Topic Page: Contraception

Definition: **contraception** from *Collins English Dictionary*

n

1 the intentional prevention of conception by artificial or natural means. Artificial methods in common use include preventing the sperm from reaching the ovum (using condoms, diaphragms, etc), inhibiting ovulation (using oral contraceptive pills), preventing implantation (using intrauterine devices), killing the sperm (using spermicides), and preventing the sperm from entering the seminal fluid (by vasectomy). Natural methods include the rhythm method and coitus interruptus Compare birth control family planning

[C19: from contra- + conception]

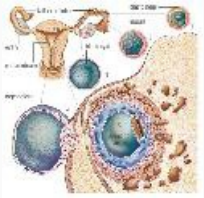

Image from: **It takes about a week for the fertilized ovum to...** in *Philip's Encyclopedia*

Summary Article: **Contraception**
From *Cambridge Handbook of Psychology, Health and Medicine*

Introduction

Birth rates vary worldwide and are related to economic and social factors as well as contraceptive choice. In parts of Africa the birth rate is high (e.g. in Niger, 48.9 births per 1000 women and a fertility rate of 6.83 children born per woman). In Europe it is dramatically lower (in Germany 8.04 births per 1000 women and a fertility rate of 1.38 children born per woman) (CIA World Factbook, 2004). Although there is such gobal variation there is little cross-cultural evidence about psychological aspect of contraceptive choice and so this chapter will refer to evidence from western societies. In England and Wales, conceptions fell from over 850 000 in 1991 to 190 000 in 2002. In spite of the development of safe and effective contraceptive methods unintended pregnancies are common. In England and Wales, the percentage of conceptions terminated by abortion rose from 19.4% in 1991 to nearly 23% in 2002 with the highest percentages in those aged under 20 or over 40. The Total Fertility Rate (TFR) is the sum of age and specific fertility rates expressed per woman and controls for the changing age distribution over time. In 2002, the TFR in England and Wales was 1.65 per woman, which is similar to the rates between 1920 and 1940, before the widespread use and acceptability of contraception. These observations mean that a simple relationship between knowledge and availability of contraception and its use is unlikely (Office of National Statistics, 2004*b*,*c*; http://www.statistics.gov.uk/).

The evidence for a contraceptive career suggests that young people use either condoms or no contraceptive method at all in their first sexual encounters. With increasing sexual and contraceptive experience they move to oral contraceptives. Once their family is considered to be complete they choose either male or female sterilization. Oddens (1996), in a population survey of contraceptive use in the UK and Germany, found that patterns of contraceptive use were closely related to variables such as age, parity, marital status and intention to have children. Age and the desire to have children are the major factors associated with contraceptive choice. The decline in the use of oral contraceptives with age has been related to perceptions of health risk.

The *UK General Household Survey* in 2002 included questions on the use of contraception for the

first time since 1998. Since then, the most common methods for avoiding pregnancy used by women aged 16 to 49 have been the contraceptive pill, surgical sterilization (both male and female) and the male condom. In 2002, 72% of women aged 16 to 49 used at least one form of contraception, a figure that has remained relatively constant since it was first measured (Office of National Statistics, 2004*a*). In 2002/03 the contraceptive pill was used by 26% of women aged 16 to 49 in the UK. Sterilization, of either the woman or her partner was used by 21%, and the male condom by 19% (Office of National Statistics, 2004*a*).

After termination of pregnancy it might be expected that women would be highly motivated to use effective contraception. In a study of 100 women in Switzerland, 69% of women attending for termination of pregnancy claimed that they had used contraception in the cycle that had resulted in the pregnancy (Bianchi-Demicheli *et al*., 2001). Most (83%) intended to use contraception to prevent another pregnancy. Most (60%) were using the pill 6 months later and fewer used condoms. After their termination most changed their method of contraception from their previous method, even though that method would have been recommended (Bianchi-Demicheli *et al*., 2003) (see 'Abortion').

Oral contraception

Most pill users use the combined pill, which contains both oestrogen and progestogen. Oral contraceptives are easy to use, very effective, safe, inexpensive and readily available. They work by inhibiting ovulation with the progestogen component causing changes to the endometrium, which inhibits implantation, and to the cervical mucosa, which decreases sperm penetration. They do not interfere with the act of sexual intercourse and give women control over their fertility. There is evidence which shows that the more detached contraception is from sexual activity the more acceptable it is (Cramer, 1996). They also have the advantage that they reduce menstrual and premenstrual problems and give women the ability to time their menstruation (withdrawal bleeding). A recent study of Canadian university students found that only half had taken the pill, with an average length of use of 33.5 months (Fletcher *et al*., 2001). Healthy, educated women showed a surprising lack of knowledge of the medication taken: 39% were unaware of the type of pill prescribed and 8% had not reviewed the risks and benefits with a health professional.

However, oral contraception is not without some disadvantages. Side effects reported with the early high oestrogen-dose oral contraceptive pills included reduced sexual interest and depression, but these are minimal in current low dose preparations (Oddens, 1999). Condon *et al*. (1995) carried out a retrospective study of 145 women and found that nearly half reported side-effects and most changes in wellbeing were perceived as negative. Fletcher *et al*. (2001) found that 43% attributed the following side-effects to the pill: weight gain (23%); nausea (16%); spotting (15%); depression (9%); headaches (7%); increased blood pressure (0.8%); and blood clots (0.8%). Few of these effects have been demonstrated in clinical trials. A survey of over 100 nursing students found that fear of side-effects or health risks were the most frequently cited reasons for stopping pill use, and the views of healthcare providers were influential (Gardner, 2001). It is difficult to carry out good prospective studies of pill users because of ethical difficulties and high attrition rates. Women who experience side-effects may stop using the pill, and those who continue are less likely to report side-effects. Women who take the pill probably do so because it is very important to them to have a very safe form of contraception and they may be more likely to tolerate side-effects.

