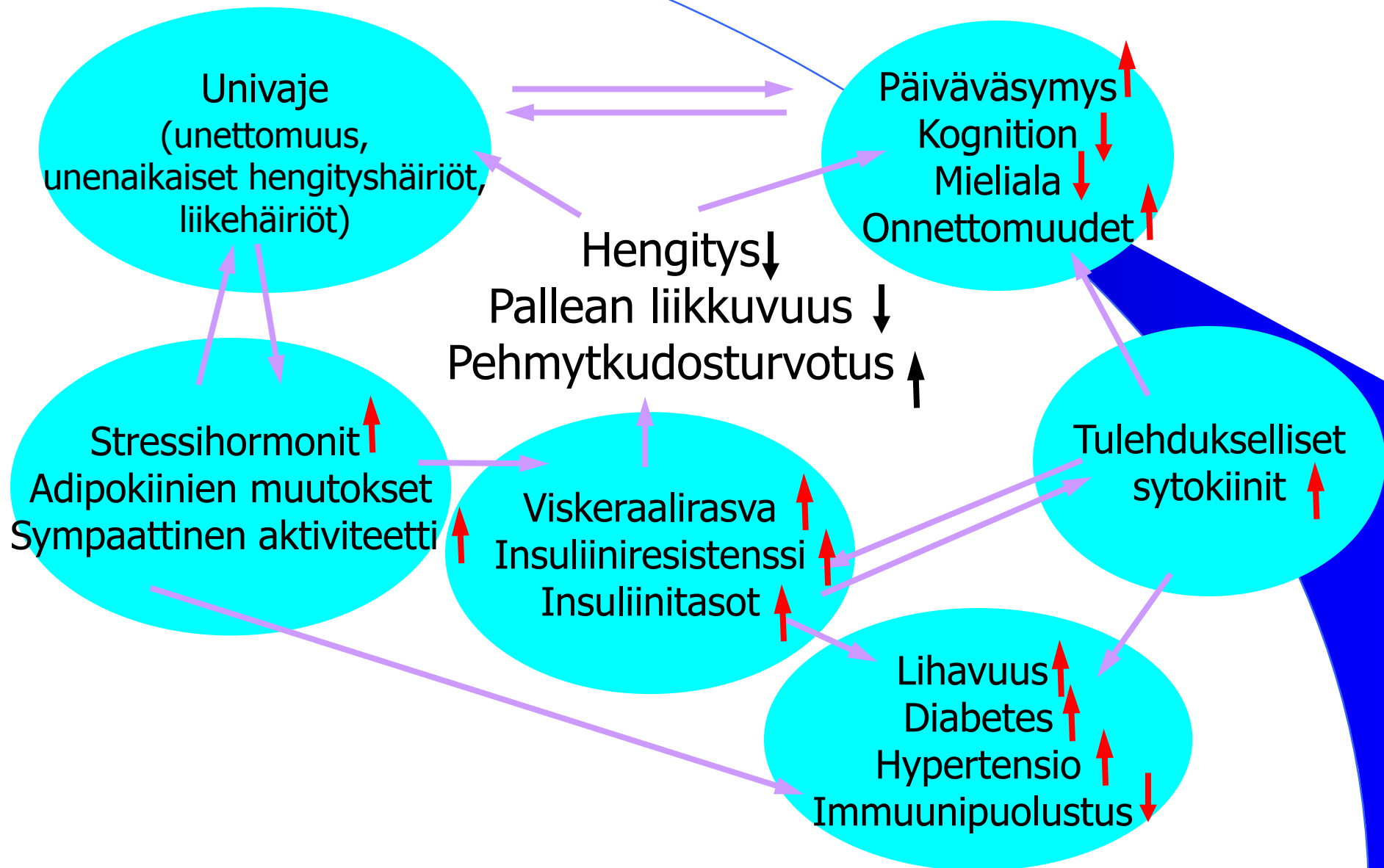


# SISÄLTÖ

- Raskauden ja lapsivuodeajan unihäiriöt
  - Unettomuus
  - Unenaikaiset hengityshäiriöt
  - Levottomat jalat –oireyhtymä
  - Uniongelmat ja masennus
- Onko raskauden ajan unihäiriöistä haittaa?
- Unihäiriöiden hoito



# UNIVAJEEN SEURAUKSIA





# RASKAUS JA LAPSIVUODEAIKA

## Raskaus:

- I kolmannes (viikot 0-12)
- II kolmannes (viikot 12-24)
- III kolmannes (viikot 24-40)
- Lapsivuodeaika (6-8 viikkoa  
synnytyksen jälkeen)

# MITKÄ TEKIJÄT AIHEUTTAVAT UNIHÄIRIÖITÄ RASKAUDEN AIKANA?

- raskauspahoinvointi
- tihentynyt virtsaamistarve
- närästys
- huono nukkumisasento
- kohdun supistelu
- selkävivut
- jalkakrampit, suonenveto
- nenän tukkoisuus
- hengitysvaikeudet, kuorsauksen lisääntyminen
- sikiön liikkuminen

**Table 3.** Pearson's Correlation Between Demographic Characteristics, Psychosocial States, and Global Sleep Quality

Variables	Global Sleep Quality (Pittsburgh Sleep Quality Index)	
	<i>r</i>	<i>p</i>
Gestation weeks	0.178	<.001
Number of children	0.108	.031
Age	0.072	ns
Marital satisfaction	0.075	ns
Prepregnancy sleep quality	0.362	<.001
Prepregnancy body image	0.210	<.001
Current body image	0.320	<.001
Prenatal depression (EPDS)	0.408	<.001
State anxiety (SAI)	0.324	<.001
Trait anxiety (TAI)	0.341	<.001
Perceived stress (PSS)	0.265	<.001
Social support (ISEL)	-0.094	ns

EPDS = Edinburgh Prenatal Depression Scale; ISEL = Interpersonal Support Evaluation List; ns = not significant; PSS = Perceived Stress Scale; SAI = State Anxiety Inventory; TAI = Trait Anxiety Inventory.

RASKAUDENAJAN  
UNIHÄIRIÖIHIN  
YHDISTYVIÄ TEKIJÖITÄ

*Hung H-M ym 2013*

# ONKO UNIHÄIRIÖISTÄ HAITTAA?

erityisesti lyhyt unen kesto ja unenaikaiset hengityshäiriöt:

- Raskauskomplikaatiot:
  - pre-eklampsia
  - sikiön kasvuhidastuma
  - masennus raskauden ja lapsivuoteen aikana
- Synnytyskomplikaatiot:
  - ennenaikaisuus
  - toimenpidealatiesynnytykset (imukuppi- ja pihtisynnytys)
  - keisarileikkaukset
- Vastasyntynyt:
  - pienempi syntymäpaino
  - alemmat Apgar-pisteet

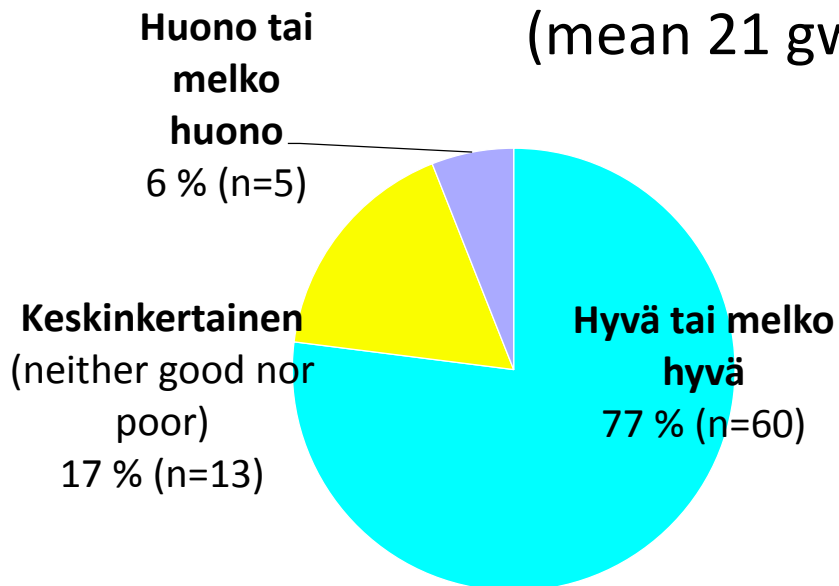




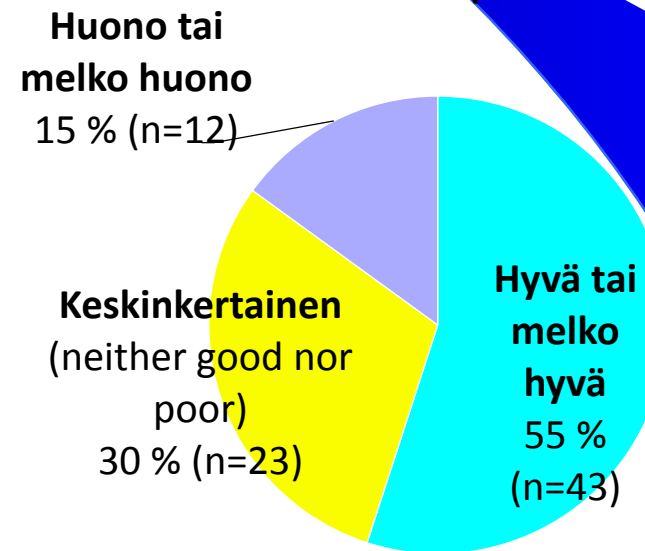
UNEN LAATU  
UNEN PITUUS  
UNETTOMUUSOIREET  
(insomnia)

# KOETTU UNEN LAATU RASKAUDEN AIKANA

## Unen laatu Keskiraskaus (mean 21 gwk)



## Unen laatu Loppuraskaus (mean 33 gwk)



*Polo-Kantola et al 2016*  
*n=78*

Original article

## Effects of pregnancy on mothers' sleep

C. Hedman<sup>a,\*</sup>, T. Pohjasvaara<sup>b,c</sup>, U. Tolonen<sup>d</sup>, A.S. Suhonen-Malm<sup>a</sup>, V.V. Myllylä<sup>a</sup>

