

Adolescents, contraception and termination of pregnancy

Neesha Rajoo

Department of Obstetrics and Gynaecology, University of Pretoria, Pretoria, South Africa

Introduction

The female adolescent patient has a variety of gynaecological issues which the healthcare practitioner needs to understand and pay particular attention to, ranging from screening for sexual health history, teenage pregnancies, sexually transmitted infections (STI's), contraceptive needs (both for the prevention of pregnancy as well as for medical indications such as acne, dysmenorrhoea or heavy menstrual bleeding), termination of pregnancy (TOP) and vulnerability to sexual assault, trafficking and rape. Proper management of these issues is crucial in order to promote healthy sexual choices in this age group, because risk-taking behaviours learnt at this stage of development are more than often carried into adulthood.

There are approximately 16 million adolescents giving birth each year, and 3 million unsafe TOPs each year, most of which occur in lower- and middle-income countries¹. Pregnancy-related complications are the leading cause of death in girls aged 15-19 years in low- and middle-income countries. Teenage pregnancy is also related to higher rates of perinatal deaths and low birth weight. For the pregnant mother there is the threat of social stigma, effects on future marriage proposals, the risk of increased future pregnancies, and a cessation of further education and schooling leading to poverty. Prevention of adolescent pregnancy will thus improve both maternal and fetal outcomes.

Adolescent sexual behaviour, confidentiality issues and contraceptive choices

Sexual intercourse is not uncommon in adolescent years, with up to almost half of high school students admitting to being sexually active². In a study of 612 Grade 8 and 332 Grade 12 students in Limpopo province, most students reported sexual intercourse to be acceptable from 12 years of age³. Sexually active adolescents need contraception. Without using contraceptives, these individuals are not protected against pregnancy nor STI's. Effective contraception in adolescents is of paramount importance in the prevention of unplanned and unwanted pregnancies, and contraception together with a delay in sexual activity can result in a marked decline in teenage pregnancies.

National health policies should be aimed at protecting confidentiality and allowing adolescents to consent for contraception. However, there are challenges which

sometimes hinder the protection of confidentiality in the adolescent, such as being accompanied by parents during a consultation, and electronic medical billing codes which are needed to bill for the consultation. Unfortunately, a fear of stigma or of parents finding out, most often leads to adolescents avoiding the healthcare system. Understanding the needs of adolescents and speaking to them openly, honestly, and in a caring and non-judgemental way in a positive and safe environment helps them to know that you understand their problems, puts them at ease, engages them in their own health behaviour change and allows them to make informed treatment decisions. The 5 Ps tool of the CDC is a helpful mnemonic to avoid missing crucial information in the history taking (Table 1)². It is important that the sexual history be taken in private, with no parent present, as most patients may not disclose having had sexual intercourse in the presence of a parent. Abstinence counselling is also important during this consultation as it can significantly decrease the rate of STI's and unwanted pregnancies.

Table 1: The 5 Ps Tool of the CDC²

Partners

Prevention of pregnancy

Protection from STI's

Sexual Practices

Past history of STI's and pregnancy

When dealing with the adolescent, different stages of development should be considered, along with individual needs. In early adolescence sexual health and contraceptive needs may differ from that of late adolescence; and even if patients are of the same age, different adolescents have different perceptions of sexual intercourse. The WHO MEC for contraceptive use is a useful guide for both adults as well as adolescents. When considering efficacy, one must look at the concepts of "perfect use" and "typical use". "Perfect use" refers to the probability of pregnancy if the method is used correctly and consistently every time, whilst "typical use" is the probability of pregnancy in the first year with varying degrees of adherence i.e. the average user who makes mistakes, forgets pills and so on.

Correspondence

Neesha Rajoo

email: Neesha@webmail.com

The most commonly used contraceptive in adolescent years is the male condom, probably due to its ease of access and affordability. This is followed in prevalence by the withdrawal method. Of the hormonal methods, combined oral contraceptives (COCs) are the most commonly used, followed by Depo Medroxy Progesterone (DMPA). However, the overall use of contraceptives in sexually active adolescents is still far from optimal. An RHRU study of contraceptive use in 2003 reported that 66% of pregnancies in 15-24 year-olds occurred in the setting of no contraceptive use, compounded by the problem of having inaccurate knowledge or skill in using contraceptives⁴. Negative perceptions from the study participants regarding the use of condoms were that they could slip off at any time, they decreased sexual enjoyment and they were of poor quality. In terms of use of other contraceptives, the general belief was that they caused weight gain, nausea and delayed fertility after stopping use.

