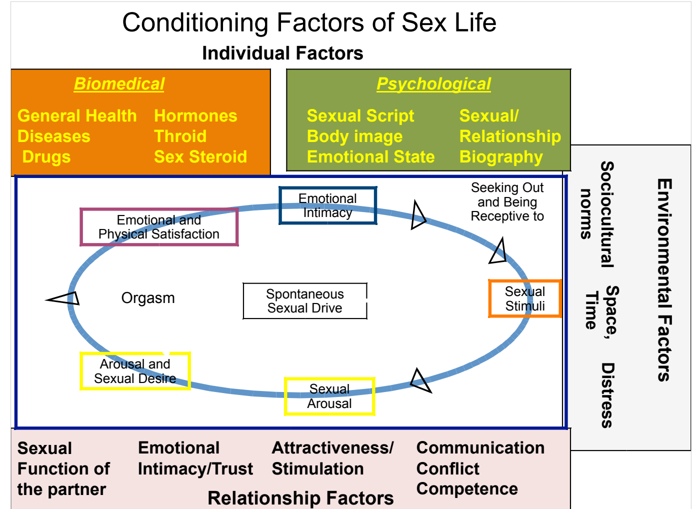
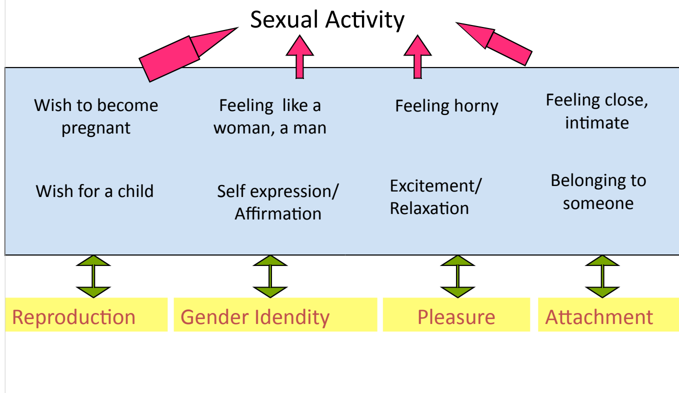
Contraception and sexuality – does the pill ruin womens' sexual life ?



The motivation for poeple to become sexually active



The pill responsible for sexual dysfunctions in women !!!!!

Severe accusations !!!

OCs are responsible for the development of a vulvovestibilitis in women and for dyspareunia

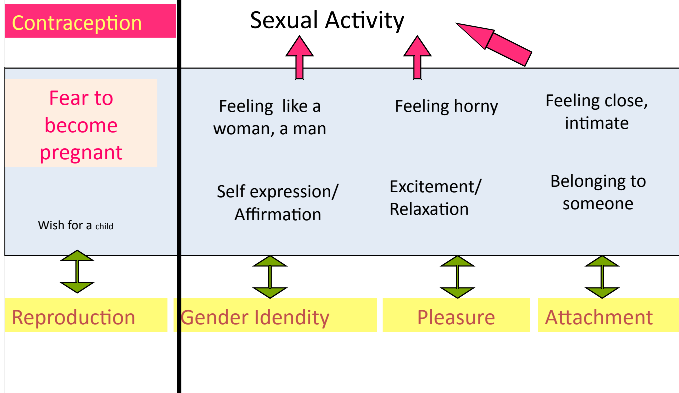
OCs cause problems

of libido

of excitement

and diminish sexual satisfaction

The motivation for poeple to become sexually active



COC and Vulvovestibulitis

➢ *Vulvar vestibulitis in the North of Sweden. An edpidemiologic case-control study.* ➢ *Sjoberg et al.; J. Reprod Med 1997*	➢ 32 women with VVS and 17 controls ➢ Women with VVS had significantly more often a history of HPV infection and longer duration of OC use
➢ *Vulvar pain, Sexual behavior and genital infections in a young population: a pilot study* ➢ *Berglund AL et al: Acta Obstet Gynecol. Scand 2002*	➢ 172 adolescents (between 12-26 years); Questionnaire ➢ 1/3 report experiencing pain during intercourse;