### KOKONAISUNIAIKA / VRK (muutos)

### UNEN PITUUS / YÖ (muutos)

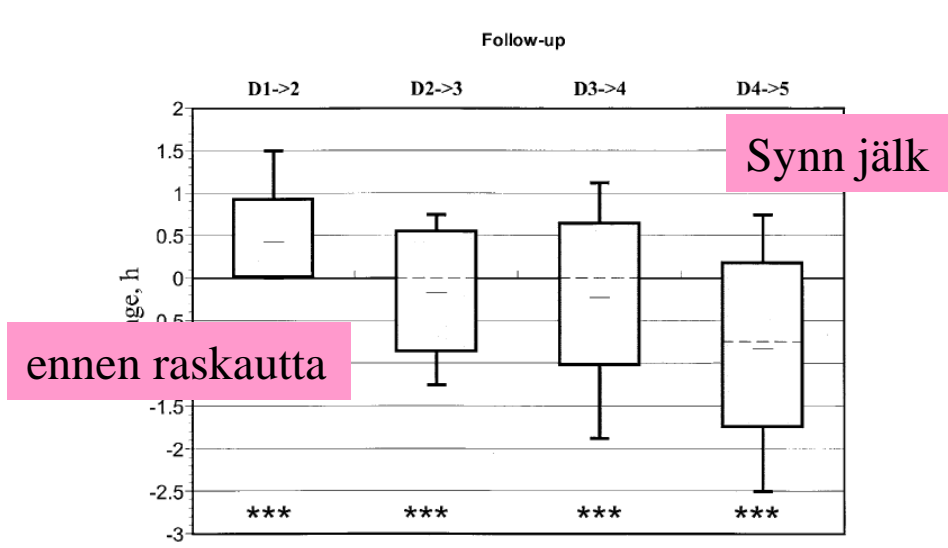
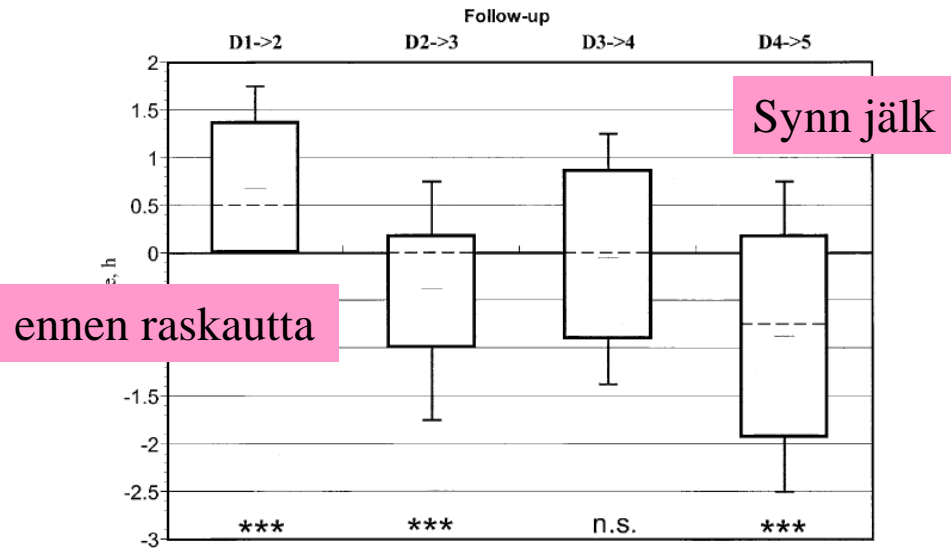


Fig. 1. Change of total sleeping time per whole day from one study period to another. Box-and-whisker plots show upper and lower quartiles and median from changes. D1 → 2, change in hours from before pregnancy to first trimester; D2 → 3, change from first to second trimester; D3 → 4, change from second to third trimester; D4 → 5, change from third trimester to after the delivery. n.s., non-significant; \*\*\* $P < 0.001$ , Bowker's test of symmetry.

Fig. 2. Distributions of changes in duration of sleep at night between the study periods. Box-and-whisker plots show upper and lower quartiles and median from changes. D1 → 2, change in hours from before pregnancy to first trimester; D2 → 3, change from first to second trimester; D3 → 4, change from second to third trimester; D4 → 5, change from third trimester to after the delivery. \*\*\* $P < 0.001$ , Bowker's test of symmetry.

Original article

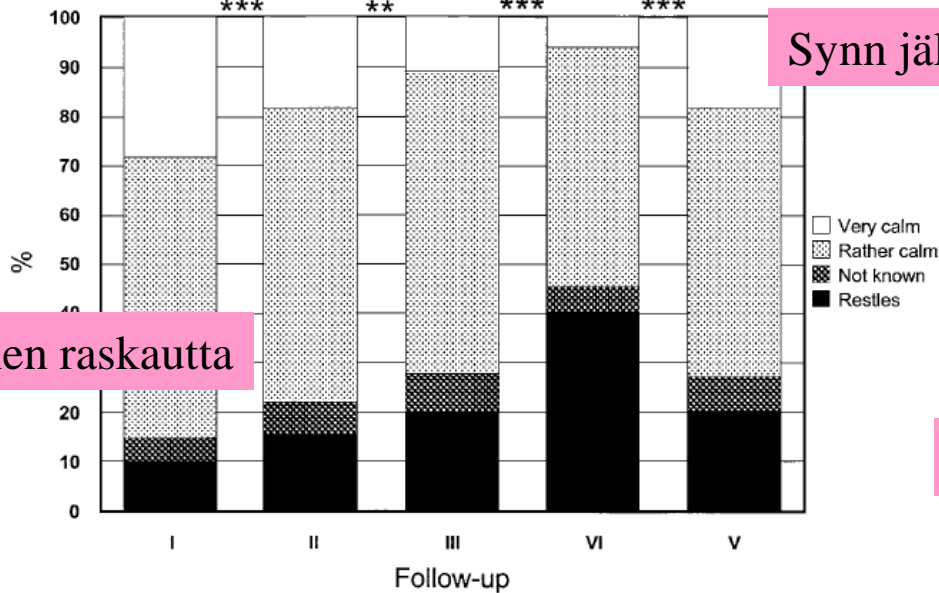
## Effects of pregnancy on mothers' sleep

C. Hedman<sup>a,\*</sup>, T. Pohjasvaara<sup>b,c</sup>, U. Tolonen<sup>d</sup>, A.S. Suhonen-Malm<sup>a</sup>, V.V. Myllylä<sup>a</sup>

