Special Problems of Contraception in the Teenage Girls

TEENAGE KIZLARDA KONTRASEPSİYONUN ÖZEL PROBLEMLERİ

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In the course of this century we observe a distinct change in the onset of menstruation **to** younger ages. The accelerated somatic development is related to the better nutrition and health care and therefore more remerkable in the high-industrialized countries. But similar figures are reported from other parts of the world

During the first years after menarche most **of** the cycles are anovulatory. It takes about three years until at least in every second cycle a regular progesterone secretion occurs. And even five years after the first bleeding only two thirds of the cycles show signs of ovulation (1).

On the other hand there had been **a** marked change in the social life of the youth. There is an increase in freedom, which allows more interest and activity in the sexual life, while the old ethical values as chastity and virginity diminish. The young girls and boys start with intimate relationships more and more earlier in their life (Table 1). In 1982 the rate of 14 year old girls with coital experience was about 3% and 9% at the age of 15. Nowadays, the rates are 10% and 25% respectively (2,3). These recent **data** are reported from a new telephone hot line, which has been established by one **of** the major producers of oral contraceptives in Germany. Girls and boys can call or write and ask questions regarding the biology of the genital organs, sexuality, contraception and other problems related to the general subject of love and intimacy (3).

The records of this hot line give interesting figures on the sexual lite of the young people In Germany. On average, the first petting occurs at 14.5 years and the first sexual intercourse about 15 months later. But only half of **the** teenage girls and boys use any contraceptive method **at** this first event. The main reason is, that the intercourse comes by surprise and is not scheduled. Or if **it** was scheduled, it was wanted **to** occur without any influence by any method, just like some kind **of** celebration (3).

But besides that, the young people exhibit a tremendous lack of knowledge in the various methods of contraception and an unjustified fear of side-effects in using this methods. Most information on contraception are gained from the school (45%), from friends (20%) and from the sexual partner (11 %) and only in 9% from a medical doc tor (4).

Especially **the** girls under **the** age of 15 seldom ask for a contraceptive method when going to a gynecologist (Table 2). The number increases with the age, but remains at 50% between 16 and 18 years (3). Despite the easy availability **of** contraceptive items, we still see a high rate of teenage pregnancies. At the age **of** 11 **to** 15 there is a relation **of** 11% patients asking for contraception to 1.4% patients coming for prenatal care (3).

The pregnancy rate in teenagers is about 10 **to** 30 per thousand (Table 3). There are no clear figures, whether these rates are increasing **or** not during the recent years (5).

Unfortunately, oniy few information are available on the situation in Turkey. At a present population growth rate **of** 2.4%, about 20% of **all** Turkish people are within the most fertile lifespan between 15 and 24. The high rate of 25% elective abortions show that widespread information on contraceptive methods are urgently needed (6),

Councilling the adolescents has to consider the special problems of this age. From **the** stimulation **of** the girls and boys the demands for a suitable technique are:

-very low failure rate

-no short term or long term side effects

-low costs

-easy application.

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Table 1. Coital experience in teenagers
Tablo 1. Teenage döneminde cinsel ilişki oranı

	age	14 yr	15 yr	17 yr
girls	(1982)	3	9	56%
	(1992)	10	20	75%
boys	(1992)	10	25	66%
first petting		at 14.5 yr		
first intercourse		at 15.8 yr		

Table 2. Reason for the first visit to the gynecologist
Tablo 2. Jinekologa ilk gidiş nedenleri

age	11-15 yr	16-18 yr
contraception	11.0%	49.1 %
pregnancy	1.4	2.1 %

Table 3. Pregnancy rates in teenagers under the age of 19
Tablo 3. 19 yaş altındaki Teenagelerde gebelik oranları

	pregnancy rates	electkive abortions
USA	3.1%	40%
EnglandAVales	1.5%	42%
Sweden	1.8%	60%
Germany	2.5%	

Schwab. Gmünd 2.1 % (58/2711 deliveries)
Maas/Rau-Gottesbüren (1992)

And on the other hand, which methods can we offer? (Table 4) There are four general techniques; contraception by natural methods, barrier techniques, the intra-uterine-devices and the oral contraceptives. These four groups of techniques show very different failure rates, as can be seen from the Pearl-Index, which gives the pregnancy rate within 100 women-years. The pregnancy rates of the natural methods and the barrier technique are much higher than those of the IUDs and the OCs. But as the former are much cheaper than the latter, a great number of the teenage boys and girls uses them (7-9).

Natural family planning

Despite the increasing attention the natural family planning programmes have received worldwide in the adult women, they are not recommendable for the young girls. The methods include the basal body temperature and the variation in the volume and the consistence of the cervical mucus measured every morning throughout the cycle. Due to the high rate of anovulatory cycles within the first five years after menarche this method results in to many prohibited days or otherwise in an unreasonable decreased protection (4).