COC and Vulvovestibulitis

➢Use of oral contraceptive pills and vulvar vestibulitis: a case control study. ➢Bouchard C. et al : Am J. Epidemiolog.2002	138 women presenting with VVS during previous 2 years compared to 309 controls. 4% of cases 17% of controls never used OCs. RR 6.6 (CI 2.5-17.4). If the use of OCs began before age 16, the RR for VVS was 9.3 (CI 3.2-27.2)
➢Decreased mechanical pain threshold in the vestibular mucosa of women using oral contraceptives - a contributing factor in vulvar vestibulitis ➢Bohm-Starke N. et al : J. Reprod.Med.2004	➢39 women under OC, 18 controls ➢Threshold for pain and heat ➢The mechanical threshold was significantly lower in Oc users, but not the threshold for heat

COC and HSDD

➢*Retrospective studies (14 studies)* ➢*1959-1990*	➢Large increase in desire to modest decrease ➢The majority experienced increase or no change
➢*Prospective uncontrolled studies (3 studies)* ➢*Nillson 1967, Cullberg 1969, Sanders 2001*	➢The majority of COC users had no change in libido with much smaller proportions reporting increase and decrease; ➢Increase 17%; Decrease 39%; stable 44% (Sanders 2001)

Hormonal contraception and Vulvovestibulitis

Hypothesis

Steroids change the sensibility of the vestibule through the action of progestogen and androgen in predisposed young women

Still unproven

COC and HSDD

➢*Prospective and cross sectional controlled studies (3 studies)* ➢*Herzberg1971, Barnard Jones 1973, Bancroft 1991*	Slight Decrease; More increase in OC users; The rate increase/decrease was higher in IUD users than in COC users
➢Randomized pacebo-controlled trials (4 studies) ➢*Cullberg 1972, Leeton 1978, Graham 1993, Graham 1995*	In most women stable libido; same increase and decrease; COC decrease of libido, POP no decrease in Scottish women; no change in women from the Philippines

Davis AR, Castano PM 2006

Arnold LD, Bachmann G Kelly S: Vulvodynia: Charcetristics and Association with Co-Morbidities and Quality of life. Obstet Gynecol. 2006 March ; 107(3): 617–624

	Ad OR	95% CI
Chronic fatigue	**3.19**	**0.88, 11.42**
Fibromyalgie	**3.84†**	**1.54, 9.55**
Depression	**1.46**	**0.79, 2.7**
Irritable Bowel Syndrom	**3.11†**	**1.6, 6.05**
Sexually active last 6 months	**0.49†**	**0.25, 0.97**
History of PMS	**1.14**	**0.63, 2.07**
> 3 UTI/ year	**5.33†**	**2.44, 11.62**
> 3 Candidiasis / year	**9.89†**	**5.23, 18.71**
Previous COC use	**0.83**	**0.43, 1.6**
COC use > 5 Jahre	**0.49†**	**0.26, 0.95**

† p<0.05

Case control study

77 patient with vulvodynia vs 208 healthy controls

OCs and Libido

Basic science studies:

Ovulatory shifts in female sexual desire. Pillworth et al J. Sex. Res 2004: *Ovulatory peak in sexual desire, which is suppressed by COs ?*

Menstrual cycle related changes in plasma oxytocin are relevant to normal sexual function in healthy women. Salonia et al Horm Behav.2005: *Plasma Oxytocin fluctuates throughout the cycle and is related to vaginal lubrication. Ocs suppress this fluctuation*

but

Many contradictory studies about menstrual cycle phases and female sexual behavior

OCs and Desire

Basic science studies:

Impact of oral contraceptives on sex-hormone binding globulin and androgen levels: a retrospective study in women with sexual dysfunction. Panzer et al J Sex Med 2006;

Despite a decrease in SHBG values after discontinuation of OC use, SHBG levels in the „Discontinued Users“ did not decrease to values consistent with „Never Users“. Longterm decrease in libido through Genetic Imprinting ?

but

Retrospecitve study with women under Testosterone supplementation

When is SHBG abnormally high and when is it sill in a normal fluctuation range ?