Barrier methods such as the male condom have several distinct advantages for adolescents, in that males are involved in contraception, they are easily accessible and available, no prescription is needed, they are relatively cheap, and they afford STI protection. Primarily for the last reason male condoms should be encouraged in this group of patients. Effectiveness depends on correct and consistent use, with a "typical use" failure of 18% and a "perfect use" failure of 2%². Although the use of condoms is common, use declines in established relationships and is further influenced by individual, social and structural factors. Female condoms on the other hand have a low uptake, perhaps because of higher costs and decreased availability than its male counterpart, but also probably because of negative attitudes towards it or ignorance on its availability and use. "Perfect use" failure of the female condom is 5% whilst "typical use" failure is 21%². Vaginal spermicides, such as gel, foam, suppositories or film represent a chemical barrier method. They disrupt the cervical mucosa, and increase the risk of HIV acquisition and transmission, and are thus not recommended by the CDC². Likewise, the diaphragm, cervical cap and contraceptive sponge do not offer STI protection, have a high risk of HIV acquisition and transmission, and are thus also not recommended for adolescents.

COCs contain oestrogen and progestin, and is a reliable, popular and effective alternative. "Perfect use" failure rate is 0.3%². However, due to adherence issues the "typical use" failure rate is much higher at 9%². There is no ideal COC, and the different available combinations will need to be compared according to individual requirements, adverse effects and optimisation of medical benefits (WHO MEC). Although COCs have a wide range of adverse effects, adolescents should be counselled that most of these, such as headache and nausea, are transient and self-limiting. The most serious adverse effect to date is probably that of VTE, but this risk needs to be compared to the VTE risk in the case of a pregnancy occurring, which is far higher in the latter case (4 / 10 000 women years and 10-20 / 10 000 women years respectively)². Adherence issues need special attention in adolescents and include counseling on what to do in the case of missed pills, and setting of reminders and alarms. Smoking whilst on a COC is discouraged but is not in itself a contraindication in this group. An important aspect of counseling should include the message that the COC is completely reversible, and has no long-term negative fertility effects, in order to abate common fears relating to these issues.

Progestin injections are a good choice for adolescents because of high effectiveness, convenience, improvement of dysmenorrhoea and protection against iron-deficiency anaemia and endometrial carcinoma. They may also have a role in increasing seizure threshold and decreasing sickle cell crises.

However, effects which make it undesirable in this age group are menstrual irregularities (which improves over time), the need to be injected every 3 months, weight gain, bone density effects, delayed return to fertility of 9-18 months and headache. In November 2004 the FDA issued a "black box" warning for progestin injections because of the risk of decreased BMD in DMPA users, advising not using this method for > 2 years unless no other feasible alternatives were available. Subsequent to this, 3 prospective studies in adolescents have shown substantial recovery of BMD after DMPA use, implying no long-term skeletal health effects in adolescent patients using DMPA. ACOG places no limitation of 2 years to DMPA use and does not prescribe a need to monitor BMD if it is used for > 2 years. However, one should always take into consideration the presence of other risk factors for osteoporosis when counselling and recommending DMPA to adolescents, such as low BMI, chronic alcohol use or smoking, eating disorders, and chronic steroid use. Should any of these be present, it would be wise to use an alternative method of contraception². Adolescents on DMPA should be further counselled on ensuring a daily intake of 1300g of calcium and 600 IU of vitamin D, regular weight-bearing exercises, and smoking cessation in order to optimise skeletal health. Moreover, in this high-risk sexual behaviour group the concomitant use of condoms must always be promoted as a means to prevent STIs.²

Also known as the "mini pill", the *Progestin only pill* (POP) works by thickening cervical mucous rather than limiting ovulation, which makes timing of dosages crucial to prevent pregnancy. As a result, it is less effective than the combined methods, and is not a first choice in adolescents.

