


Prospective placebo-controlled trials on COC and impact on mental health

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Disclosure

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Conclusion

- Hormonal contraceptive use is associated with **minor** mood disturbances
- Healthy women with no psychiatric history are **not** at risk for developing depression during hormonal contraceptive use.
- Mood disturbance most likely to affect
 - women with psychiatric history
 - women with anxious personality
 - women who complain of prior hormonal contraceptive-induced mood disturbance

Causality

- Randomized placebo-controlled trials represent the highest level of evidence for causal effects

Outline

- Results from two randomized placebo-controlled trials
 - Women with previous negative mood experience from hormonal contraceptive use (EE + LNG vs placebo)
 - Typical users (E2 + NOMAC vs placebo)
- Daily diary data on mood symptoms
 - Prior to randomization
 - During treatment
- Functional MRI
- Emotional-cognitive psychological tests

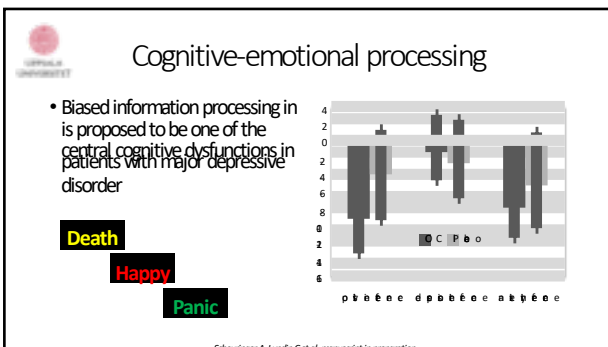
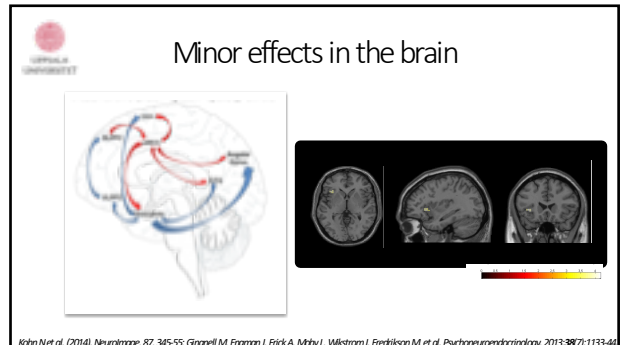
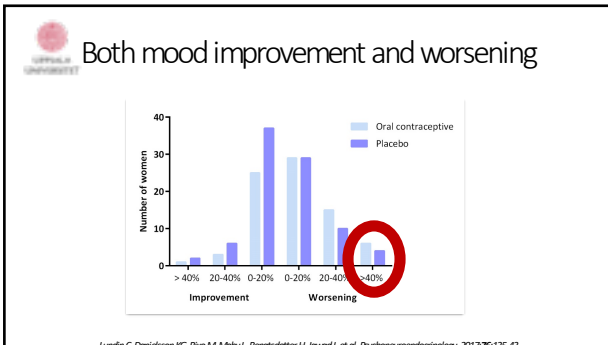
Lundin C, Danielsson KG, Bixo M, Mbbly L, Bengtsdatter H, Jawad J, et al. Psychoneuroendocrinology. 2017;76:135-43. Gingnell M, Engman J, Frick A, Mbbly L, Wikström J, Eriksson M, et al. Psychoneuroendocrinology. 2012;37:1122-31.

What mood symptoms?

	COC n = 80			Placebo n = 88		
	Intermenstrual	Premenstrual	Menstrual	Intermenstrual	Premenstrual	Menstrual
Depression	0.11 ± 0.57	-0.13 ± 0.75*	-0.02 ± 0.98	0.06 ± 0.61	0.20 ± 0.73	-0.06 ± 0.72
Anxiety	0.18 ± 0.54	-0.05 ± 0.78	-0.05 ± 1.12	-0.04 ± 0.46	0.11 ± 0.72	0.03 ± 0.73
Mood swings	0.23 ± 0.53*	0.03 ± 0.78	0.08 ± 1.20	0.08 ± 0.48	-0.02 ± 1.01	-0.10 ± 0.88
Irritability	0.30 ± 0.57*	-0.03 ± 0.86	-0.09 ± 0.95	0.07 ± 0.46	0.10 ± 0.76	-0.02 ± 0.73

Minor effects: 0.2 – 0.3 scale step change on a six-step scale (DRSP)

Lundin C, Danielsson KG, Bixo M, Mbbly L, Bengtsdatter H, Jawad J, et al. Psychoneuroendocrinology. 2017;76:135-43.



What predisposes to mood disturbance during hormonal contraceptive use?

Predictors for mood worsening

	Women without previous psychiatric history (n=88)		p	Women with ongoing or prior psychiatric disorders (n=84)		p
	OCC (n=35)	Placebo (n=48)		OCC (n=44)	Placebo (n=40)	
Depression	0.1±0.4	0.2±0.6	0.6	0.1±0.7	-0.1±0.6	0.8
Anxiety	0.1±0.3	-0.1±0.5	0.028	0.2±0.7	0.0±0.4	0.174
Mood swings	0.1±0.4	0.2±0.4	0.9	0.3±0.6	0.0±0.5	0.005
Irritability	0.2±0.5	0.2±0.5	0.7	0.4±0.6	0.0±0.4	0.002
Difficulties concentrating	0.1±0.6	0.0±0.6	0.9	0.0±0.6	-0.2±0.7	0.085
Fatigue	0.2±0.6	0.2±0.6	0.7	0.3±0.7	-0.1±0.9	0.004
Overwhelmed	0.0±0.5	0.1±0.5	0.8	0.2±0.8	-0.1±0.8	0.051

Psychiatric history

Benstokter H, Lundin C, Grønneil Danielsson K, Bixo M, Baumort J, et al. The European journal of contraception & reproductive health care. 2018;23(1):45-51

Self-reported OC-induced adverse mood

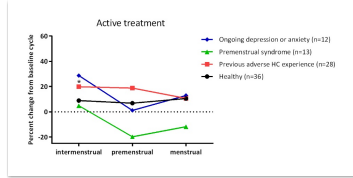
	Model 1	
	Adjusted odds ratio (95% CI)	p
Parity	1.92 (0.75 – 4.93)	0.174
Smoking	1.45 (0.56 – 3.75)	0.441
Educational years	0.93 (0.82 – 1.04)	0.203
Dysmenorrhea or endometriosis	1.46 (0.73 – 2.91)	0.281
Premenstrual dysphoric disorder	1.88 (0.82 – 4.30)	0.122
Any previous mental health problem	1.86 (1.14 – 3.05)	0.014
Any ongoing		

Psychiatric history

Lundin C et al. www.psychiatryonline.org



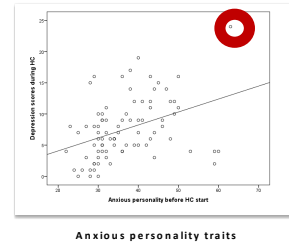
Self-reported OC-induced adverse mood



Lundin C. *Contraception*. 2013;87:125-32.



Depressive symptoms during treatment



Chen Y, et al. *Lundin C et al. 2013*



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