Natural Family Planning

NFP refers to methods of contraception that do not rely upon medical devices, compounds, or drugs. There are a range of NFP contraceptive strategies including FAB methods, lactational amenorrhea, withdrawal, and abstinence from penile–vaginal intercourse.[1] Health care providers may underestimate the effectiveness of these methods[2] or may not be familiar with how to appropriately counsel women or couples who wish to use NFP methods.

FERTILITY AWARENESS-BASED METHODS

FAB methods rely upon the knowledge that virtually all conceptions arise from intercourse that occurs from 5 days before to 1 day following ovulation.[3] FAB methods of contraception rely upon avoiding unprotected intercourse during this "fertile window," and can be used in combination with abstinence or barrier methods during the fertile time.

The fertile window can be identified by one of 2 means: by symptoms and signs of ovulation (the cervical mucus method, the symptothermal method, and the two-day method) or by calendar calculations of the fertile days (and SDM).

Effectiveness

It is challenging to calculate an accurate estimate of the effectiveness of FAB. With perfect use, the 1-year pregnancy rates are 0.4% for the symptothermal method and 4% and 5% for the standard days and two-day methods, respectively. With typical use, however, the 1-year pregnancy rate for all FAB methods is estimated to be 24%.[4] When NFP methods are not adhered to and intercourse takes place during the fertile window, the risk of conception from a single contraceptive failure is high. Failure rates are affected by several known and suspected factors, including motivation on the part of both partners to avoid pregnancy, belonging to a country of origin where FAB methods are practised more widely, health care provider knowledge, quality of teaching given to women, coital frequency, and method of contraception used during the fertile window (abstinence vs. withdrawal vs. barrier method).[5,6] One-year continuation rates are low[4] and 5% to 62% of couples using FAB methods report difficulty with mandated abstinence.[7]

Mechanism of Action

The mechanism of action of FAB methods is to avoid UPI when there is a high probability of fertilization.

Initiation

For all FAB methods, women and their partners must be educated about the fertile window and given specific instructions on how to use the method.

Standard Days Method

This method requires avoiding unprotected sexual intercourse on days 8 to 19 of the menstrual cycle in women who have a menstrual cycle from 26 to 32 days in length.[8,9] Several aids exist to help couples track their fertile window, including tracking on a calendar or use of cycle-tracking beads, web-based trackers, or mobile applications. Couples who use electronic applications to time intercourse should be familiar with the algorithm used by the program.

Calendar Days Method

Although this method has now largely been replaced by SDM, it may be useful to women whose cycles are not in the range of 26 to 32 days. A woman must track her natural menstrual cycle length for 6 to 12 months prior to using this method (during which time the risk of conception is significant). To determine the start of the fertile window, subtract 20 days from the length of her shortest cycle. To determine the end of the fertile window, subtract 10 days from the length of the longest cycle. Unprotected intercourse should be avoided during that time.

Symptothermal Method

The symptothermal method is a double-check method that evaluates cervical mucus to determine the first fertile day and then cervical mucus and temperature to determine the last fertile day.

Cervical Mucus (Billing's Method)

Women are taught to monitor the volume and changes in cervical mucus throughout the cycle. As ovulation approaches, mucus becomes abundant, clearer, and more elastic. Fecundability is decreased 3 days after the clearest and most elastic mucus is produced. If the follicular response is very rapid, there may be mucus present during

menstruation. After ovulation, mucus first becomes thick, opaque, and reduces in volume significantly.[10] Some practitioners advocate that couples using this method should have a coital frequency less than once every 2 days to allow vaginal contents to clear and allow better assessment of cervical mucus.[11]

Basal Body Temperature

Wake-up body temperature is measured every day, using a special BBT thermometer, after at least 6 hours of sleep. The BBT is then recorded on a chart (or entered into a computer program) so that the woman can observe the rise in her BBT following the post-ovulatory elevation of progesterone. The BBT should rise by at least 0.5ºC. To avoid pregnancy, there should be no unprotected intercourse from the beginning of the cycle until after 3 consecutive days of temperature elevation.[11] For this reason, the BBT is usually used in combination with another contraceptive method for pregnancy prevention.