Table 4. Contraceptive methods
Tablo 4. Kontrasepsiyon metodlari

	Pearl-Index	Frequency of use 1 §-2f yr * under 20 yr (1986)	(1988)
no contraception	60-80	4.9%	23%
rhythm	0.7-15	1.6%	
coitus interruptus	10-38	3.9%	32%
foam	5-42	0.3%	
condom	6-29	5.8%	
diaphragm	2-25	1.3%	8%
IUD	0.8-6	3.6%	0%
OC combination pill	0.03-0.1	43.1%	
low dosis-gestagen-pill	0.4-4.3	2.9%	37%

Interrupted intercourse is still frequently used worldwide. About 31 % of all Turkish couples practising contraception do it this way (6). But there is a fairly-high rate of unwanted pregnancies as already the first secretions from the prostatic and vesicular glands, long before the orgasm occurs, may contain viable sperms. Further, this method requires a very strong self-control to withdraw at the right time (4).

Spermicides

In the ancient Egypt and Arabia crocodile or elephant excrements had been applied intravaginally for family planning. But also more comfortable substancies as dates or extracts from the acacia bush had been used. Even nowadays, some ingredients of the commercial spermicides derive from the acacia extracts. These substances are applied by vaginal suppositories or cremes and build up a foam, which acts as a mechanical barrier and in addition to this immobilize the sperms by chemical action.

Despite this technique is easily applicable just at the time, when protection is needed, for the unexperienced young people it imposes some problems. Many teenage girls fee! protection is needed, for the unexperienced young people it imposes some problems. Many teenage girls feel very shy and don't like to touch their genital area, so, they may not push the supposltorium high enough into the vagina. The ovulum needs some time to liquefy, therefore intercourse should not start earlier than about 10 minutes after insertion. But as the chemical agents get diluted by the vaginal secretions the protection diminishes after one hour (10).

Condom

The use of condoms is recommended all over the world not only as contraceptive technique, but as protection against sexually transmitted diseases and especially AIDS. Even if applied correctly, a tearing rate of 1-2% must be considered. But the major problem is not the application but the acceptance. A recent pub-

Table 5. Acceptance of condoms in teenagers
Tablo 5. Teenage döneminde kondomların kullanımı

	girls		boys	
coital experience	no	yes	no	yes
condom use				
accepted	**73%**	**44%**	**79%**	54%
not accepted	**3%**	**24%**	4%	**13%**

lished study showed, that before the first intercourse most of the girls and boys regard the condom as good for contraception, but only half of all agreed in further use of this method (Table 5). Obviously they feel disturbed by the interruption of the caress. Nevertheless, the condoms remain the preferred method of contraception for boys, as 17% use it all the time, and 45% sometimes (11).

Diaphragm

The diaphragm had been regarded as the condom of the women. It's use is widespread in the USA. But in Germany this technique is only poorly accepted. After filling with some sperm-immobilizing creme the diaphragm has to be inserted correctly to cover the cervix. The major advantages are, that you use it only when needed and after insertion you are protected for the whole night, as the diaphragm should not be removed earlier than six hours after intercourse. But again, the young girls don't like to touch their vulva and feel it uncomfortable to wear "such thing" in the vagina (10,12).

Intra-uterine-device

The use of an intra-uterine-device in young women before the first pregnancy has been discussed frequently in the recent years. Most authors are afraid of the increased rate of PID in these young women ranging from 1.6 to 11.5% (5.9). The inflamations may lead pelvic adhesions and tubal obstruction, causing infertility. The risk decreases with age but not with paritiy. Another problems lies in the high expulsion rate of about 18% due to the small uterus. Therefore the use of smaller IUDs or the reduction of the IUD-arms after measuring the width of the uterine cavity is recommended (5,9).

IUDs may cause irregular and abnormal bleedings, especially spottings at midcycle or prolonged menstrual bleedings. In 4 to 14% of the women, this is the reason for removing the device. Because of the bleeding disorders copper or gestagen medicated IUDs had been recommended, but the improvement is still questioned (12).

Oral contraceptives

Oral contraceptives are widely used and greatly accepted in the world. Even in the young people about 40% take the "pill" (Table 4). Ovulation is stopped by suppression of the gonadotropin secretion depending on the dosis of the ethinyl-estradiol and the chemical structure of the gestagens. To reduce the side-effects of the estrogens the dosage had been decreased to 20 to 30 ug in the recent years. These so-called "micropills" are preferably described nowadays.