HERÄÄMISET / YÖ

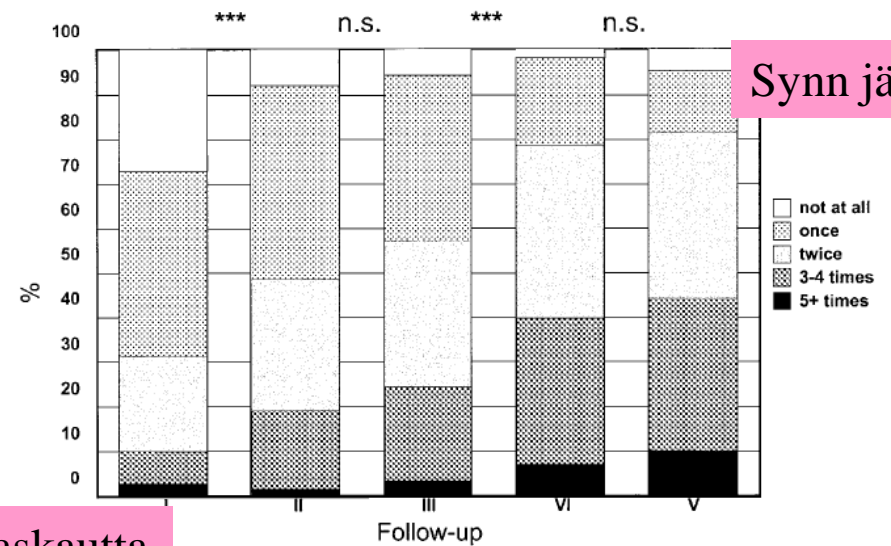
### UNEN LAATU

Synn jälk



ennen raskautta

ennen raskautta

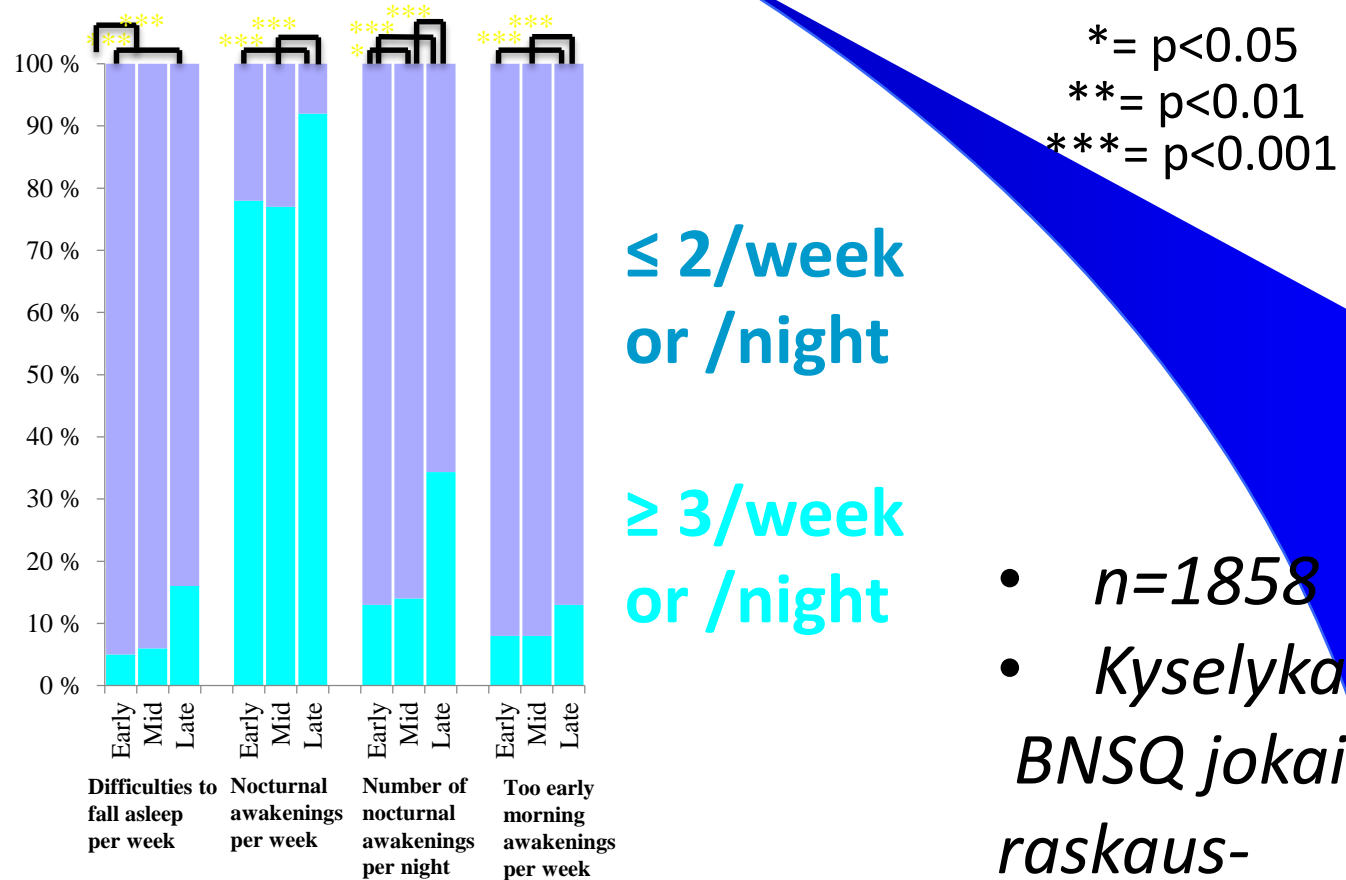


Synn jälk

Fig. 5. Average number of awakenings during nights in study periods. I, the 3 month pre-pregnant period; II–IV, first to third trimesters of pregnancy; V, the 3 month post-delivery period. n.s., non-significant between adjacent columns;  $***P < 0.001$  between adjacent columns, Bowker's test of symmetry.

Fig. 4. Quality of sleep at nights in study periods. I, the 3 month pre-pregnant period; II–IV, first to third trimesters of pregnancy; V, the 3 month post-delivery period.  $**P < 0.01$  between adjacent columns;  $***P < 0.001$  between adjacent columns, Bowker's test of symmetry.

# UNETTOMUUSOIREET



*Aukia ym 2019,  
 FinnBrain study,  
 submitted*

- $n=1858$
- *Kyselykaavake  
 BNSQ jokaisella  
 raskaus-  
 kolmanneksella*

# UNEN LAATU JA RASKAUSPAHOINVOINTI

AOR= Adjusted with age, parity<sup>1</sup>, body mass index, smoking, employment

Uniongelma	<i>p</i>	Ei NVP <sup>2</sup>			Keskivaikea NVP <sup>1</sup>		Vaikea NVP <sup>1</sup>	
		AOR	AOR	95% CI	AOR	95% CI	AOR	95% CI
Nukahtamisvaikeus	0.03	1	1.00	0.30–3.18	2.5	0.86–7.07	3.0	0.80–11.29
Yöllinen herääminen	<0.000 1	1	1.3	0.86–2.05	<b>2.1</b>	<b>1.38–3.15</b>	<b>3.9</b>	<b>1.79–8.47</b>
Liian aikainen aamuherääminen	0.01	1	1.8	0.72–4.53	<b>3.2</b>	<b>1.33–7.49</b>	3.1	0.99–9.37
Päiväaikainen uneliaisuus	<0.000 1	1	<b>2.9</b>	<b>1.60–5.28</b>	<b>5.1</b>	<b>2.86–8.97</b>	<b>4.7</b>	<b>2.20–9.94</b>

<sup>1</sup>Tilastollinen merkitsevyys

<sup>2</sup>NVP = Nausea and vomiting of pregnancy=raskauspahoinvointi

*n* = 1203

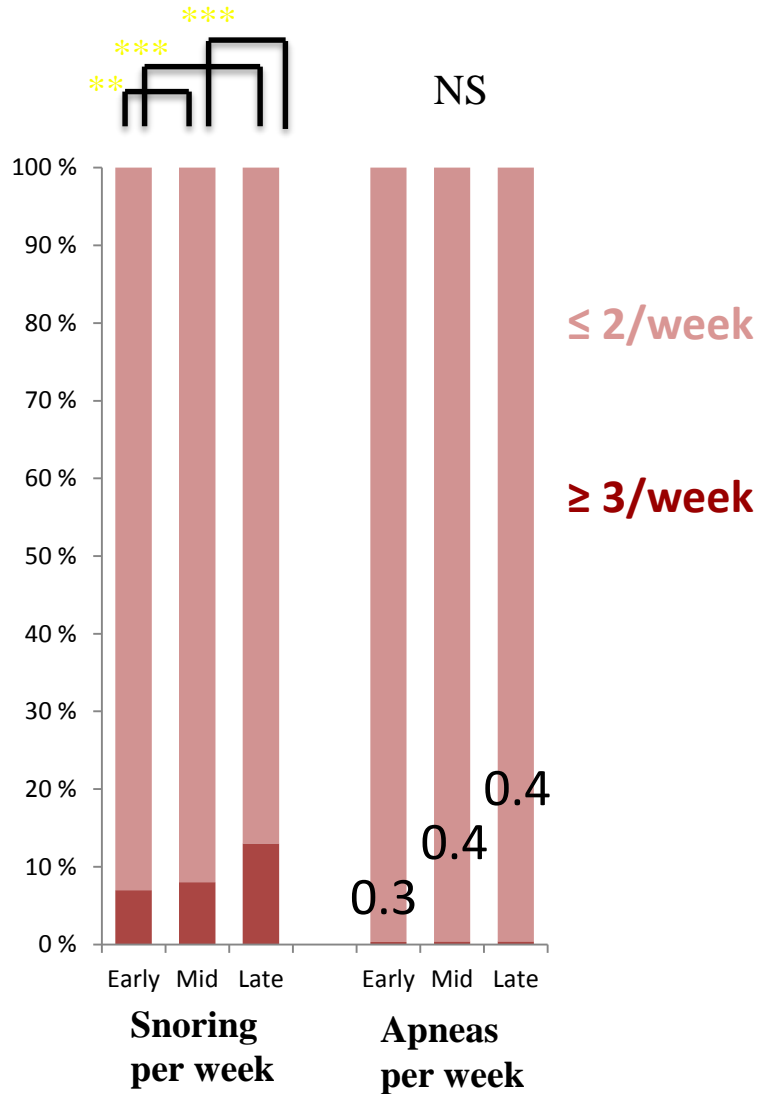
*Laitinen ym, käsikirjoitus*



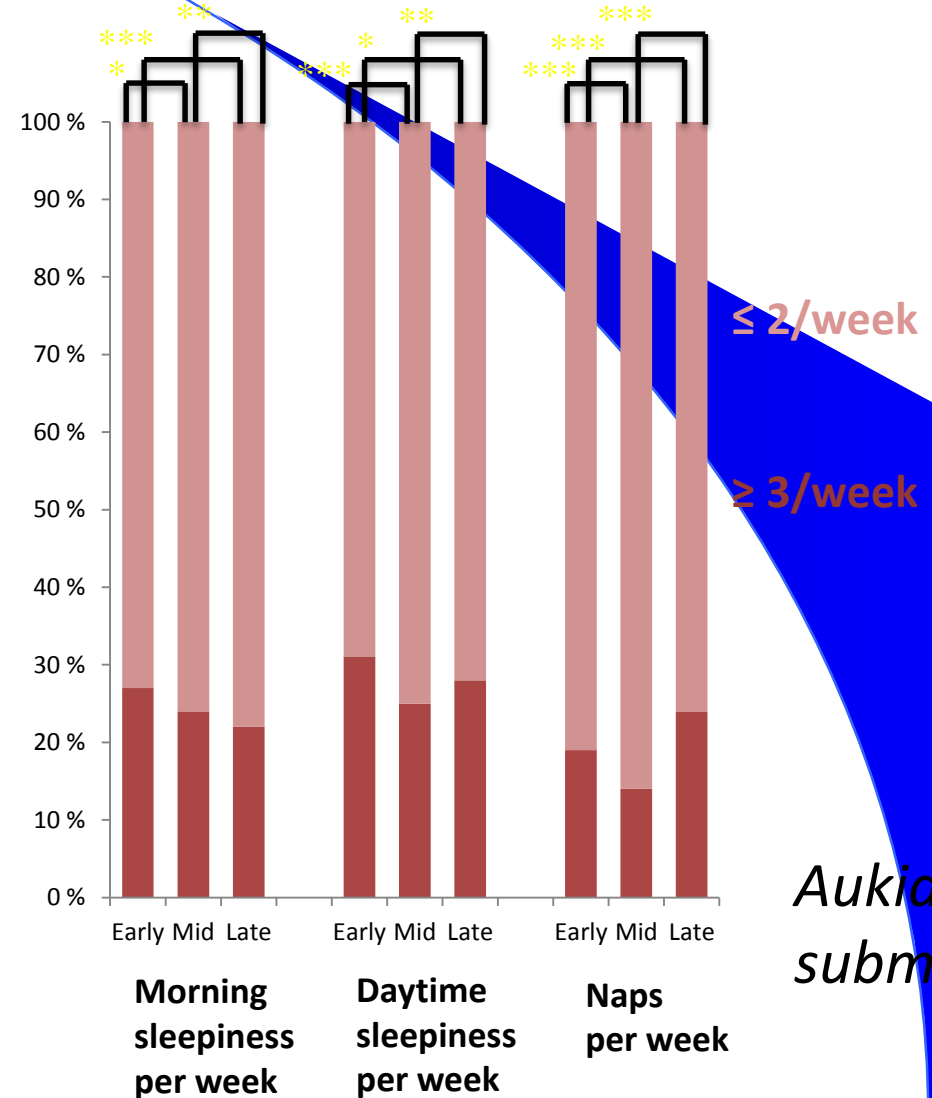
# UNENAIKAISET HENGITYSHÄIRIÖT

# UNENAIKAiset HENGITYSHÄIRIÖT JA UNELIAISUUS

## UNENAIKAiset HENGITYSHÄIRIÖT



## UNELIAISUUS



*Aukia et al,  
submitted*



Original article

## Effects of pregnancy on mothers' sleep

C. Hedman<sup>a,\*</sup>, T. Pohjasvaara<sup>b,c</sup>, U. Tolonen<sup>d</sup>, A.S. Suhonen-Malm<sup>a</sup>, V.V. Myllylä<sup>a</sup>