Sterilization

Vasectomies in men and laparoscopic sterilizations in women are safe and effective. In the UK, the use of female sterilization has increased significantly from 35% in 1986 to 44% in 2002 (Office of National Statistics, 2004*a*). However, sterilization operations are effectively irreversible and so the decision to be sterilized means the couple need to be very sure that they will not want more children. Studies on long-term effect of vasectomy have found no evidence of adverse psychological effects. A study of 115 Chinese women who had been sterilized and were followed up over a year found that there was no adverse effect on sexual adjustment and that their mental health measured by the GHQ (Goldberg, 1972) significantly improved. The regret rate after one year was 3.4% (Tang and Chung, 1997). Women requesting sterilization appear to have no higher rates of psychiatric disorder than the general population.

Male condom use

There has been a steady rise in the proportion of women whose partners use condoms, from 13% in 1986 to 19% in 2002. Again, this trend was not observed across all age groups. Among women aged 45 to 49, condom use has declined since 1986. It has remained fairly constant among women aged 35 to 44 and increased among women under the age of 35.

Most recent research into psychological aspects of condom use has considered them as protecting against disease rather than pregnancy. Grimely *et al*. (1995) tested the Transtheoretical Model of Behaviour Change (Prochaska and DiClemente, 1984) on 248 American college students and found that it could predict patterns of condom use (see 'Transtheoretical model of behaviour change'). Mahoney *et al*. (1995) tested the Health Belief Model in college students in relation to condom use and HIV infection. Sporadic users differed from both consistent and non-users in the actual number of sex partners in the previous year and actual frequency of drunkenness during sexual intercourse; but only perceived susceptibility to infection and self-efficacy differed between the groups (see 'Health belief model' and 'Self-efficacy and health').

Other methods

The intrauterine device (IUD) is mainly used by parous women and confers good protection. Like the pill, it does not interfere with sexual activity. IUDs have been associated with heavier, prolonged and more painful menstruation but a positive impact on sex life (Oddens, 1999).

Emergency contraception is available on prescription in the USA and over the counter in over 30 countries. After unprotected intercourse it reduces the risk of pregnancy by 85%. Smith *et al*. (1996) carried out a population based survey of 1214 women in Grampian, Scotland (65% response rate). They found that although most women (94%) were aware of emergency contraception, only 39% knew the correct timing for its use. In a survey of attitudes in Scotland, Romania and Slovenia it was found that 72%, 81% and 94% of women respectively felt positive to the idea of a pill which inhibited ovulation. Over 50% thought that a pill which inhibited or interfered with implantation was an acceptable idea. Attitudes to abortion, availability of contraception and religious beliefs are likely to be important (Rimmer *et al*., 1992).

In the USA, a study of 371 low-income English- or Spanish-speaking women found that only 3% had used emergency contraception, 36% had heard of it and only 7% knew the correct timing for its use (Jackson *et al*., 2000). The lack of knowledge was associated with being older, multiparae and monolingual Spanish-speaking. One approach to increase its use is to provide supplies of emergency contraception to women in advance of need. It has been shown that this does not reduce the abortion

rate (Fairhurst *et al*., 2004). Women were reluctant to ask for supplies and health professionals feared that women would overuse, abandon more reliable methods or might see this as sanctioning promiscuous behaviour. In the USA, the Food and Drug Administration (FDA**)** approved oral contraceptive pills as emergency contraceptives in 1997, but in 2004 the FDA rejected calls for over-the-counter status for emergency contraception and claimed that adolescent women had not been shown to understand the instructions (Tanne, 2004).

To try and understand women's use of emergency contraception Free *et al*. (2002) carried out an in-depth interview study of 30 sexually active women. Their attitudes and concerns included perceptions of low vulnerability to pregnancy, negative self-evaluation, knowledge and service barriers and concerns about what others think. These correspond well to variables identified in social cognition models such as the Health Belief Model and Theory of Planned Behaviour.

There is undoubtedly a demand for safe, effective and acceptable contraception and while there are new developments based on increased understanding of reproductive physiology (Baird and Glasier, 1999), the psychological aspects of acceptability and effective use remain important. The male pill is another possible development, but there is some doubt about whether women would trust men to take it regularly (Guillebaud, 1991). Large doses of testosterone can induce azoospermia but the side effects are intolerable and progress towards safe doses of androgens is slow. Sjogren and Gottlieb (2001) followed up 25 men during a year's use of testosterone contraception. Most rated the method as expected or better and the frequency of sexual intercourse and quality of sex life in general increased significantly. There was some evidence of increased aggression. The men were not blind to the therapy and their reports may have been influenced by their expectations, which might also have been a reason for accepting the therapy.

If, in spite of safe and effective methods, there are still unplanned pregnancies, then it is arguable that current methods of contraception are unacceptable. This has led to the search for new methods. Hormonal contraception was originally given orally but there are now contraceptive vaginal rings, transdermal patches and gels. It remains to be seen whether these are more acceptable.

Contraceptive choice

In a report based on surveys in 1992, Oddens (1996) suggests that attitudes towards the perceived medical nature of some contraceptive methods (oral contraceptives, sterilization and IUDs) influence contraceptive choice. Miller and Pasta (1996) carried out a study on 40 couples' contraceptive choice over a four-year period. They distinguished between method-choice and method-use in decision-making. Method-choice is about continuing with the present method or changing to a new one. Method-use is the actual use of the selected method, e.g. taking the oral contraceptive pill daily or inserting a diaphragm. They found that husbands and wives appeared to have equal influence on method-choice but intentions depended on their own preference.

(See also 'Sterilization and vasectomy'.)

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