What is the relationship between SHBG and sexual dysfunction ?

What about EE dosage
What about increased SHBG and decreased FT ?

Greco T, Graham CA et al: The effects of oral contraceptives on androgen levels and their relevance to premenstrual mood and sexual interest: a comparison of two triphasic formulations containing norgestimate and either 35 or 25 µg of ethinyl estradiol. Contraception 200; 76: 8-17

Randomized Trial

Triphasic NMG 0,18; 0,215, 0,25 plus

Either 25 EE

Or 35 EE

60 women (48 completed) 3 month study

Outcome: T, FT, SHBG, DHEAS, BDI, SDI (desire subscale), self reported side effects before and after three months

Results: T and Free T reduction was significantly lower with the lower EE dosage. Women with the low dose preparation were significantly more likely to improve regarding premenstrual symptoms, but no correlation between changes in BDI and T or DHEAS; no significant difference regarding desire

HSDD and androgens in women

- No single androgen level is predicitive of low female sexual function (Davis 1999 and 2005)
- No correlation between between SHBG levels during OC use and HSDD frequency (Bitzer et al in press); there seems to be a broad range of tolerance with respect to testosterone fluctuations.
- Women with free testosterone levels of 2pg/ml or less are at increased risk of HSDD

What about EE and different progestogens ?

Plewig G, Cunliffe W, Binder N, Höschen K. Efficacy of an oral contraceptive containing ethinyl estradiol 0.03 mg and chlormadinone acetate 2 mg (EE/CMA; Belara®) in moderate acne resolution: a randomised, double-blind, placebo-controlled phase III trial. Contraception. 2008:123-30

A double-blind, phase III study, which was designed primarily to evaluate the effects of 0.03 mg EE + 2 mg CMA on signs of androgenisation, randomised 377 women to six cycles of treatment with either 0.03 mg EE + 2 mg CMA (n=251) or placebo (n=126). As might be expected, women in the 0.03 mg EE + 2 mg CMA group were more likely than those receiving placebo to report adverse events normally associated with OC use; however, none of the participants in either group reported decreased sexual desire as an adverse event.

What about EE dosage

What about increased SHBG and decreased FT ?

What about EE and antiandrogenic progestogens ?

Salvatore Caruso, MD,* Salvatore Rugolo, MD,† Carmela Agnello, MD,* Mattea Romano, MD,* and Antonio Cianci, MD*

J Sex Med 2009;6:3376–3384

72 women (18-32 years) with hyperandrogenic symptoms (moderate to severe hirsutism and acne)

Treatment with OC containing 30 ug EE and 2 mg of Chlormadinonacetate for 9 cycles

To assess hirsutism, the Ferriman-Gallwey (F-G) scoring system was used. Serum FSH, LH, estradiol, total and free testosterone, DHEAS, androstenedione, and SHBG levels were measured at baseline and at the 9th cycle of pill intake.

The Short Personal Experience Questionnaire (SPEQ), the Short Form-36 (SF-36), and a visual analog scales questionnaires were used to assess the QoL, at baseline and after 3, 6 and 9 cycles of pill use.

What about EE and different progestogens ?

Salvatore Caruso, MD,* Salvatore Rugolo, MD,† Carmela Agnello, MD,* Mattea Romano, MD,* and Antonio Cianci, MD*
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Result(s). A reduction of 65% and 81% in the total mean F-G score was observed after the 6th cycle and the 9th cycle, respectively.
The serum Androstenedione, and total and free testosterone levels decreased, and SHBG levels increased after the 9th cycle ($p < 0.05$). The SF-36 score was higher after 6 ($p < 0.05$) 9 cycles ($p < 0.001$) with respect to baseline.
Frequency of sexual intercourse and of orgasm by intercourse increased, and the frequency of masturbation decreased during the 6th ($p < 0.05$) and the 9th cycle ($p < 0.001$).
Conclusion(s). The EE/CMA pill has anti-androgenic properties reducing the anti-aesthetic effect of hyperandrogenism and improving female sexual function and social self-esteem.