Progestin implants are a good alternative for adolescents because it has an extended period of action (3 years), does not require regular scheduled attendance, is highly effective with a failure rate of <1%, and is both user- and coitus-independent. However, it can have rare complications and adverse side effects (transient nerve injury, need for removal under anaesthesia, abnormal uterine bleeding, emotional lability, weight gain, headache, acne, limited evidence on effect on BMD, impaired efficacy with hepatic enzyme inducing drugs) which need to be discussed with the adolescent patient.

Intra-uterine Devices have been shown in recent studies to be safe in nulliparous adolescents² despite past misconceptions about infertility with IUD use. The concern of increased incidence of pelvic infection is also misguided; only a small increase occurs around the time of insertion (<20 days) because of the invasive procedure. Screening for gonorrhoea and chlamydia can be done at the same time as insertion, and if present can be treated with the IUD in place, provided the patient improves. Contra-indications include current or recent PID, gonorrhoea, chlamydia or purulent cervicitis, as well as pregnancy and uterine cavity distortion negating IUD insertion. It is a good alternative for adolescents because of being generally safe and effective with a failure of <1%², and because it can offer long-term contraception lasting 3-10 years depending on the type used. In addition, the LNG-IUD can be used for medical indications such as dysmenorrhoea and heavy menstrual bleeding in these patients, and for adolescents with medical conditions that require long term menstrual suppression.

Withdrawal or coitus interruptus is usually used when patients are dissatisfied with hormonal methods, or as a backup plan to other methods. It offers no STI protection and has a "typical use" failure of 22%².

The *contraceptive vaginal ring* contains both estrogen and progestin and has a "typical use" failure rate of 9%², mainly because it remains in-situ for 3 weeks and must be removed for 1 week to allow menses. It has similar side effects to its COC counterpart, with the added rare side effect of expulsion.

Transdermal patches are also combination hormones, with a

“perfect use” failure rate of 1% and a “typical use” failure rate of 9%². They have a higher oestrogen exposure and so potentially a higher risk of VTE than the COC, but a simpler regimen, comparable efficacy and similar benefits when compared to other combined methods. The transdermal patch is less popular among adolescents, partly due to limited clinical experience and dermatological side effects such as skin irritations.

Fertility awareness / periodic abstinence methods refer to awareness of and abstinence within the fertile days of the month by using a menstrual calendar, basal body temperature and cervical mucous thickening as a guide. The challenge of using this method in adolescents is that ovulation is not very predictable in the first few years after menarche, thus if this method is used in this group, it should be combined with other more reliable methods.

Emergency contraception comprises oral hormones or the copper IUD. Many adolescents are unaware of this but should be counselled on its use as a means to preventing unwanted pregnancies. Although this form of contraception is not ideal, it has no legal restrictions and can be used repeatedly without adverse effects.

Adolescents in special populations require contraception too, either specifically related to their condition or purely to prevent pregnancy. The choice of contraceptive does not differ markedly from the average adolescent, but a few considerations should be noted when prescribing to this group:

- *Adolescents with disabilities* may require hormonal contraception for menstrual control and / or hygiene purposes. In addition, they may be on medication (for the disability) that in itself causes abnormal menstrual bleeding. Good alternatives for this group of patients include the combined oral contraceptive, transdermal patch, DMPA, or the levonorgestrel IUD. Tubal ligation, endometrial ablation or hysterectomy are not first-line choices, as they are each riddled with ethical and legal considerations.
- *The obese adolescent* usually has endocrine effects, which may influence the efficacy and adverse effects of contraceptives. For example, PCOS is associated with anovulation and oligomenorrhoea. The condition is treated with Metformin, with the aim of increasing the frequency of ovulation – so these patients will require contraception to prevent pregnancy as a result of ovulation brought about by treatment.
- *The adolescent with HIV* may have acquired HIV through sexual intercourse, IV drug use, or perinatally. Because of both risk of transmission to partners, as well as drug interactions with ARVs (increased ARV toxicity and decreased contraceptive steroid concentration have been noted), these patients pose a particular challenge in terms of prescribing contraceptives. Condoms should be encouraged regardless of the use of other contraceptives – this will help decrease the rate of HIV transmission, which the other contraceptives will not do. A physician should be involved with the prescribing of ARVs together with COCs, especially if the ethinyl estradiol dose is above 30 micrograms. Spermicides and the diaphragm are contra-indicated in HIV positive adolescents because of the increased risk of transmission of HIV and occurrence of genital lesions.
- *Adolescents in low- and middle-income countries*, like adolescents from more affluent societies, are

