Recommendations for the First Prescription of Hormonal Contraception in Adolescence

10

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Abbreviations

BMD	Bone mineral density
BMI	Body mass index
CHC	Combined hormonal contraception
DMPA	Depot medroxyprogesterone acetate
EP	Estrogen progestogen
HC	Hormonal contraception
LARC	Long-acting reversible contraception
LNG-IUS	Levonorgestrel-releasing intrauterine system
OC	Oral contraception
POP	Progestogen Only Pill
SLE	Systemic lupus erythematosus
STI	Sexually transmitted infection
VTE	Venous thromboembolism

It is becoming more and more important to discuss the issue of contraception for adolescents, as national and international data have highlighted:

- The increasingly young age at which sexual intercourse begins
- The frequent lack of contraception during sexual debut (Table 10.1)

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Table 10.1 Risk factors in unprotected sexual intercourse

Young age at first sexual intercourse	Poor personal planning
Short relationships	Alcohol abuse
Lack of family cohesion and child monitoring	Psychotropic drug abuse
Older male partner	Binge eating
Poor school performance	Depression

Table 10.2 Resistance to contraceptive use

Insufficient information on how they work
Difficulties in speaking about it with partner
Perception of a foreign body or something that is "not natural"
"It won't happen to me" thinking about pregnancy or illness

- The rise in the pregnancy rate [1]
- Unchanged amount of abortions in adolescence [2]
- Increased incidence of STI [3]

10.1 Counseling

Contraceptive counseling is essential, during which it is often necessary to overcome a more or less explicit resistance to the use of contraceptives (Table 10.2).

We need to ensure the appropriate timing and language when supplying information on all the available contraceptive methods, with regard to their use, their additional benefits, and any side effects.

It is necessary to arrive at a shared decision.

We need also to have partner agreement; in these cases, the compliance is longer.

The agreement of the mother (where involved) is also important.

The importance of double Dutch contraception (condom plus hormonal contraception) should be stressed in the context of the prevention of STI.

To give more information about emergency contraception.

10.2 First Prescription

It is essential to fully investigate both family and personal medical history.

Family history:

Investigate:

Cardiovascular disease: ischemic stroke, myocardial infarction (MI)
Previous venous thromboembolism (VTE) <45 years *
Hyperlipidemia
Hypertension

Autoimmune diseases
Migraine

*at least 2 first-degree family members with VTE is a contraindication to EP use; grandparents should be included in the family medical history.

Other papers have pointed out that a family history from a female patient (mother or sister), in which that patient has experienced a CHC or pregnancy-related VTE, may further increase VTE risk in her female relatives [4].

There is no indication to screen thrombophilia on the basis of a risks/benefits assessment [5].

10.3 Clinical Examination

10.3.1 Personal Pathological History

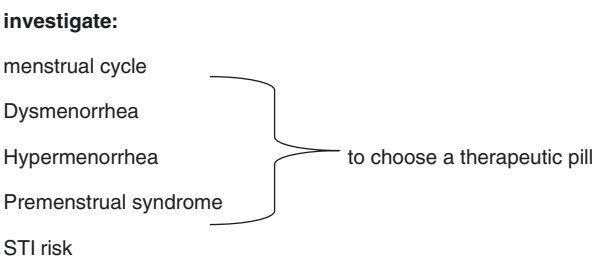
Investigate:

Current or previous illnesses *
Migraine
Autoimmune diseases (SLE, rheumatoid arthritis, thyroiditis, Sjogren syndrome, celiac disease) **
Raynaud syndrome
Drugs in use (exclusion of interactions)
Current or previous behavioral binge eating
Depression
Smoking (negotiate reduction in number of cigarettes)
Recreational drug use (alcohol, vasoactive substances)
Lifestyle (physical activity, sedentary, etc.)

*thrombophilic diathesis is an absolute contraindication for CHC use.
**in these cases it is useful to test for antiphospholipid antibodies.

10.3.2 Gynecological History

Investigate:



Clinical examination:
Always check

Blood pressure recording, Weight, Height, and BMI
Evaluate hyperandrogenic symptoms: acne, seborrhea, hirsutism

Not essential:

Gynecological examination
Pap Smear *
Breast examination
These can be carried out in a subsequent checkup

* <21 years: do not perform cytological screening independently of first sexual intercourse or risk behavior—ACOG 2012, US preventive services task force 2012, Canadian task force on preventive Health Care 2012.

All women who have been vaccinated against HPV should still follow the screening recommendations for their age groups (The American Cancer Society Guidelines for the Prevention and Early Detection of Cervical Cancer 2016).

10.4 Routine Laboratory Tests?

These are not recommended routinely as they do not contribute substantially to CHC safety. If there is a family history of metabolic diseases, autoimmune diseases, diabetes or dyslipidemias, then these can be carried out.

The expected advantages of the elimination of prescription blood tests are:

To improve access to effective contraception for the adolescent population
To separate screening procedures and contraceptive prescription
To dispel the widespread belief that contraception is hazardous for female health

Recommendations at first control after 3 months use:

To note side effects and/or problems
Verify proper use end stress instructions of use.
Check blood pressure.

Annual follow-up

Blood pressure monitoring
Body weight and BMI evaluation
Pelvic examination
Screening for STI*

Stress the importance of checkups or telephone calls any time in order to discuss side effects or to change contraceptive method.

*Recommendations ACOG-4-2012: screening for STI every year or every new partner.

10.5 Choice of Contraceptive

The options regard composition, means of administration, and system of drug intake.