Sexual dysfunction as a reason for discontinuation

Sanders S, Graham C, Bass J, Bancroft J. A prospective study of the effects of oral contraceptives on sexuality and well-being atheir relationship to discontinuation. Contraception. 2001 Jul;64(1):51-8

The study (Sanders) randomised 107 women to receive either 0.035 mg EE + monophasic norgestimate [NGM] 0.250 mg; or Ortho Tri-Cyclen® (0.035 mg EE + triphasic NGM 0.180 mg, 0.215 mg, 0.250mg. Assessments included the Interviewer Ratings of Sexual Function, the Sexual Experience Scales and a side-effects questionnaire, which were carried out at baseline and at 3, 6 and 12 months, or as soon as possible following discontinuation of OCs or switching to another pill. 19% of participants reported negative sexual side-effects, and 86% of this cohort also discontinued or switched OC. Finally, a logistic regression model found that reductions in the frequency of sexual thoughts and in the psychosexual stimulation score both predicted discontinuation of OC use.

What about Estradiol and an antiandrogenic progestogen ?

Salvatore Caruso, MD, Carmela Agnello, MD, Mattea Romano, MD, Stefano Cianci, MD, Lucia Lo Presti, MD, Chiara Malandrino, MD, and Antonio Cianci, MD

J Sex Med 2011;8:2841–2850

Fifty-seven women (age range 18–48 years) were enrolled to take E2V and Dienogest in a 4 phasic regimen
The Short Form-36 (SF-36) questionnaire to assess quality of life (QoL) was administered at baseline and at the 26th day of both the 3rd and 6th cycles of oral contraceptive (OC) intake.
The Short Personal Experience Questionnaire (SPEQ) to measure the change of sexual behavior was used ***Main Outcome Measure.*** The SF-36 and the SPEQ questionnaires.

Sexual dysfunction as a reason for discontinuation ?

Bachmann G, Sulak P, Sampson-Landers C, Benda N, Marr J. Efficacy and safety of a low-dose 24-day combined oral contraceptive containing 20 micrograms ethinylestradiol and 3 mg drospirenone. Contraception. 2004 Sep;70(3):191-8.

Bassol S, Alvarado G, Arreola R, Celis-Gonzalez C, Pena E, Flores J, et al. A 13-month multicenter clinical experience of a low-dose monophasic oral contraceptive containing 20 microg ethinylestradiol and 75 microg gestodene in Latin American women. Contraception. 2003 May;67(5):367-72

Two phase III studies with low-dose combined OCs have recorded decreased sexual desire as a reason for discontinuing OC use. In the open-label study of an OC containing 20 ∓g EE + 3 mg DRSP, 0.6% of participants cited decreased sexual desire as the reason for withdrawing from the study [Bachmann].
Similarly, in the Latin American study of a combined OC containing 0.02 mg EE + 0.075 mg GTD, three women (0.8%) discontinued their OC because of loss of sexual desire [Bassol].
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What about Estradiol and an antiandrogenic progestogen ?

Salvatore Caruso, MD, Carmela Agnello, MD, Mattea Romano, MD, Stefano Cianci, MD, Lucia Lo Presti, MD, Chiara Malandrino, MD, and Antonio Cianci, MD

J Sex Med 2011;8:2841–2850

Results. Women reported QoLimprovement at the 3rd ($P < 0.05$) and at the 6th cycles ($P < 0.01$). By SPEQ, improvement of sexuality during the 3rd and the 6th cycle with respect to baseline experience was observed ($P < 0.05$).
Enjoyment and desire improved at the 6th cycle with respect to the 3rd cycle ($P < 0.05$). All women reported decreased dyspareunia at the 3rd and 6th cycles ($P < 0.05$).
Conclusion The E2V/DNG multiphasic extended regimen has been found to positively modify the sexuality of users.