exposed and vulnerable to early unprotected sexual intercourse, resulting in unwanted and unplanned pregnancies, unsafe abortions, pregnancy-related morbidity and mortality, and STI's including HIV. The difference lies in that the social, medical, personal and economic costs which stem from these issues puts a far bigger burden on these communities than on their more economically well-off counterparts. This burden can be potentially or at least partly overcome by improving access to and use of contraceptives, because adolescents in low- and middle-income countries are particularly vulnerable with regards to access, availability, and correct and consistent use of contraceptives. Although mobile phones and social media can help to improve contraceptive use among adolescents, national policies and action in support of sex education, improved access to and use of contraceptive services, adolescent-friendly contraceptive services, and integration of contraceptive services with other health services are absolutely necessary¹. In the study by Manena-Netshikweta³ most learners were found to be sexually active or had been sexually active, but had no knowledge about contraceptives, emergency contraceptives and TOP services. The study also identified social, cultural, financial and service issues as barriers to the use of contraceptives. The American Academy of Pediatrics (AAP) advocates “supporting comprehensive health and sexuality education, abstinence, and the use of effective contraception by sexually active youths” to prevent unintended adolescent pregnancy⁵. Sadly, the number of adolescent pregnancies in South Africa continues to increase despite strategies by government to provide contraception and prevent unwanted pregnancies. The Eastern Cape, Limpopo and KZN have the highest incidence of teenage pregnancies⁴. The problem is compounded by the harsh reality that if adolescents have children before they mature, it causes public and social health problems, and may further jeopardise their as well as their children's well-being.

Table 2: Barriers preventing adolescents from accessing health services⁴

| Availability | Acceptability |
|---|---|
| Lack of primary healthcare services | Lack of trust and confidentiality towards healthcare workers and judgemental attitude of healthcare workers |
| Restrictive laws / policies that prevent adolescents from accessing healthcare services | Physical environment not conducive to confidentiality |
| Accessibility | Equitability |
| Inconvenient operating times | Healthcare services being friendlier to adolescents from higher socio-economic societies |
| Long travelling distances or costs in accessing health services | |
| Lack of knowledge about services | |

Termination of Pregnancy (TOP)

In the US minors have the right to get a termination of pregnancy without parental consent, unless otherwise dictated by law⁵. In South Africa, the Choice on Termination of Pregnancy Act (Act No. 92 of 1996) dictates the rules and regulations surrounding legal termination of pregnancy in the country. According to this Act, abortion can be performed on demand up to 12 weeks of pregnancy, under special circumstances from 13-20 weeks of pregnancy, and after 20 weeks of pregnancy only for serious medical reasons. The Act stipulates that pregnant minors should be encouraged to consult with a parent or responsible adult whom they know before termination of pregnancy, but that termination should not be denied if the minor chooses not to consult with such adult.

A study done in 2016 in a low socio-economic area in KZN looked at how well adolescents knew the Choice on Termination of Pregnancy Act (Act No. 92 of 1996) and their attitudes towards abortion⁶. One hundred and fifty teenagers aged 15-19 years were included in the study. Findings were that 80% were aware of the law but had limited knowledge of the specifics. Only 10% knew the legal gestational age of TOP, while only 6-7% knew that TOP could be requested without parental consent or involvement.

Although the age of consensual sexual intercourse is 16 years, the Childrens Act (Act No. 38 of 2005) allows for 12-year olds to consent to contraception as well as to abortion without parental consent. The primary reason for the younger age of consent is that children are becoming sexually active from a younger age and maturing quicker. The required age for consent for other surgical or medical treatment is also 12 years, but here the parents must assist with the consent and should they disagree, a court order can be sought if it is in the best interest of the minor. The law dictates an age limit, but one must always be cognisant of the maturity level and mental capacity to understand the risks and benefits of TOP.

The AMA / ACOG / AAP supports the right to choose TOP. They also believe that no minor should be forced to involve her parents if she chooses abortion, but that she should be encouraged to discuss the pregnancy with her parents or another responsible adult whom she trusts. Adolescents have a right to confidential care when choosing TOP, and parental consent should not be a barrier to this care⁵. However, the issue of competency arises when allowing adolescents this right to choose. Are minors competent enough to consent to TOP, to understand the risks and benefits of the various options, and to make independent, voluntary and rational decisions?