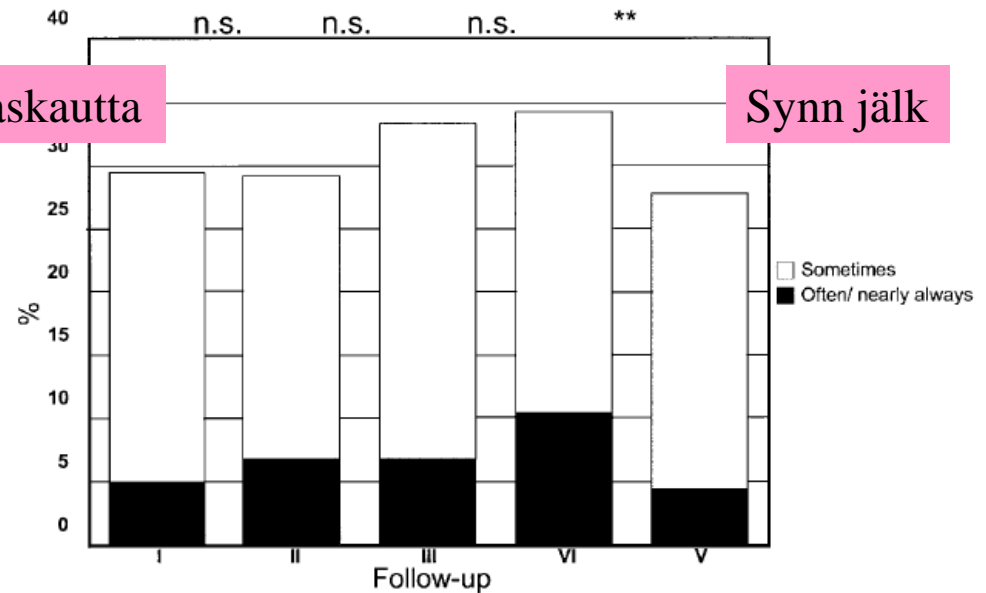


Fig. 3. Snoring during sleep. I, the 3 month pre-pregnant period; II–IV, first to third trimesters of pregnancy; V, the 3 month post-delivery period. From one study period to another no statistical differences were seen between those not snoring and those snoring. n.s., non-significant between adjacent columns;  $**P < 0.01$  between adjacent columns, Bowker's test of symmetry.

# BMI JA KUORSAUS RASKAUDEN AIKANA

*Pregnancy Hypertens.* 2015 Jan;5(1):6-7. doi: 10.1016/j.preghy.2014.10.016. Epub 2015 Feb 23.

**[12-OR]: Neck circumference, BMI and weight gain in women who snore in pregnancy.**

Robertson AJ<sup>1</sup>, Johnson P<sup>2</sup>, Sullivan CE<sup>2</sup>, Hennessy A<sup>1</sup>.

## ⊕ Author information

### Abstract

**OBJECTIVES:** Snoring is common in pregnancy and is a symptom of pregnancy-induced hypertension. The association between snoring during pregnancy and neck circumference, weight gain and BMI.

**METHODS:** 2306 pregnant women answered a questionnaire which included questions about snoring during pregnancy. Pre pregnancy weight, current height and weight were used to calculate BMI and change in BMI from pre-pregnancy to current pregnancy. Neck circumference was measured, and the Epworth questionnaire for daytime sleepiness was administered. The data from women who answered "Yes" to the snoring question were compared to that of women who answered No.

**RESULTS:** Pre pregnancy BMI, current BMI and the increase in BMI from pre-pregnancy to current were all highly significantly increased in the women who reported snoring during pregnancy ( $p < 0.0001$ ,  $< 0.0001$  and  $0.003$ , respectively). The Epworth sleepiness score, calculated from the Epworth questionnaire, was significantly higher i.e. more daytime sleepiness, in women who reported snoring ( $p < 0.0001$ ) and the neck circumference measurements of women who reported snoring were also highly significantly higher ( $p < 0.0001$ ).

**CONCLUSIONS:** Women who report snoring during pregnancy have higher pre pregnancy and current BMI, increase their BMI more during pregnancy, have larger neck circumference and are sleepier during the day. Therefore women who intend to become, or are pregnant, should be encouraged to reduce their BMI and maintain healthy weight gain during pregnancy.

## KUORSAAJILLA ON:

- BMI korkeampi
- Kaulan ympärysmitta suurempi
- Uneliaisuus vaikeampaa

## Can we predict sleep-disordered breathing in pregnancy? The clinical utility of symptoms

DANIELLE L. WILSON<sup>1</sup>, SUSAN P. WALKER<sup>2,3</sup>, ALISON M. FUNG<sup>2</sup>,  
FERGAL O'DONOGHUE<sup>1,4</sup>, MAREE BARNES<sup>1,4</sup> and MARK HOWARD<sup>1,4</sup>

**Table 5** Factors associated with SDB during pregnancy on stepwise logistic regression model

Variable	Coefficient	OR (95% CI)	P-value
Snoring volume*	2.40	11.00 (1.65–73.20) <sup>†</sup>	0.01
BMI $\geq 32$ kg m <sup>-2</sup>	4.62	101.36 (1.79–5733.37)	0.03
Tired upon awakening*	2.23	9.26 (1.71–50.07) <sup>‡</sup>	0.01
Constant	-17.92	1.65e-08 (5.04e-14–0.01)	0.68

OR, odds ratio; BMI, body mass index; CI, confidence interval.

\*OR for ordinal variables indicate the change in odds for an increase of one category.

<sup>†</sup>Categories for volume of snoring were (0) no snoring, (1) slightly louder than breathing, (2) as loud as talking, (3) louder than talking, (4) very loud.

<sup>‡</sup>Categories for frequency were (1) never or nearly never, (2) one to two times per month, (3) one to two times per week, (4) three to four times per week, (5) nearly every day.

# KUORSAUS JA VÄSYMYS RASKAUDEN AIKANA

*Sarberg 2015*

	trim.	Snorers (n=54)	Non-snorers (n=231)	p-value
		mean (SD)/ n (%)	mean (SD)/ n (%)	
ESS	1 <sup>st</sup>	9.6 (3.0)	7.8 (3.5)	0.001*
	2 <sup>nd</sup>	10.1 (3.9)	7.8 (3.7)	<0.001*
	3 <sup>rd</sup>	11.1 (3.5)	8.5 (3.8)	<0.001*
EDS (ESS≥10)	1 <sup>st</sup>	24 (44%)	72 (31%)	0.063
	2 <sup>nd</sup>	29 (54%)	81 (35%)	0.011*
	3 <sup>rd</sup>	39 (72%)	102 (44%)	<0.001*
Daytime sleepiness	1 <sup>st</sup>	19 (35%)	52 (23%)	0.053
	2 <sup>nd</sup>	19 (35%)	46 (20%)	0.016*
	3 <sup>rd</sup> †	26 (52%)	63 (29%)	0.003*
Morning fatigue	1 <sup>st</sup>	26 (48%)	54 (23%)	<0.001*
	2 <sup>nd</sup>	25 (46%)	47 (20%)	<0.001*
	3 <sup>rd</sup> **	23 (43%)	55 (24%)	0.006*

KUORSAAJILLA  
ENEMMÄN  
VÄSYMYSOIREITA

†n=282: \*\*n=271

# Obstructive Sleep Apnea and Severe Maternal-Infant Morbidity/Mortality in the United States, 1998-2009

Judette M. Louis, MD, MPH<sup>1</sup>; Mulubrhan F. Mogos, PhD<sup>2</sup>; Jason L. Salemi, MPH<sup>2</sup>; Susan Redline, MD, MPH<sup>3</sup>; Hamisu M. Salihu, MD, PhD<sup>1,2</sup>

<sup>1</sup>*Division of Maternal-Fetal Medicine, Department of Obstetrics and Gynecology, Morsani College of Medicine, University of South Florida, Tampa, FL;* <sup>2</sup>*Maternal and Child Health Comparative Effectiveness Research Group, Department of Epidemiology and Biostatistics, College of Public Health, University of South Florida, Tampa, FL;* <sup>3</sup>*Division of Sleep Medicine, Department of Medicine, Harvard Medical School, Brigham and Women's Hospital and Beth Israel Deaconess Medical Center, Boston, MA*

**Study Objectives:** A recent trend in increasing rates of severe maternal morbidity and mortality despite quality improvements has been noted. The goal of this study is to estimate the national prevalence of obstructive sleep apnea (OSA) in pregnant women and examine associations between OSA and pregnancy-related morbidities, including in-hospital maternal mortality.

**Design:** A retrospective, cross-sectional analysis.

**Setting:** A nationally representative sample of maternal hospital discharges from 1998-2009.

**Patients or Participants:** The analytic sample included 55,781,965 pregnancy-related inpatient hospital discharges.

**Interventions:** N/A.

**Measurements and Results:** The Nationwide Inpatient Sample (NIS) database was used to identify hospital stays for women who were pregnant or gave birth. Among these women, we determined length of hospital stay, in-hospital mortality, and used International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) codes to identify OSA and other outcome measures. Multivariable logistic regression modeling was used to calculate adjusted odds ratios (OR) and 95% confidence intervals (CI) for the associations between OSA and each outcome. The overall rate of OSA was 3.0 per 10,000; however, the rate climbed substantially from 0.7 in 1998 to 7.3 in 2009, with an average annual increase of 24%. After controlling for obesity and other potential confounders, OSA was associated with increased odds of pregnancy-related morbidities including preeclampsia (OR, 2.5; 95% CI, 2.2–2.9), eclampsia (OR, 5.4; 95% CI, 3.3–8.9), cardiomyopathy (OR, 9.0; 95% CI, 7.5–10.9), and pulmonary embolism (OR, 4.5; 95% CI, 2.3–8.9). Women with OSA experienced a more than fivefold increased odds of in-hospital mortality (95% CI, 2.4–11.5). The adverse effects of OSA on selected outcomes were exacerbated by obesity.

**Conclusions:** Obstructive sleep apnea is associated with severe maternal morbidity, cardiovascular morbidity, and in-hospital death. Targeted interventions may improve pregnancy outcomes in this group.

**Keywords:** maternal mortality, obstructive sleep apnea, preeclampsia, pregnancy, pulmonary embolus

**Citation:** Louis JM, Mogos MF, Salemi JL, Redline S, Salihu HM. Obstructive sleep apnea and severe maternal-infant morbidity/mortality in the United States, 1998-2009. *SLEEP* 2014;37(5):843-849.