During the first years after menarche the menstrual cycles are irregular due to an irregular pattern of the LH and FSH secretions. Very often, there will be a late rise in the estrogen level and a late ovulation with insufficient luteal phase. In teenage girls the low dosis of ethinyl-estradiol may not be sufficient for LH and FSH suppression. Therefore a follicular development and ovulation may occur. This explains the high rate of about 50% irregular bleedings in the first cycles during intake of the micropills. which decreases to 5-7% in the third cycle. In cases with continuing bleeding disorders another kind of O.C. should be tried, e.g. a 50 ug O.C. or a sequential pill (12,4). The incomplete suppression of the follicular development with the mikropill may lead to the formation of an ovarian cyst and results in a slightly higher risk of a pregnancy. On the other hand, the mild dosage of the O.C.s may even exhibit a regulatory action on the pituitary gonadal axis (12).

Prescribing oral contraceptives the side effects and contraindications have to be considered. Most of the diseases mentioned in table 6 are very rare in young people. Therefore the fear of the girls especially regarding cancer or heart attack is unjustified. Other problems of the teenagers are related to the bodyweight, headache, decrease of libido and skin-alterations. But as the micropills contain only a low dosis of estrogens and a gestagen with almost no androgenic activity, the side-effects-well known from the earlier generation of the oral contraceptives-are reduced greatly.

On the contrary, there is a variety of positive effects and of protective actions the OC exert (Table 7). Furthermore, the girls are afraid of an impairment of their fertility after OC intake for several years. Several previous studies showed that a post-pill-amenorrhoea does not occur more often after long term oral contraceptive use, compared to the general population at a rate of about 0.2-1%. But it is well documented that if irregular bleedings, anovulation or oligomenorrhea did exist before starting with OC these problems will reappear after discontinuation (12).

Usually ovulation will be restored immediately following the last OC cycle. Just the first follicular phase of the next cycle may be prolonged to about 3 to 4 weeks. Within 4 months after stopping the OC treatment more than 50% of the women achieve a pregnancy (13).

The low-dosis-gestagen oral contraceptives cause a suppression not of the gonadotropin secretion but of

Table 6. Oral contraceptives
Tablo 6. Oral kontraseptifler

Contraindications:
Thromboembolic disorders
Cardio-vascular disease
Hormone-dependcent neoplasia
Cholestatic Jaundice
Pregnancy
Hepatic adenomas
Only in selected cases advisable:
Hypertension
Recurrent headache
Diabetes
Smokers

Table 7. Beneficial effects of oral contraceptives
Tablo 7. Oral kontraseptiflerin yararli etkileri

Regulation of the menstrual cycles
Protection against:
Ovarian cancer
Endometrial cancer
PID
Iron deficiency anaemia
Dysmenorrhea
Benign mammary tumor
Ovarian cyst
Acne, seborrhea, hirsutism
PMS
Rheumatic arthritis

the gonadotropin rise alone. This prevents follicular rupture and luteinization. On the other side, the gestagen dosis may be to low to induce endometrial growth. Therefore in up to 77% of the first treatment cycles amenorrhea may occur. The suppression of the LH and FSH rise is complete in the first months but may render incomplete later. This reduces the amenorrhoea rate to 7% already in the second cycle. To restore regular endometrial development in young patients a break in the low-gestagen-treatment should be established after one year. Due to the high rate of irregular bleedings and amenorrhoea this kind of oral contraceptives is not recommended for teenage girls. But otherwise, the low gestagen dosis may exhibit a slowing down effect on the LH-pulses and thereby regulate the menstrual cycle (12).

To treat patients with irregular cycles or with repeated ovarian cyst formations higher dosages of estrogens and gestagens are needed. Such kinds of combination or sequential pills should also be applied to obese girls, or when a simultaneous treatment is required with drugs, which may cause an enzyme induction In the liver resulting in an increased degradation

Table 8. Interaction of drugs with oral contraceptives resulting in a reduced protection
Tablo 8. Oral kontraseptiflerin koruyuculuğunu azaltan ilaç etkileşimi.

antiepileptics
barbiturate
carbamazepine
phenytoine
tuberculostatic agents
rifampin
isoniazid
analgetics
phenylbutazone
antibiotics
ampicillin
erythromycin
tetracycline
antihistamines
promethazine
tranquilizers
barbiturate

of the estrogen and gestagen molecules (Table 8) (14).

Remembering the demands of the young people on an acceptable contraceptive method - as mentioned above-, we think the micropills fit best. They are very secure, when taken regularly. They show only minor side effects and are easy to use. The monthly cost for the OC is comparable to 3 to 4 packs of cigarettes, if there is a lower frequency of intercourse of once a week or leess, the use of condoms preferable in combination with a spermicide might be sufficient, if applied correctly.

Of course, the correct performance is very important for every technique in contraception, as the Pearl index significantly decreases with more expe rience. But teaching the handling of the methods is only the second step. The first one has to be making the girls and boys aware of the risk of an unwanted pregnancy and aware of the various possibilities to prevent it.

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