Two-Day Method

The two-day method is based on evaluation of cervical mucus and uses a simplified algorithm to identify a woman's fertile window. If cervical secretions were present "today" and "yesterday" a woman is "very fertile." If cervical secretions were present either "today" or "yesterday" she is "fertile." If there was no cervical mucus "today" or "yesterday" a woman's fertility is low.[12]

USE OF FERTILITY MONITORS FOR CONTRACEPTION

Ovulation Predictor Kits

OPKs use saliva patterns or urine LH measurements to assess when ovulation may occur. They are primarily indicated and marketed for those wishing to conceive, but they can be used to assist those using NFP. Because most conceptions occur from intercourse that precedes the LH surge, OPKs are only useful to indicate that ovulation has passed (once the LH reading returns to negative) and fertility is low until menses.

Electronic Hormonal Fertility Monitors

EHFMs can be used to enhance NFP methods. A handheld device will indicate when after menses testing should commence. The device measures urinary LH and estrone-3-glucuronide (an estrogen metabolite) to indicate periods of high fertility. In one randomized trial comparing the fertility monitor to cervical mucus self-screening (with internet-based guidance for both groups), 12-month unintended pregnancy rates were significantly lower in the EHFM group (7% vs. 18.5%).[13]

Indications

Fertility awareness-based methods may be a contraceptive option for:

- women and couples who wish to avoid contraceptive devices or drugs,
- women and couples wishing to augment the effectiveness of another (non-hormonal) contraceptive method by avoiding unprotected intercourse during the fertile window,
- women and couples for whom a relatively high risk of contraceptive failure is acceptable, and
- women and couples who wish to adhere to cultural or religious norms about contraception.

Contraindications

In general, FAB methods can be used without concerns for adverse health effects.[1,9] However, some conditions may make their use more complex and require special counselling. FAB may not be suitable options when:

- women or their partners are unwilling to comply with abstaining from unprotected vaginal intercourse during fertile periods;
- women are unable to observe and chart the signs of fertility;
- women have conditions affecting body temperature regulation (fever, insomnia, irregular sleeping habits, shift workers);
- women have unpredictable or irregular menstrual cycles (e.g. polycystic ovarian syndrome, postpartum, perimenopause);
- women have difficulty assessing cervical mucus because of vaginal infection or use of vaginal agents (e.g., lubricants, spermicides);
- women are at high risk of acquiring an STI or HIV; or
- women have medical conditions for which pregnancy poses an unacceptable health risk or for personal reasons must avoid pregnancy, and thus a more effective method would be advisable.

Non-contraceptive Benefits

The main non-contraceptive benefit of any FAB method is that it provides a valid alternative for women and couples who wish to avoid medical devices or drugs to prevent pregnancy. NFP also helps women to learn about their own bodies and menstrual cycle, and can help women identify fertile days when conception is desired.

Risks and Side Effects

There is a relatively high probability of failure with all FAB methods if they are not used consistently and correctly. FAB methods do not provide protection against STIs.

Troubleshooting

Couples who chose FAB methods should be counselled about emergency contraception.

LACTATIONAL AMENORRHEA METHOD

This is an inexpensive and effective method of contraception used worldwide.

Effectiveness

LAM is only effective when all 3 following key criteria are met:[14–16]

- the woman is less than 6 months postpartum;
- she is fully or nearly fully breastfeeding;[1,17,18] and
- she has remained amenorrheic.[14,15]

When used correctly, LAM is 98% effective.[14] In a Cochrane review on LAM, no differences in effectiveness were seen in women who were taught and used LAM with the goal of contraception and those women who simply were fully breastfeeding for infant well-being (and by chance met the additional criteria for LAM).[19]

Fully breastfeeding includes exclusive (infant receives no other liquid or food, not even water) and almost-exclusive (infant receives vitamins, water, juice, or other nutrients once in a while) breastfeeding. Nearly fully breastfeeding means that more than three quarter of all feeds are breast milk.[20]

Mechanism of Action

The primary mechanism of action of LAM is suppression of the hypothalamic–pituitary–ovarian axis via disruption of GnRH pulsatility, resulting in decreased LH production and anovulation.[21] Although ovulation may occur during LAM in the first 6 months postpartum, ovulation and the luteal phase rarely have normal characteristics. Only 60% of ovulations that precede the first menses have an adequate luteal phase to support a pregnancy.[22]

Indications

The indications for LAM include:

- women and couples who wish to avoid and/or cannot afford contraceptive devices or drugs during the postpartum period,
- women and couples wishing a temporary method of fertility regulation during the postpartum period,
- women and couples for whom other family planning methods are either not readily available or not desired, and
- women and couples who wish to adhere to cultural or religious norms about contraception.

