Symptoms of depression and sleep apnea during pregnancy

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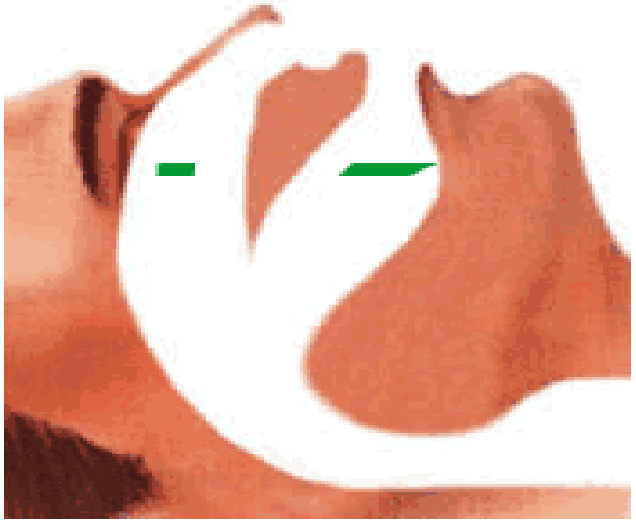
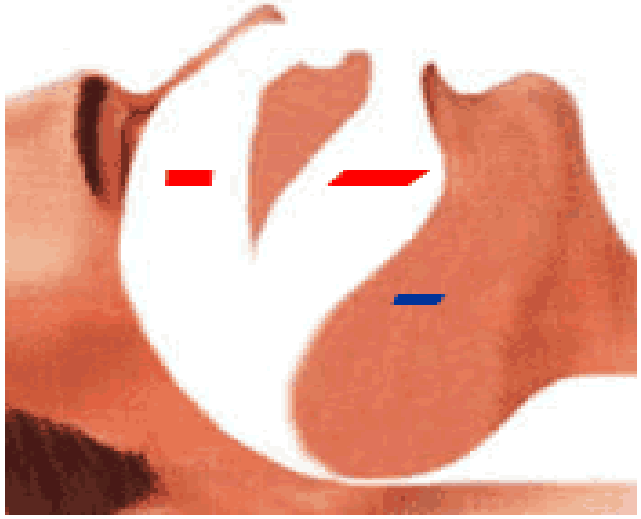
Sleep Apnoea

Normal Breathing



Obstructive Sleep Apnoea



Depression and sleep apnoea

- sleep is a core symptom of depression
- significant relationships between poor sleep and depression occur

In non pregnant populations sleep apnea is linked to

- depressive symptoms (40% have significant depressive symptoms)
- clinical depression (17% have depression diagnosed by clinical interview)

Treatment of sleep apnea reduces depressive symptoms

Sleep apnoea in pregnancy

	First Trimester	Third Trimester	Last week pregnancy
Snoring	7%	24%	48%
Sleep apnoea	6%	20%	

- in pregnancy snoring is related to symptoms of depression
- data linkage study show women with sleep apnea are 5-6 times more likely to have postnatal depression

Aim

- to explore relationship between sleep apnoea in pregnancy and depressive symptoms