# Obstructive Sleep Apnea and Severe Maternal-Infant Morbidity/Mortality in the United States, 1998-2009

**HUOM:**  
**LIHAVUUS JO YKSINÄÄN ON MERKITTÄVÄ RISKITEKIJÄ!**

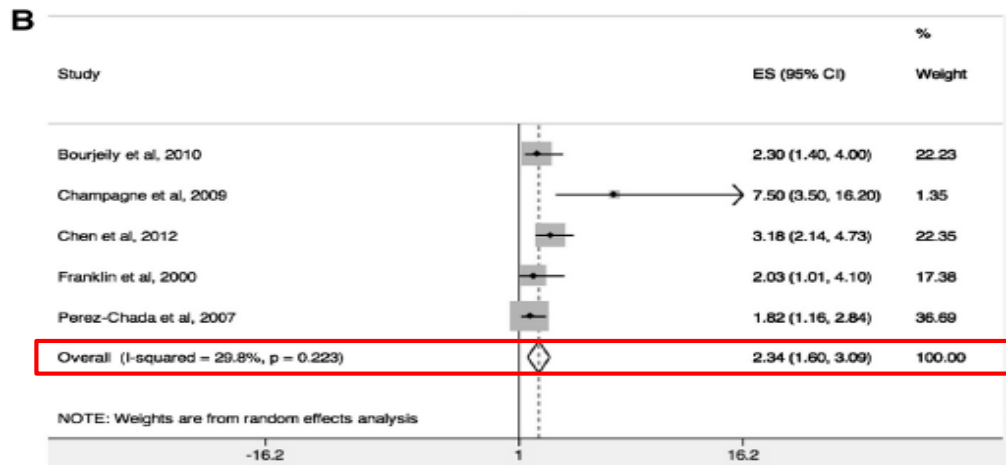
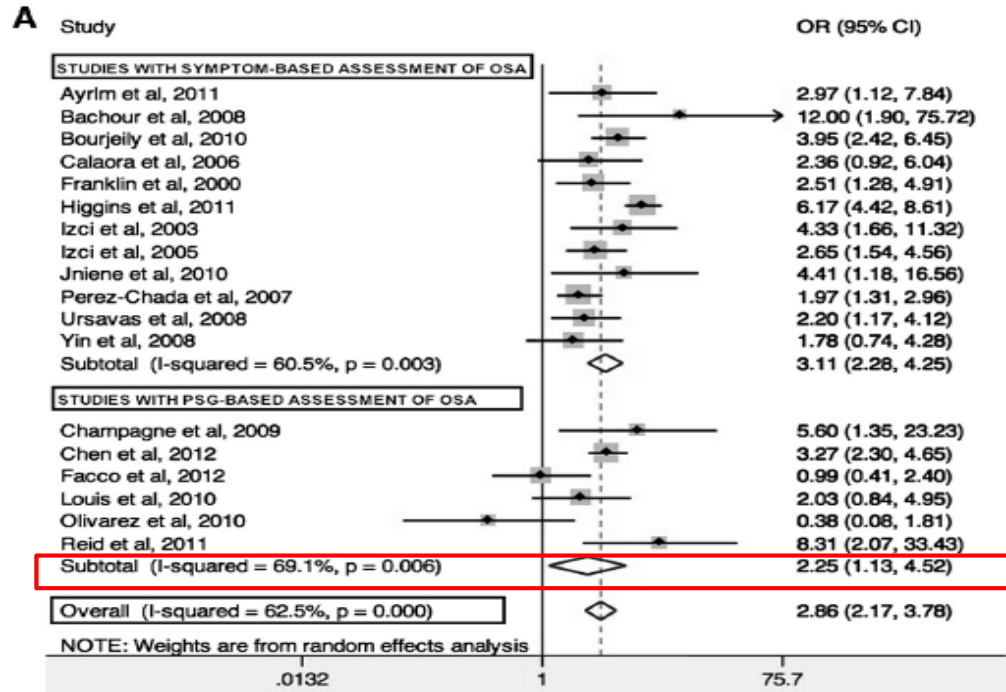
**Table 3**—Adjusted odds ratios<sup>a</sup> and 95% confidence intervals for severe maternal and infant morbidity/mortality in the Healthcare Cost and Utilization Project - Nationwide Inpatient Sample, 1998-2009

Outcomes	OSA		No OSA		P value <sup>b</sup>
	With obesity OR (95% CI)	Without obesity OR (95% CI)	With obesity OR (95% CI)	Without obesity OR (95% CI)	
<b>Maternal, pregnancy-related</b>					
Cesarean section <sup>c</sup>	1.68 (1.47–1.92)	1.81 (1.62–2.02)	2.60 (2.50–2.69)	Reference	< 0.001
Gestational diabetes <sup>d</sup>	4.13 (3.54–4.82)	3.35 (2.90–3.88)	3.60 (3.48–3.73)	Reference	< 0.001
Gestational hypertension <sup>e</sup>	2.83 (2.24–3.58)	2.01 (1.58–2.56)	3.21 (3.10–3.33)	Reference	< 0.001
Preeclampsia <sup>e</sup>	5.32 (4.43–6.37)	3.41 (2.84–4.10)	2.81 (2.71–2.92)	Reference	< 0.001
Eclampsia <sup>f</sup>	2.93 (0.68–12.66)	10.41 (6.20–17.50)	1.84 (1.62–2.09)	Reference	0.02
Postoperative wound	4.27 (3.25–5.61)	3.03 (2.23–4.12)	2.96 (2.79–3.13)	Reference	< 0.001
Hospital stay > 5 days <sup>g</sup>	3.07 (2.59–3.63)	5.05 (4.47–5.70)	1.86 (1.78–1.95)	Reference	< 0.001
<b>Maternal, clinical conditions</b>					
Acute renal failure	2.77 (1.47–5.23)	3.62 (2.05–6.39)	1.33 (1.16–1.52)	Reference	0.15
Pulmonary edema	5.09 (2.12–12.23)	14.41 (8.72–23.83)	1.72 (1.41–2.10)	Reference	0.002
Pulmonary embolism and infarction	14.06 (6.10–32.40)	8.07 (2.61–24.92)	4.01 (3.21–5.01)	Reference	0.25
Congestive heart failure	19.15 (15.27–24.00)	15.46 (12.16–19.64)	3.02 (2.77–3.29)	Reference	< 0.001
Cardiomyopathy (includes peripartum)	19.12 (15.12–24.18)	15.86 (12.45–20.19)	3.01 (2.76–3.29)	Reference	< 0.001
Stroke	3.02 (0.75–12.16)	3.29 (0.82–13.27)	1.16 (0.85–1.57)	Reference	0.82
In-hospital mortality	7.84 (3.28–18.74)	5.07 (1.63–15.77)	1.44 (1.08–1.93)	Reference	0.91
<b>Fetal/infant</b>					
Early-onset delivery	1.19 (0.98–1.44)	1.30 (1.10–1.53)	1.08 (1.04–1.12)	Reference	0.16
Poor fetal growth	1.02 (0.69–1.51)	1.31 (0.96–1.78)	0.93 (0.88–1.00)	Reference	0.51
Stillbirth	0.62 (0.31–1.25)	1.26 (0.74–2.13)	0.90 (0.85–0.96)	Reference	0.19

FIGURE 2

Unadjusted and adjusted ORs for SDB and gestational hypertension or preeclampsia

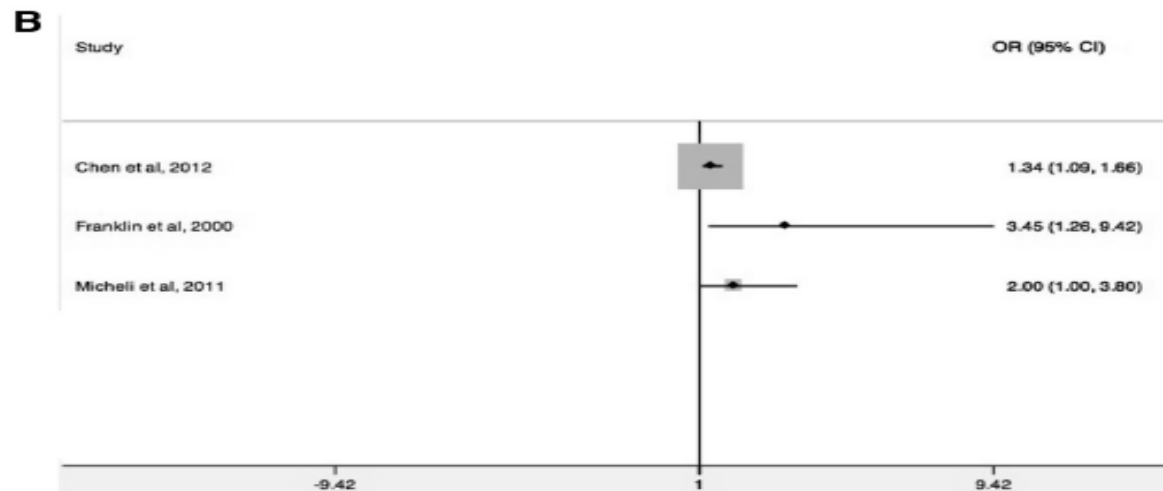
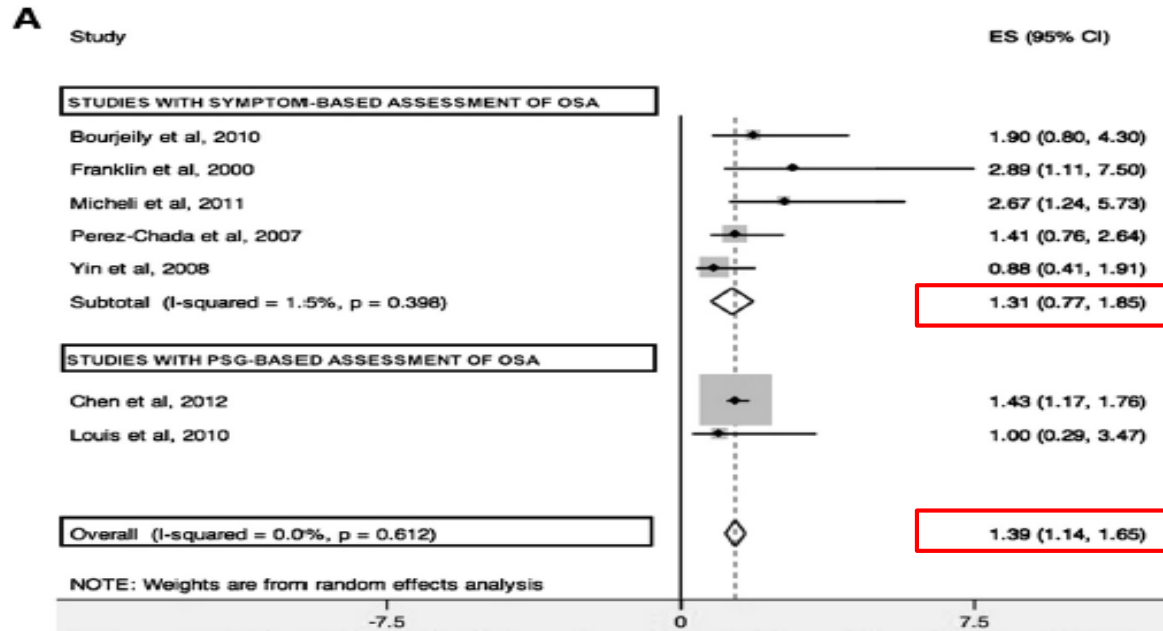
SDB JA HYPERTENSIO  
JA PRE-EKLAMPSIA



Forest plots showing **A**, unadjusted and **B**, adjusted ORs for SDB and gestational hypertension or preeclampsia. Weights are from random-effects analysis and are shown by gray-shaded boxes. OR, odds ratio; SDB, sleep-disordered breathing.