Contraindications

There are few medical conditions for which use of LAM is absolutely contraindicated as a contraceptive method. LAM is contraindicated when:

- any of the 3 conditions for LAM are not met,
- a woman has difficulties with breastfeeding that cannot be overcome with regular pumping,
- a woman has a medical condition for which another pregnancy or a short interval between pregnancies poses an unacceptable health risk, and thus a more effective method would be advisable,
- a woman has a contraindication to breastfeeding including maternal HIV, untreated active tuberculosis, use of drugs contraindicated with breastfeeding, and maternal drug abuse, or[1,16,23]
- the newborn has a condition that makes it difficult to breastfeed (small-for-date or premature; needing intensive neonatal care; unable to digest food normally; or having deformities of the mouth, jaw, or palate) and the mother is not able to pump her milk regularly.

Non-contraceptive Benefits

The Canadian Paediatric Society recommends exclusive breastfeeding until the age of 6 months for healthy, term infants due to the numerous benefits it has for infants.[24] Breastfeeding is also much less expensive than formula feeding, and is beneficial to maternal–child attachment. LAM does not have an effect on breast milk production.

Risks and Side Effects

Failure to use LAM correctly results in a relatively higher risk of failure from even one act of vaginal intercourse. Ovulation occurs as early as 26 days postpartum in non-lactating women, and fertility can be restored quickly when breastfeeding is reduced.[22] Knowledge about LAM is poor across most populations, due partly to inconsistent information provided by health care practitioners. Evidence-based, factual instructions and information should be given to all couples regarding postpartum contraception.[25]

LAM does not protect against STIs or HIV. In general, the use of LAM and breastfeeding in HIV-positive women should be discouraged. The Canadian Paediatric Society considers HIV infection a contraindication to breastfeeding[23] and the Centers for Disease Control and Prevention recommend against LAM in HIV-positive women owing to the ease of access and safety of infant formulas in the United States.[16] Health care providers should discuss possible contraindications to breastfeeding with women prior to initiating LAM, making use of expert consultation where appropriate.

WITHDRAWAL (COITUS INTERRUPTUS)

The prevalence of withdrawal (coitus interruptus) is largely underestimated by clinicians, as it is often not seen as a legitimate contraceptive method. However, it is widely used, and in a 2006 survey 11.6% of Canadian women reported using withdrawal as a contraceptive method.[26] In one study from the United States, 58.8% reported ever using withdrawal as a contraceptive method.[27]

Withdrawal has no direct associated health risks. It does not affect breastfeeding, it is inexpensive, requires no chemicals or devices, does not require consultation with a health care provider, and is readily available for primary use or as a backup method of contraception.[1,9]

Effectiveness

The effectiveness of withdrawal depends on the willingness and ability of a couple to use withdrawal with every act of intercourse.[1,9] Estimates from large population based studies estimate the typical-use failure rate of withdrawal at 22%. With perfect use, 4% of couples will experience pregnancy within 12 months.[4]

Pre-ejaculate fluid consists of secretions from the Cowpers' glands and the glands of Littre. There is controversy over whether or not there are sufficient quantities of motile sperm in pre-ejaculate fluid to lead to fertilization. In a study of 27 men and 40 samples of pre-ejaculate fluid collected and analyzed within 2 minutes, 37% contained a "reasonable number of motile sperm."[28] Theoretically, there are enough motile sperm in the pre-ejaculate of some men to fertilize an egg. Interestingly, among those who provided more than one sample, spermatozoa were either consistently present or consistently absent.[28]

Mechanism of Action

During coitus, the male withdraws his penis from the vagina and away from the external genitalia of the female partner prior to ejaculation. Sperm is not ejaculated into the vagina or on the vulva, thereby avoiding contact between spermatozoa and the ovum.

Indications

Withdrawal may be a useful contraceptive option when:

- women and couples wish to augment the effectiveness of other contraceptive methods,
- women and couples wish to use NFP for contraception,
- a higher risk of contraceptive failure is acceptable to a woman or couple, and
- intercourse is infrequent.

Withdrawal may be appropriate for couples who are highly motivated, who for religious or philosophical reasons do not wish to use other methods of contraception, who need a temporary method while waiting to start another method or waiting for another method to become effective, or who need contraception immediately and have entered into a sexual act without having another alternative method available.[1,9]

Contraindications

This method should be avoided in the following circumstances:

- The man is not sure that he can reliably withdraw prior to ejaculation.
- There is a high risk of STI or HIV transmission, because withdrawal involves unprotected intercourse. Condom use is recommended for STI and HIV prevention.
- Women and couples are not accepting of a method with a relatively high typical-use failure rate.
- A woman has a medical condition for which a pregnancy poses an unacceptable health risk, and thus a more effective method would be advisable.