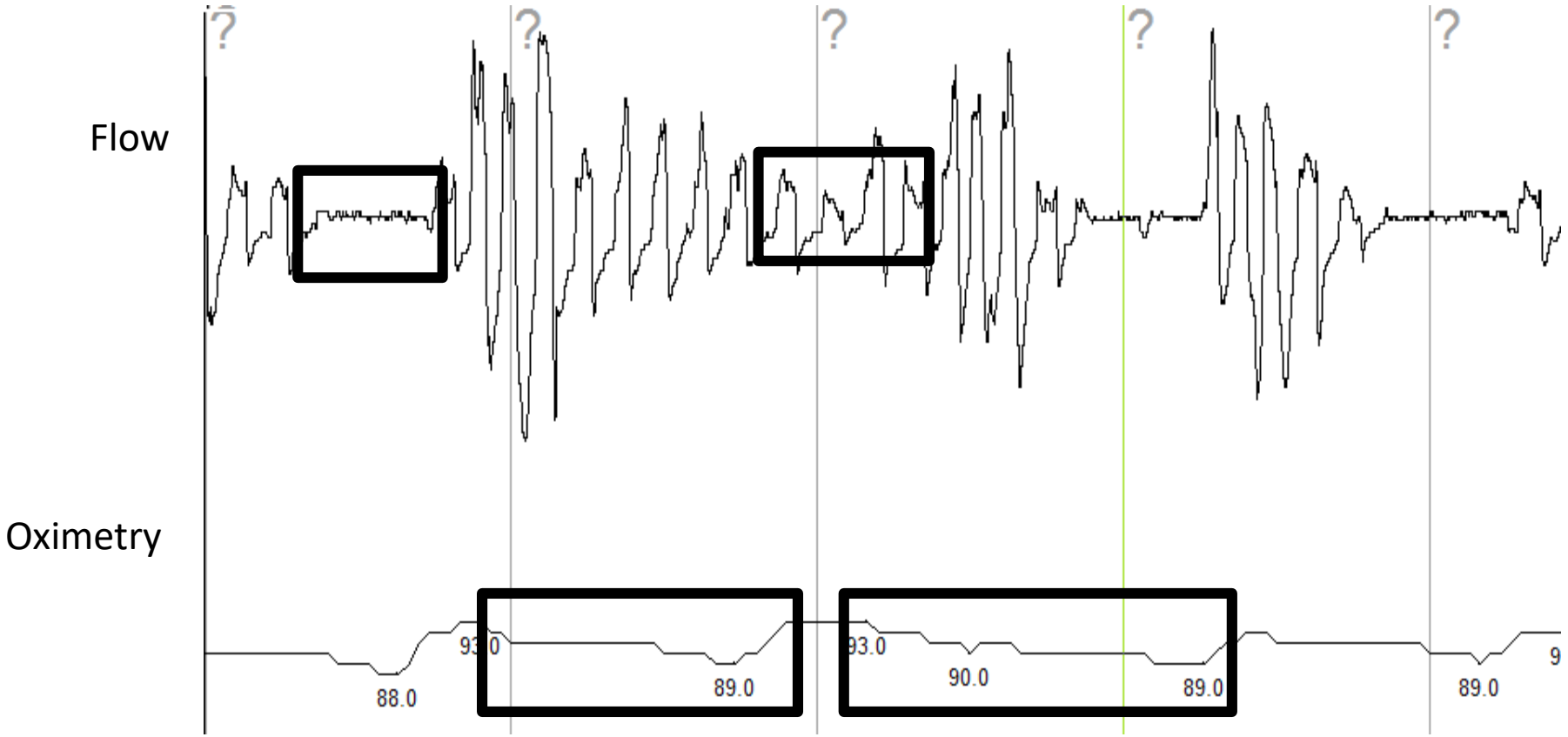
Hypothesis

- sleep apnoea is related to depression in pregnancy

Methods

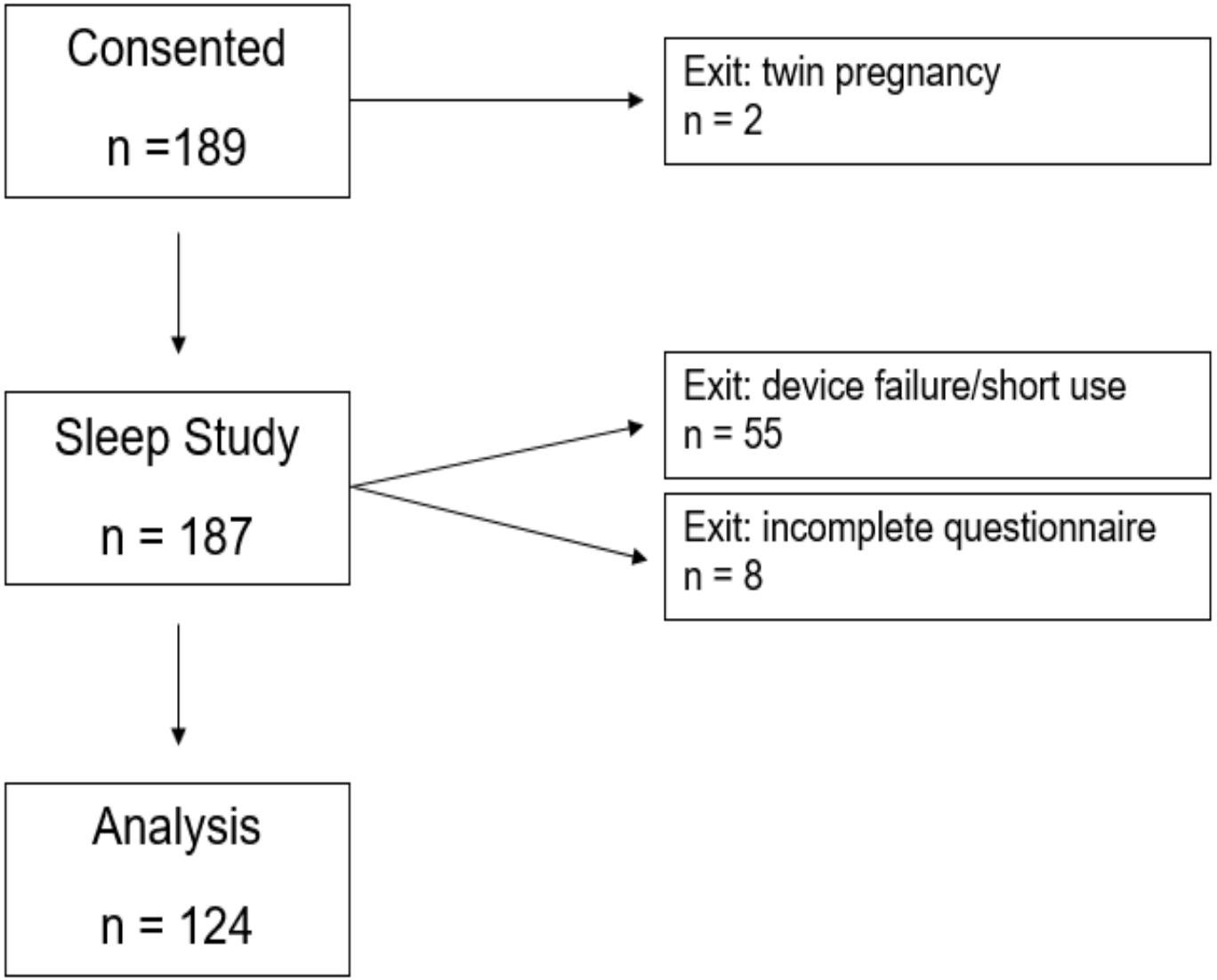
- >26 weeks
- ApneaLink screen
  - AHI,ODI3%,ODI4%
- Edinburgh Postnatal Depression Scale (EPDS), Pittsburgh Sleep Quality Index (PSQI)
- age, BMI, parity, ethnicity, gestation, smoking status, history of depression, antidepressant use
- pregnancy and Fetal outcomes