**FIGURE 4**

**Unadjusted and adjusted ORs for the association between SDB and low infant birthweights**

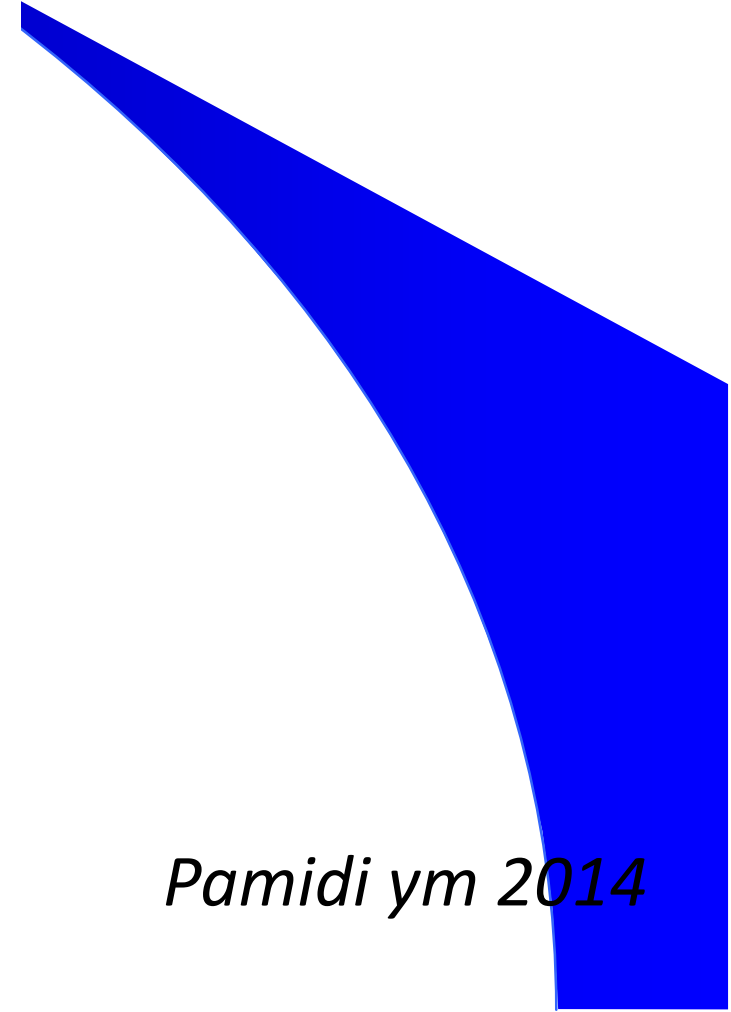


**A**, Unadjusted and **B**, adjusted ORs for the association between SDB and low infant birthweights are shown.

OR, odds ratio; SDB, sleep-disordered breathing.

Pamidi. Maternal sleep apnea and adverse pregnancy outcomes. *Am J Obstet Gynecol* 2014.

SDB JA  
VASTASYNTYNEEN  
PIENIPAINOISUUS

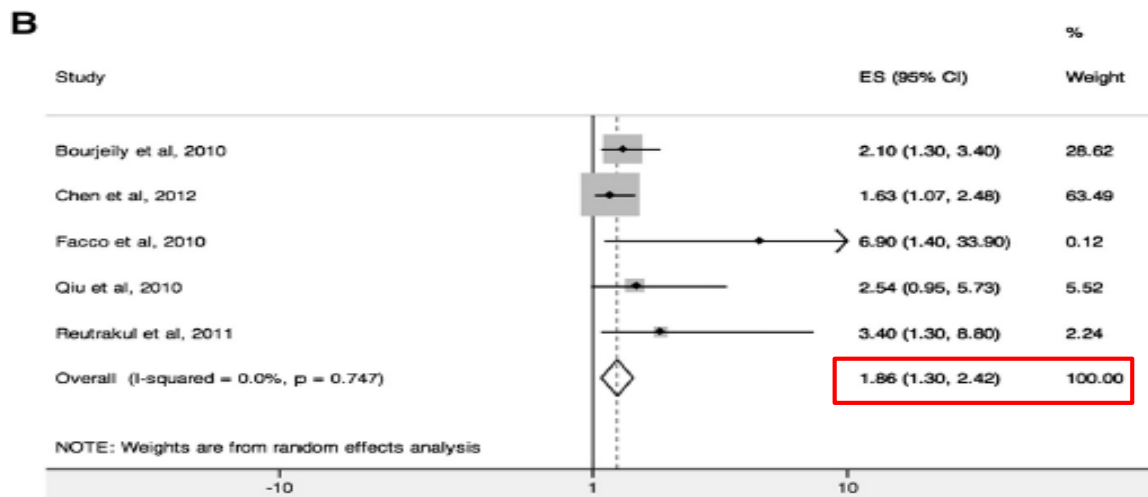
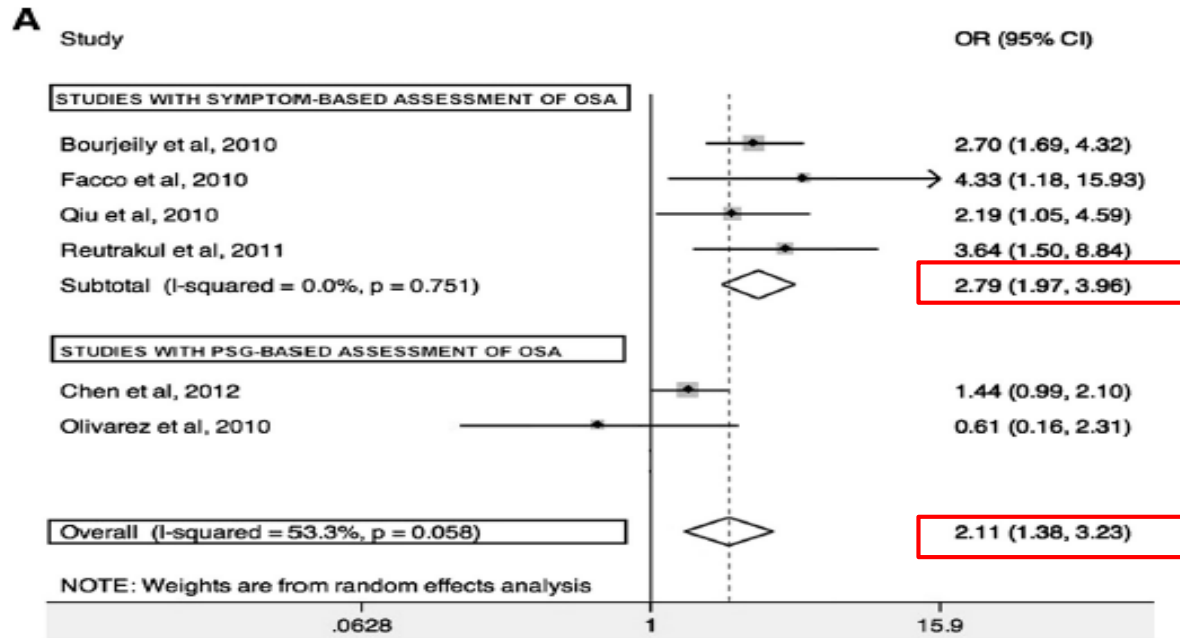


*Pamidi ym 2014*



**FIGURE 3**  
**Unadjusted and adjusted ORs for association between SDB and gestational diabetes**

SDB JA  
 RASKAUSDIABETES



**A**, Unadjusted and **B**, adjusted ORs for the association between SDB and gestational diabetes.

OR, odds ratio; SDB, sleep-disordered breathing.

Pamidi. Maternal sleep apnea and adverse pregnancy outcomes. *Am J Obstet Gynecol* 2014.

Pamidi ym 2014

# LEVOTTOMAT JALAT - OIREYHTYMÄ



# RASKAUS JA RLS

- raskauden aikana RLS/PLMS lisääntyy:
  - entisillä potilailla oireet voimistumat
  - *de Novo*-tapaukset
- yleensä helpottuu/häviää raskauden jälkeen, mutta voi jäädä pysyväksikin
- anemia tärkeä (seerumin ferritiini+ CRP -määritykset)

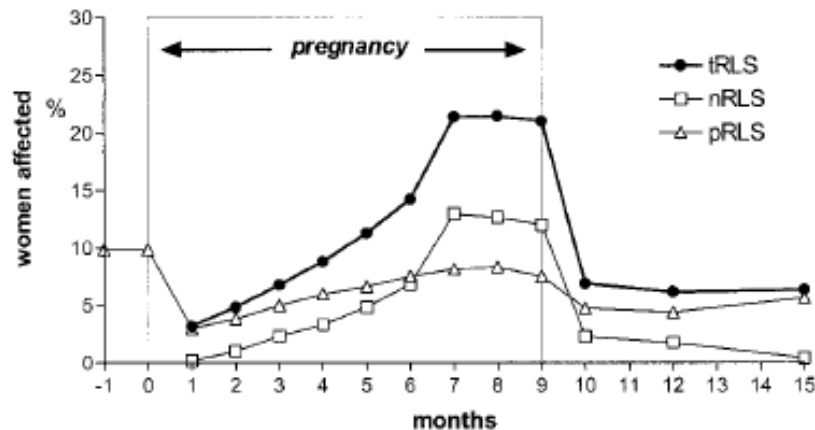


Figure 2. Restless legs syndrome (RLS) course. Percentage of women affected by RLS from preconception to 6 months after delivery. tRLS = total RLS group; nRLS = new RLS group; pRLS = pre-existing RLS group.