Composition:

It is possible to choose between combined contraceptive and progestin only. Use of long-acting reversible contraception (subcutaneous etonogestrel or IUS with levonorgestrel, DMPA depot medroxyprogesterone acetate injection) is strongly recommended in adolescence for less risk of failure and greater compliance [6, 7].

Today we have several CHC that differ in progestin* or estrogenic** composition and they also (all) have noncontraceptive benefits. It is therefore important to choose an individualized CHC, examining the blood loss and therapeutic effects or suspicious clinical elements (overweight, migraine).

Way of administration: oral, transdermal, transvaginal, subcutaneous, intrauterine.

System of drug intake: 21 days, 28 days, continuous. Association with placebo pills for continuous use is probably simpler to use and facilitate compliance.

It is very important to point out:

Instructions for the correct use.
What to do if you forget the pill.
Interactions with other drugs, diarrhea, vomiting.
It is not advisable to interrupt administration of OC because of greater risk of pregnancy, more side effects in the first months or after 1 month interruption [8].

*Desogestrel, gestodene, drospirenone, Chlormadinone acetate, dienogest, levonorgestrel, norelgestromin, etonogestrel.

**Ethinyl estradiol, estradiol valerate, estradiol hemihydrate.

At the first prescription of HC, further information may be given regarding noncontraceptive benefits.

Positive effects on:

Pelvic pain and dysmenorrhea
Spotting and/or heavy blood loss
Endometriosis
Premenstrual syndrome
Signs of hyperandrogenism (seborrhea, acne, hirsutism)
Functional ovarian cysts and benign ovarian tumors

Iron-deficiency anemia
Pelvic inflammatory disease
Ectopic pregnancies

Protective effects:

Epithelial ovarian cancer
Endometrial cancer
Colorectal cancer

… .. how can we enhance contraceptive compliance?

Discussing any doubts and describing possible side effects:

Spotting, oligomenorrhea, breast tension, weight gain….

On many occasions, the real reason for low compliance is a concern about health and fertility in the future.

Moreover, several authors have pointed out the close relationship between side effects and the nonrational perception of a major health risk [9].

Categories of medical eligibility criteria for oral contraceptive use

1. **A condition for which there is no restriction for the use of the contraceptive method**
2. **A condition for which the advantages of using the method generally outweigh the theoretical or proven risks**
3. **A condition for which the theoretical or proven risks usually outweigh the advantages of using the method**
4. **A condition that represents an unacceptable health risk if the contraceptive method is used**

Category 1: Unrestricted use

- Age—from menarche *°
- Postabortion—immediately first and second trimester, and post-septic
- Non-migraine headaches—mild or severe
- Minor surgery without immobilization
- Severe dysmenorrhea
- Endometriosis
- Breast disease: benign breast disease or a family history of breast cancer**
- Anemias—thalassemia, iron deficiency
- Raynaud's disease—primary without antiphospholipid antibodies

*we have no data on the effect of OC assumption and post-menarchal growth.

°data concerning effects on bone mass are not univocal (possible reduction effect on bone mass growth in very young people, but there is catchup with interruption of the treatment) [10].

WHO (2009) guidelines point out a relation between an estrogenic level (20 mcg) and BMD (bone mineral density) lower then controls; on the contrary, if you use higher EE levels, there are no differences.

**in hormonal contraceptive users with a family history of breast cancer, there is no higher risk of breast cancer [11].

In girls with known BRCA1/2 mutations, there is a risk of earlier breast cancer onset in the OC users but there is another positive effect in terms of reduced incidence of ovarian cancer, [12] so an individual evaluation end possible use of POP is advised.

Category 2: The benefits generally outweigh the risks

Smoking—aged <35 years
Obesity—BMI ≥30–34 kg/m^2
Family history of VTE in a first-degree relative aged ≥45 years
Major surgery without prolonged immobilization
Superficial thrombophlebitis
Migraine headaches—without aura in women aged <35 years
Vaginal bleeding—suspicious for serious condition before evaluation
CIN
Raynaud's disease—secondary without antiphospholipid antibodies
Non-liver enzyme-inducing antibiotics

Category 3: The risks generally outweigh the benefits

Obesity—BMI 35–39 kg/m^2
Family history of VTE in a first-degree relative aged <45 years
Immobility (unrelated to surgery)—e.g., wheelchair use, debilitating illness
Known hyperlipidemias—e.g., family history of hypercholesterolemia
Symptomatic gallstones
Migraine headaches or a past history of migraine with aura at any age

Category 4: Unacceptable health risk and should not be used

Obesity—BMI ≥40 kg/m^2
Migraine headaches—with aura at any age
Known thrombogenic mutations
Raynaud's disease—secondary with antiphospholipid antibodies and thus a tendency to thrombosis
Hypertension—blood pressure ≥160 mmHg systolic and/or ≥95 mmHg diastolic; or vascular disease
VTE—current (on anticoagulants) or past history
Valvular and congenital heart disease—complicated by pulmonary hypertension, atrial fibrillation, history of subacute bacterial endocarditis
Hepatocellular adenoma
Angiopathic hereditary edema 3

Finally we must not forget adolescent girls with chronic diseases, which are nowadays increasingly frequent due to the better treatment of the underlying conditions; in these cases, the choice of contraceptive must consider the adolescents' needs and their clinical situation, determined in collaboration with their specialist, following specific guidelines. In the presence of estrogen-dependent diseases or increased risk of venous thromboembolism, it must be considered the possibility of using POP.

The guidelines refer to the writing of this work are:

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