Levels of interaction between hormonal contraception and intimacy/sexuality

Biology
General wellbeing
Hormones

Individual Psychology
Reproductive and sexual script

Relationship
Partners concepts of love and sex

Social
Social beliefs about hormones and their actions

Physical and psychological wellbeing and the bidirectional influence of OCs

OCs have positive influence on Hypermenorrhea and Spotting	**Modification on menstruation**	OCs may cause bleeding disturbances
OCs may ameliorate acne and seborrhea	**Skin changes and attractivity**	OCs may induce acne
OCs may have no influence	**Weight changes**	OCs may be considered as weight gain inducing
OCs may reduce Dysmenorrhea and PMS, PMDD	**Pain syndromes**	OCs may provoke headache and breast tension

Relationship issues and COCs

Suppression of feromones

Increased receptivity

Receptivity for the partner

Conflicts about wish for a child

perceived as a coercion by the partner

perceived as means of autonomy

Balance between give and take; justice

considered as injustice against women

experienced as freedom and advantage

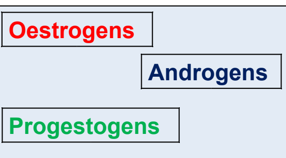
Hormonal regulation and the bidirectional influence of OCs

Function and vitality of the mucosal membranes, olfactoric and psychotropic effect

SHBG Increase

Neuropeptides

?



Prolactine
Ocytocine

?

Positive effect on desire and mood

Negative effect on skin and body image

Antio-estrogenic effect

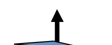
Neurotropic effect

Social and Cultural Concepts about Hormonal Contraception

OCs protect…….	Family Beliefs	OCs are unnatural
Hormonal contraception health benefits	Health Professionals	Hormonal contraception risks
Hormonal contraception good news and models	Media	Hormonal Contraception bad news and cases

Sexual script and the bidirectional influence of COCs

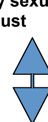
Sexuality



Fertility

COCs provide very effective separation

Freedom from anxiety about unwanted pregnancy; enjoy sexuality and lust



Deprivation of a creative potency, of a biological and archaique meaning of sexuality