RLS yhdistetty mm  
raskaudenajan hypertensioon  
ja pre-eklampsiaan

(Manconi et al 2012)

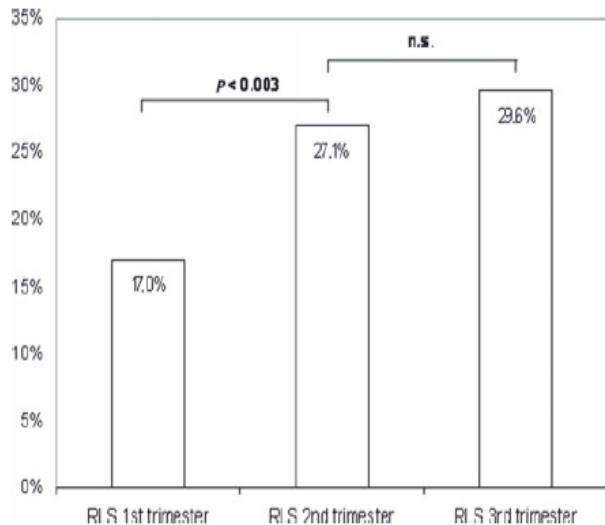
# RASKAUS JA RLS

**Table 3** Prevalence of RLS in different trimesters

	1st Trimester (n=473)	2nd Trimester (n=564)	3rd Trimester (n=547)	<i>P</i> <sup>a</sup>
pRLS	14 (2.9 %)	24 (4.3 %)	28 (5.2 %)	0.197
nRLS	7 (1.5 %)	44 (7.8 %)	60 (11.0 %)	<0.001
<b>Total RLS (tRLS)</b>	<b>21 (4.4 %)</b>	<b>68 (12.0 %)</b>	<b>88 (16.1 %)</b>	<b>&lt;0.001</b>
<i>P</i> <sup>b</sup>	0.122	0.012	<0.001	

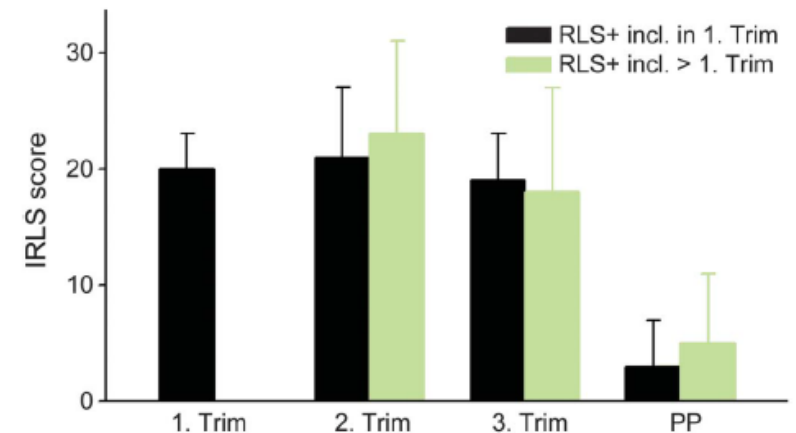
*Shang ym 2014*

*Hübner ym 2013*



*Sarberg ym 2012*

**Figure 1.** Prevalence of restless legs syndrome (RLS) in each trimester of pregnancy.



Restless legs syndrome (RLS)+ incl. in 1. Trim = RLS-positive pregnant women included in first trimester; RLS+ incl. > 1. Trim = RLS-positive pregnant women included later in pregnancy. IRLS = International Restless Legs Severity; PP = postpartum; Trim = trimester.

# RASKAUS JA RLS

*Table Characteristics of pregnant women population subgroups*

	Total	HG	tRLS	nRLS	p Value
Age (y)	31.8 ± 4.7	31.6 ± 4.6	32.5 ± 4.9*	32.4 ± 4.6*	<0.05
Mother weight (kg)	72.5 ± 12.6	72.0 ± 12.2	73.6 ± 13.4	73.7 ± 12.8	NS
Newborn weight (g)	3,187.4 ± 656.1	3,173.3 ± 672.5	3,226.7 ± 608.5	3,242.1 ± 642.5	NS
Delivery week	38 ± 3	38 ± 3	39 ± 3	39 ± 3	NS
Folate therapy (mo)	5.7 ± 5.8	5.7 ± 2.5	5.8 ± 2.6	5.7 ± 2.7	NS
Iron therapy (mo)	4.6 ± 2.6	4.5 ± 2.6	4.8 ± 2.7	5.0 ± 2.7	NS
Plasmatic iron (µg/dL)	72.0 ± 43.0	74.5 ± 46.2	66.3 ± 34.1	66.3 ± 34.0	NS
Hemoglobin (g/dL)	11.3 ± 1.2	11.5 ± 1.2	11.1 ± 1.2*	10.9 ± 1.2*	<0.005
Mean corpuscular volume (fl)	87.3 ± 7.0	87.7 ± 6.6	86.4 ± 7.9*	85.4 ± 8.8*	<0.005
Total sleep time (min)	391.8 ± 129.0	404.5 ± 129.2	356.8 ± 123.1*	345.9 ± 134.1*	<0.005
Sleep latency (min)	24.3 ± 34.7	23.2 ± 33.8	27.4 ± 37.1*	29.5 ± 40.8	<0.05
Insomnia (%)	49.0	29.6	64.2*	61.8*	<0.005
EDS (%)	29.1	25.4	38.5*	43.1*	<0.05
Snoring (%)	23.2	20.4	30.4*	30.0*	<0.05
Leg cramps (%)	21.3	23.5	14.9	15.6	NS
Family history of RLS (%)	9.4	1.8	30.4*	9.9*	<0.005

\*Significance compared with HG.

HG = healthy group; tRLS = total restless legs syndrome group; nRLS = new restless legs syndrome group; pRLS = pre-existing restless legs syndrome group; EDS = excessive daytime sleepiness.

(Manconi et al 2004)

# RLS JA VÄSYMYS RASKAUDEN AIKANA

*Sarberg 2015*

RLS POTILAILLA  
ENEMMÄN  
VÄSYMYSOIREITA

	trim.	RLS	No RLS	p-value
		(n=103)	(n=182)	
		mean (SD)/ n (%)	mean (SD)/ n (%)	
ESS	1 <sup>st</sup>	8.5 (3.5)	7.9 (3.5)	0.127
	2 <sup>nd</sup>	8.7 (3.7)	8.0 (3.9)	0.138
	3 <sup>rd</sup>	09.4 (3.8)	8.7 (3.9)	0.126
EDS (ESS≥10)	1 <sup>st</sup>	44 (43%)	52 (29%)	0.015*
	2 <sup>nd</sup>	42 (41%)	68 (37%)	0.570
	3 <sup>rd</sup>	52 (50%)	89 (49%)	0.797
Daytime sleepiness	1 <sup>st</sup>	40 (39%)	31 (17%)	0.128
	2 <sup>nd</sup>	36 (35%)	29 (16%)	<0.001*
	3 <sup>rd</sup> †	47 (49%)	42 (24%)	<0.001*
Morning fatigue	1 <sup>st</sup>	37 (36%)	43 (24%)	0.026*
	2 <sup>nd</sup>	27 (26%)	45 (25%)	0.781
	3 <sup>rd</sup> **	38 (38%)	40 (22%)	0.005*

n=282; †n=271

# UNI JA MASENNUSOIREET



## Relationships Among Depression, Anxiety, and Insomnia Symptoms in Perinatal Women Seeking Mental Health Treatment

Leslie M. Swanson, Ph.D.,<sup>1</sup> Scott M. Pickett, Ph.D.,<sup>2</sup> Heather Flynn, Ph.D.,<sup>1</sup> and Roseanne Armitage, Ph.D.<sup>1</sup>

TABLE 2. BIVARIATE AND PARTIAL CORRELATIONS  
AMONG INSOMNIA SEVERITY INDEX,  
EDINBURGH POSTNATAL DEPRESSION SCALE,  
AND PENN STATE WORRY QUESTIONNAIRE

	Total sample n = 257	Pregnant n = 114	Postpartum n = 143
EPDS with PSWQ	0.69***	0.81***	0.53***
Controlling for ISI	0.63***	0.78***	0.46***
EPDS with ISI	0.49***	0.50***	0.48***
Controlling for PSWQ	0.29***	0.15	0.37***
PSWQ with ISI	0.43***	0.51***	0.53***
Controlling for EPDS	0.14*	0.20*	0.12