Sleep apnoea



- Apnoea hypopnoea index
- Sleep apnea AHI≥5

Participants



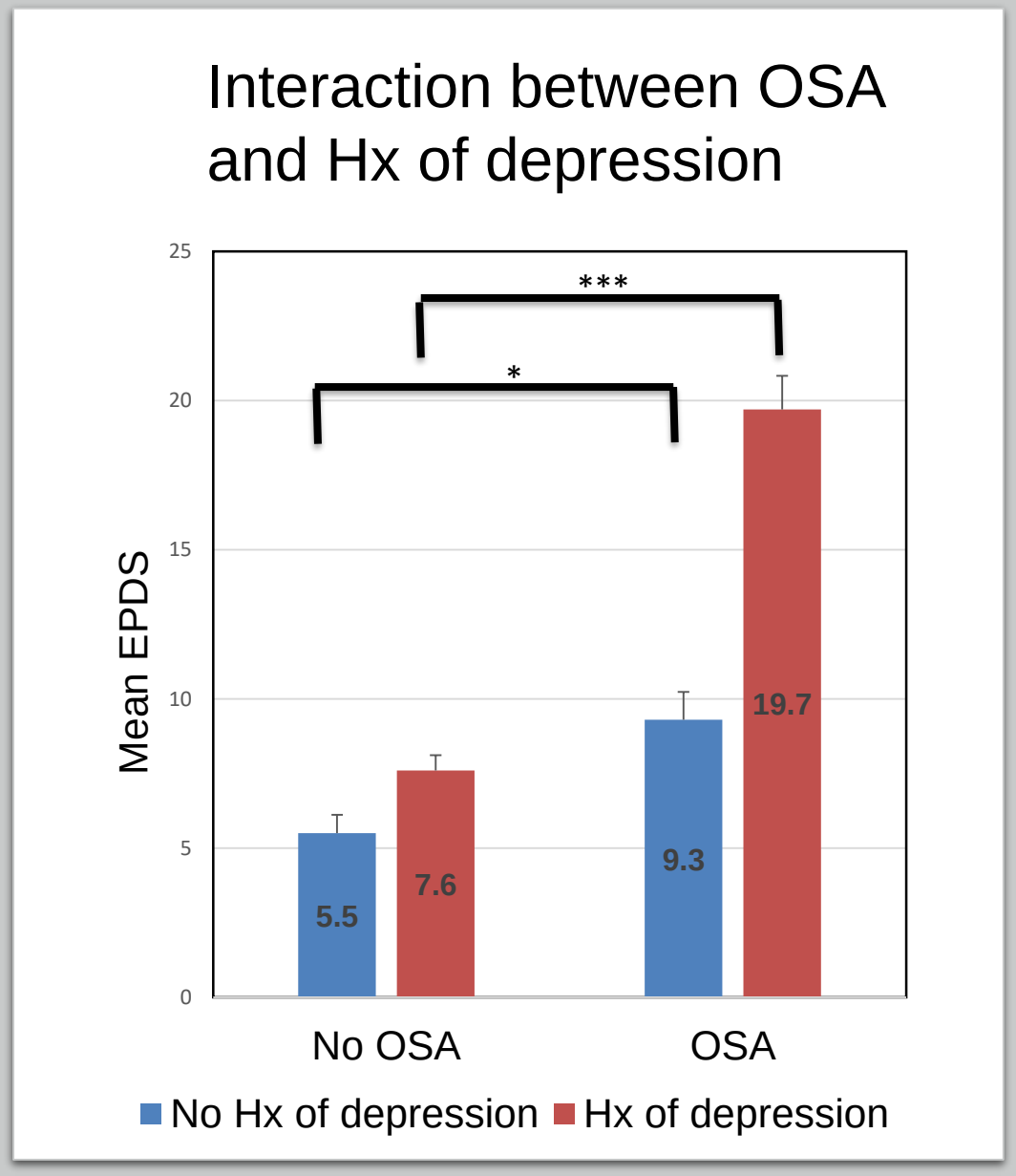
Clinical and descriptive details

Age	**31.1 ± 6.0**	
BMI (First trimester)	26.4 ± 7.0	
BMI(Third trimester)	29.6 ± 7.7	
Gestation Weeks	32.9 ± 4.0	
Smokers [a]		12 (10.3)
Parity >1		63 (50.8)
History of depression		31 (25.0)
Antidepressant use		17 (13.7)
OSA (AHI≥5)		20 (16.1)
Depressive Symptoms EPDS =13		11 (8.9)
Ethnicity [b] **Caucasian** **Asian** **Other**		 70 (61.9) 12 (10.7)

Depressive symptoms

A linear model including presence of apnoea, BMI, and gestational age predicts 31.4% (r^2= 0.3) of the variance in symptoms of depression

Both apnoea and history of depression had significant main effects also the higher order interaction



Depressive symptoms at the cut off EPDS of 13

	Step 1, OR [95%CI]	Step 2, OR [95%CI]
Sleep apnea (AHI≥5)	6.50 [1.67, 25.36] *	8.36 [1.57, 44.46] **
History of depression		7.45 [1.58, 35.15] **
BMI		1.03 [.92, 1.16]
Gestational age (weeks)		.94 [.77, 1.16]

Limitations

- number of participants with an EPDS of 13 or more only 11
- depressive symptoms used not clinical diagnosis of depression
- no postnatal measures were included

Conclusion

- An interaction was found between OSA and depression history.
- In women with no history of depression, OSA increases depressive symptoms.
- In women with a history of depression, OSA has an even stronger effect on depressive symptomology.
- Screening for OSA and sleep disturbances may identify both OSA and depression allowing targeted interventions to prevent the recurrence of depression in those who are susceptible.