Preexisting sexual disatisfaction may be attributed to external factor like COCs

Preexisting sexual interest and pleasure may be facilitated through the use COCs

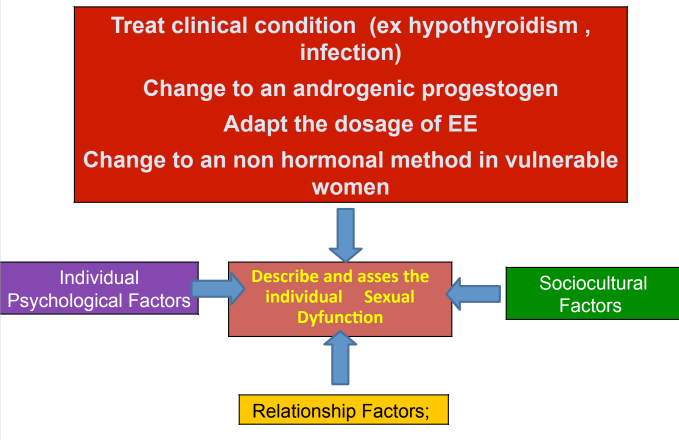
The pill and sexuality

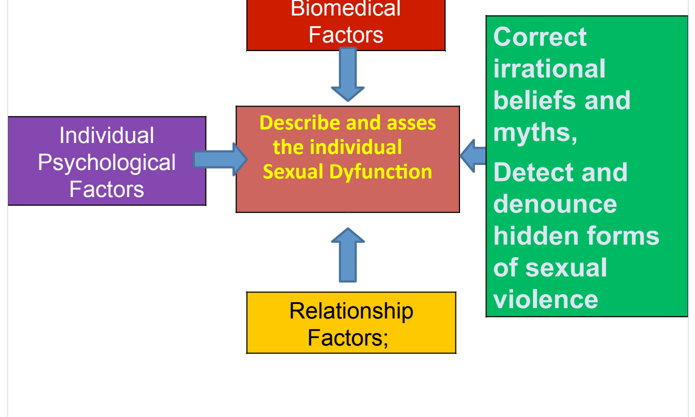
Combined oral contraceptives have biological, psychological and relational effects which may have a positive or negative impact on women's sexual experience and function, depending on the personal and interpersonal context of use.

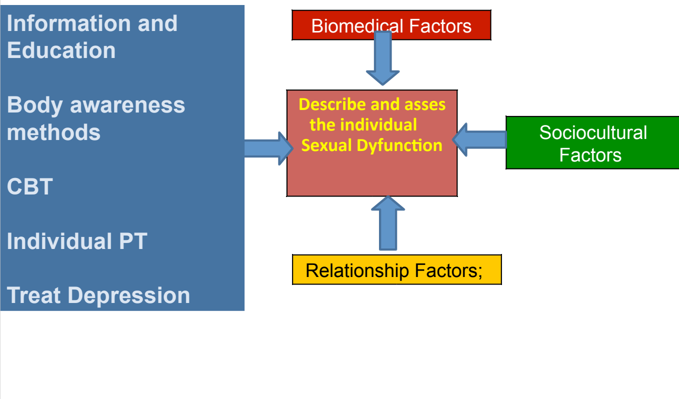
For the majority of actual users under „real world conditions" it seems however that the positive effects outweigh by far the possible unwanted side effects on sexuality

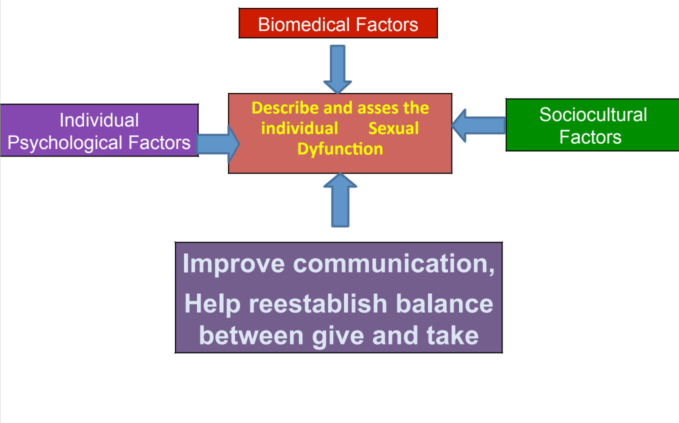
Notwithstanding this statement it is our duty as caring physicians

- to investigate into women's sexual experience while using a contraceptive method
- to take complaints serious
- to perform a comprehensive diagnostic workup
- to search for solutions


Biomedical Intervention
Treat clinical condition (ex hypothyroidism , infection)
Change to an androgenic progestogen
Adapt the dosage of EE
Change to an non hormonal method in vulnerable women
Individual Psychological Factors
Describe and asses the individual Sexual Dyfunction
Sociocultural Factors
Relationship Factors;


Psychoeducation, Counselling
Biomedical Factors
Individual Psychological Factors
Describe and asses the individual Sexual Dyfunction
Correct irrational beliefs and myths,
Detect and denounce hidden forms of sexual violence
Relationship Factors;


Psychological Intervention
Information and Education
Body awareness methods
CBT
Individual PT
Treat Depression
Biomedical Factors
Describe and asses the individual Sexual Dyfunction
Sociocultural Factors
Relationship Factors;


Couple intervention
Biomedical Factors
Individual Psychological Factors
Describe and asses the individual Sexual Dyfunction
Sociocultural Factors
Improve communication,
Help reestablish balance between give and take