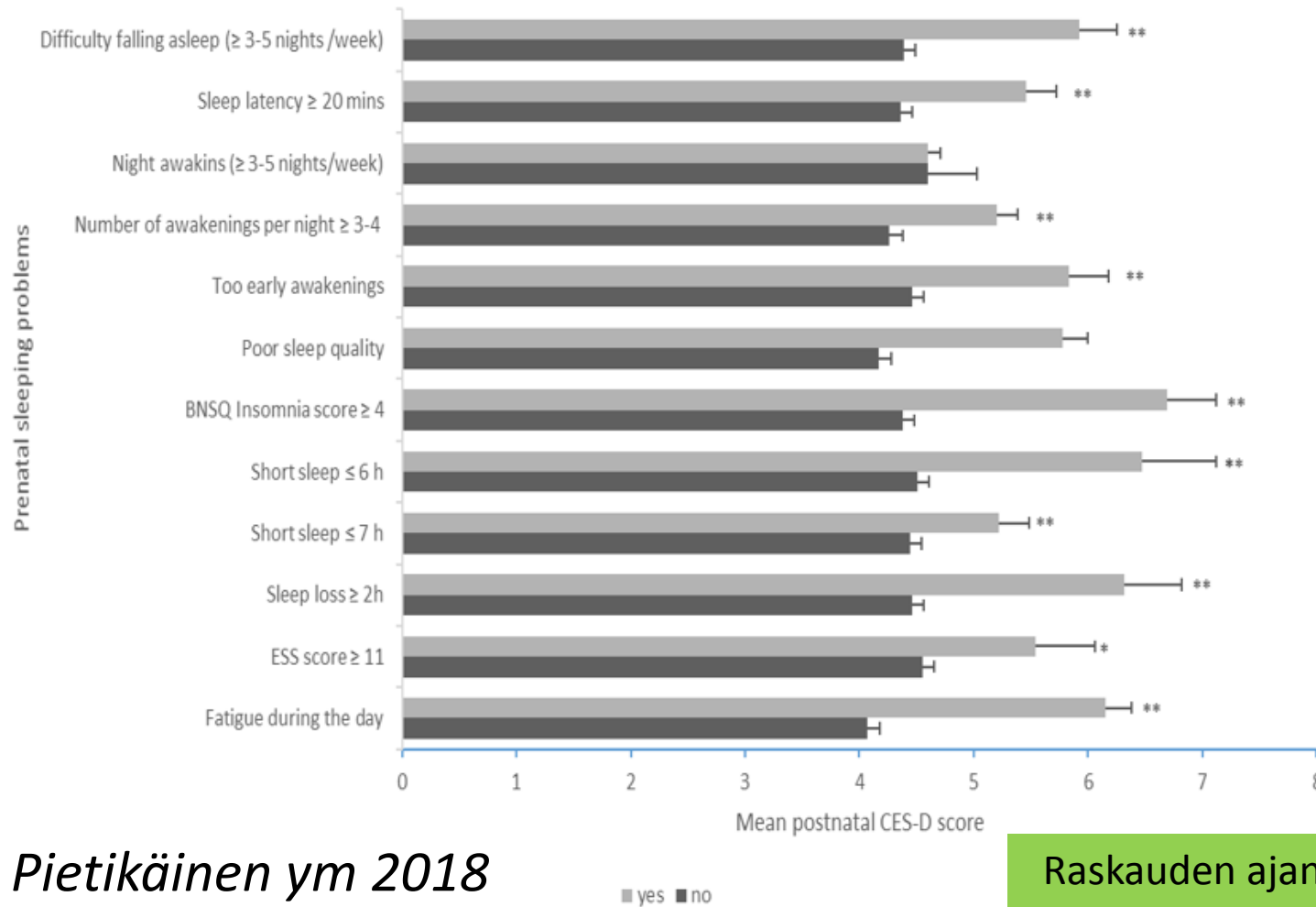
\* $p < 0.05$ ; \*\*\* $p \leq 0.001$ .

UNIONGELMAT,  
MASENNUSOIREET JA  
HUOLET OVAT  
YHTEYDESSÄ TOISIINSA



# RASKAUS JA DEPRESSIO-OIREET

Prenatal sleeping problems vs postnatal mean CES-D score



*Pietikäinen ym 2018*

Figure 2. Prenatal sleeping problems vs postnatal CES-D mean score with mean standard deviation. Independent t-test between yes/no -groups \*\* =  $p < 0.001$ , \* =  $p < 0.05$

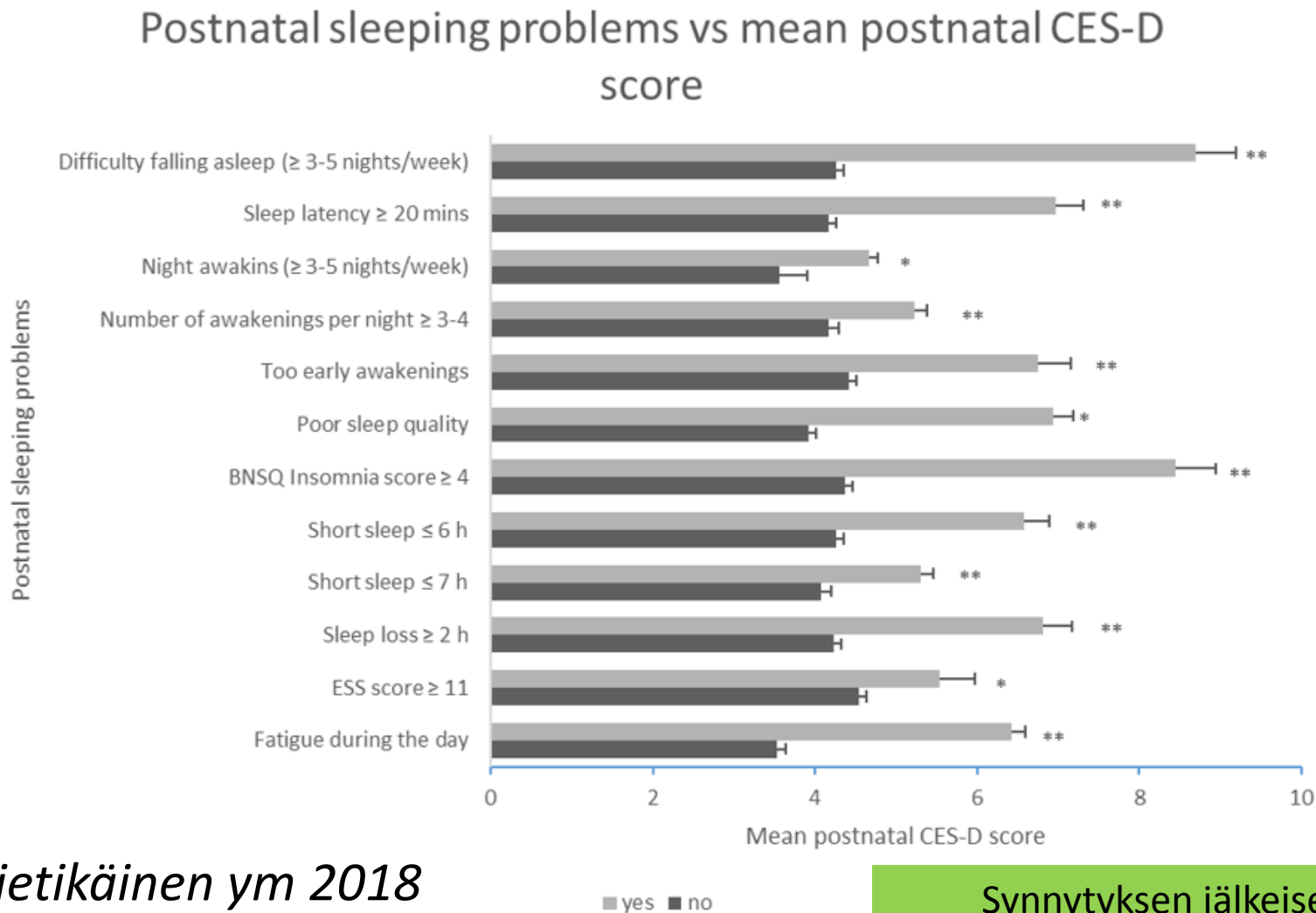
**Depressio:** Center for Epidemiological Studies Depression Scale, CES-D. ( $\geq 10$  points)

**Uni:** The Basic Nordic Sleep Questionnaire (BNSQ)

n = 1398

Raskauden ajan uniongelmät ovat yhteydessä synnytyksen jälkeiseen masennukseen (kontra raskauden aikaisella masennuksella)

# RASKAUS JA DEPRESSIO-OIREET



*Pietikäinen ym 2018*

Figure 3. Postnatal sleeping problems vs postnatal CES-D mean score with mean Independent t-test between yes/no -groups, \*\*=  $p < 0.001$ , \*=  $p < 0.05$

Synnytyksen jälkeiset uniongelmät ovat yhteydessä synnytyksen jälkeiseen masennukseen (kontr raskauden aikaisella masennuksella)

**Table 2. Sleep Disorders, Associated Pregnancy Outcomes, and Management Strategies**

Sleep Disorder	Associated Pregnancy Outcomes	Management (Options That Have Support in the Literature)
Breathing-related sleep disorder	Gestational hypertensive disorders <sup>8</sup> Gestational diabetes <sup>30</sup> Unplanned cesarean birth <sup>25</sup> Low birth weight <sup>31</sup> IUGR <sup>31</sup> Neonatal ICU admission <sup>30</sup>	Depends on extent of disorder, but may include: CPAP <sup>34</sup> Nasal strips or stenting <sup>35</sup> Sleep hygiene: avoidance of sedatives, elevation of the head, avoiding supine position <sup>23</sup> Control gestational weight gain Referral to specialist
Restless legs syndrome	Daytime sleepiness <sup>36</sup> Poor quality of life <sup>35</sup> Poor daytime functioning and safety <sup>36</sup> Depression <sup>4</sup>	Sleep hygiene and lifestyle changes: consistency of time to bed and time to rise; avoid alcohol, caffeine, nicotine; warm baths prior to bed; daily moderate exercise (but not just before bed) <sup>12</sup> Massage, acupuncture <sup>37</sup> Treat folate and iron deficiencies <sup>38</sup> Medications (see Table 3) Referral to specialist
Insomnia (primary or comorbid)	Daytime functioning and safety <sup>16</sup> Depression and anxiety in later pregnancy and postpartum <sup>6,16,39</sup> Pain perception in early labor, longer labor, and operative birth <sup>40,41</sup> PTB <sup>31</sup>	Sleep hygiene and lifestyle changes as noted under RLS Acupuncture may be helpful <sup>3</sup> Relaxation techniques such as yoga, massage <sup>39</sup> Treatment of depression, if present <sup>16</sup> Light therapy <sup>40</sup> Medications (see Table 3) Referral to specialist

Pramipeksoli, Levodopa

Oksatsepaami lyhytaikaisesti,  
 Väsyttävät antihistamiinit

*Nonide ym 2013*

# YHTEENVETO

- Uniongelmat ovat yleisiä raskauden aikana ja ne usein vaikeutuvat raskauden edetessä
- Edellä mainitusta huolimatta uniongelmat ovat usein alidiagnosoituja ja alihoidettuja raskauden aikana
- Monet uniongelmat, erityisesti unenaikaiset hengityshäiriöt ovat yhteydessä raskaus- ja synnytyskomplikaatioihin ja mahdollisesti huonompaan vastasyntyneen terveyteen
- Raskaudenaikaiset uniongelmat voivat kroonistua

**MUISTA HOITAA POTILAASI RASKAUDEN JA  
LAPSIVUODEAJAN UNIHÄIRIÖT!**



*Kiitos!*