While forcing parental involvement may in fact harm the medical, physical, psychological and emotional health of the young woman, or even delay / halt access to timely medical advice and care, it can also have a positive effect. In an ideal world parents generally act in the best interests of their children, and they can be an invaluable source of support for these young women. A US study of 1519 pregnant, unmarried minors showed that 61% of patients told at least one parent of their intention to terminate a pregnancy, despite parental involvement not being forced⁵. Adolescents who choose not to involve their parents are usually those who come from families that have parental anger and rejection of the pregnant patient and her partner. Incest / abuse must also be kept in mind if adolescents are adamantly resisting parental involvement. Regardless of whether the adolescent chooses to involve a parent or not, ethical, legal and healthcare principles support the right of the pregnant adolescent to decide who should be involved and what outcome she wants.

To prevent unsafe TOP, which is a significant cause of maternal deaths, healthcare workers need to be trained towards having non-judgemental attitudes, and adolescents need to be adequately informed of the legalities surrounding TOP, and where and how to access these services. Unless we achieve these goals, adolescents will continue to seek unsafe, backstreet abortions as a first choice because of negative attitudes from healthcare workers, social stigma, ignorance about their reproductive rights and the law, misinformation from their peers, and fears of parents finding out. Unless we achieve these goals we will continue to lose young, innocent lives to maternal deaths arising from complications of pregnancy and unsafe TOP, and we will continue to add to the social, personal and economic burdens resulting from this.

Conclusion

An astonishing 41% of pregnancies worldwide are unplanned⁹. In a recent National Contraception and Fertility Planning Policy and Service Delivery Guidelines the Ministry of Health emphasised the need for a strategy to decrease the high rates of adolescent pregnancies in the country⁹. However, all this said and done, with a lack of focused initiatives as well as access to appropriate healthcare services which provide for reliable, safe, long-acting and reversible contraception and safe TOP options, unwanted and unplanned teenage pregnancies will continue to escalate⁹.

In adolescents the consequences of accidental pregnancies have far more devastating psycho-social effects than in adults. Frequent follow-up for all methods of contraception are necessary to improve adherence, reinforce healthy choices, screen for STI's, and check for side-effects and complications. Effective contraception in adolescents will decrease unwanted pregnancies and maternal mortality caused by unsafe TOP and pregnancy complications in this age group. Focused national policies, educational efforts aimed at healthier sexual choices, and promoting the use of contraception in our youth, together with transformation of our healthcare services to be adolescent-friendly are immediate issues that need to be addressed to protect our future generation.

References

1. Chandra-Mouli V et al. Contraception for adolescents in low- and middle-income countries: needs, barriers and access. *Reproductive Health*. 2014; Vol 11 (1)
2. Ott MA et al. Contraception for Adolescents. *American Academy of Pediatrics*. *Pediatrics*. Oct 2014; Vol 134 (4)
3. Manena-Netshikweta ML. Knowledge, Perceptions and Attitudes Regarding Contraception among Secondary School Learners in the Limpopo province. *UNISA*. Nov 2007
4. Panday S et al. Teenage Pregnancy in South Africa – with a specific focus on school-going learners. *Child, Youth, Family and Social Development, Human Sciences Research Council*. Pretoria: Department of Basic Education. Aug 2009
5. Committee on Adolescence. *American Academy of Pediatrics*. *The Adolescents Right to Confidential Care when Considering Abortion*. *Pediatrics*. Feb 2017; Vol 139 (2)
6. Ramiyad D and Patel CJ. Exploring South African Adolescents Knowledge of Abortion Legislation and Attitudes to Abortion: Sexual Status and gender Differences. *South African Journal of Child Health*. 2016; Vol 10 (2): 105
7. Choice on Termination of Pregnancy Act (Act No. 92 of 1996). Available at www.parliament.gov.za
8. Childrens Act (Act No. 38 of 2005). Available at www.justice.gov.za
9. Thomas C. Myths and Misconceptions: Youth, sex and contraception. *She Matters: Womens Healthcare Newsletter*. Mar/Apr 2018; Vol 1 (2): 9-11