Non-contraceptive Benefits

In one study of HIV sero-discordant couples (man is HIV+ and woman is HIV−), users of withdrawal had lower rates of seroconversion than those couples having intercourse without withdrawal[29]; however, this potential benefit must be weighed against an overall increased risk of HIV acquisition if barriers are not used because HIV-infected cells have been isolated from pre-ejaculate.[30]

Risks and Side Effects

Use of withdrawal requires self-control. The man must have the ability to recognize impending ejaculation and to resist the urge to pursue coital orgasm. Withdrawal does not reliably protect against STIs or HIV.[30] Correct and consistent use of condoms is recommended to decrease the risk of STIs and HIV transmission.

Initiation

Health care providers should inquire about use of withdrawal and provide information about its effectiveness. It can be used to augment the effectiveness of other contraceptive methods and for some couples may be a valid contraceptive strategy. For couples using only withdrawal and in need of very effective birth control, the reasons for choosing this method should be explored, and acceptable alternatives should be offered.

Troubleshooting

All couples using withdrawal should be counselled about currently available options for emergency contraception.

Emergency contraception should be strongly considered when there is any contact between ejaculatory fluid and the vulva or vagina. In some circumstances, STI testing[31] and post-exposure prophylaxis[32,33] may also be considered.

ABSTINENCE

Abstinence refers to delaying or avoiding some or all sexual behaviours. Abstinence may mean different things to different people. From a family planning perspective, it is only necessary for couples to avoid sexual acts that involve the introduction of seminal contents into the vagina; however, certain STIs may be transmitted from skin-to-skin contact. Primary abstinence refers to delaying some or all sexual behaviours by those who have never been sexually active. Secondary abstinence refers to the conscious decision to delay or avoid some or all sexual behaviours among those who have been sexually active in the past. Periodic abstinence refers to abstaining from penile–vaginal intercourse during the fertile window of the menstrual cycle.

Health care providers should support individuals who choose abstinence and assist them with negotiation and planning skills to use abstinence effectively. Health care providers can also ensure that individuals who are practising abstinence are aware of sexual health issues that may become relevant to them currently or in the future. Adopting an "abstinence-only" approach to counselling in lieu of comprehensive sexual education may increase harm and does not delay coital début.[34]

Effectiveness

Abstinence is 100% effective in terms of family planning, provided that semen is not introduced onto the vulva or into the vagina. Abstinence is not an effective STI protection strategy if individuals are engaging in other sexual activities.

Indications

Abstinence may be chosen by women or couples who prefer to abstain from certain sexual behaviours for personal reasons or whose cultural, moral, or religious beliefs restrict the use of other methods of family planning.

Contraindications

It may be difficult to maintain a relationship where there is strong discordance about the decision to abstain from sex. Conversely, delaying sex may give a couple time to get to know each other and may improve the quality of the relationship.[35] The decision to become sexually active must be made individually and voluntarily without coercion by others.

Non-contraceptive Benefits

Abstinence does not cost anything unless barrier methods are used for other sexual acts. Individuals who practise abstinence have a decreased risk of STIs and HIV infection, and primary abstainers have a decreased risk of cervical cancer.[36]

Risks and Side Effects

Abstinence may be too restrictive for some couples and may leave women and couples unprepared if sexual activity occurs they do not know how to reduce risks.

Initiation

What individuals define as abstinence is an important question with clinical implications. Couples and individuals practising abstinence deserve respect and non-judgemental support. They should be offered education about other methods of birth control and safer sex to help them if their sexual agendas change. Assisting with communication skills to transmit intentions to partners can be valuable, especially for young people. Those who practise abstinence should be informed about emergency contraception, STI screening, and post-exposure prophylaxis in their community.

Some women may discontinue other contraceptive methods when they are no longer in a relationship (secondary abstinence). However, secondary abstinence does not necessarily require that they take a "break" from their other contraceptive method.

Troubleshooting

Health care providers should determine with those choosing abstinence why they made this choice, what sexual activities they will say "yes" to, and whether they have discussed these with their partner. It is important to help them avoid high-pressure sexual situations and teach them techniques for saying "no." It is also important to suggest that condoms be readily available in case they change their minds.

Summary Statements

21. Natural family planning methods may be appropriate methods of contraception for couples who are willing to accept a higher rate of contraceptive failure than with other more effective contraceptive methods. (III)
22. The exact effectiveness of natural family planning (NFP) methods is difficult to estimate. When NFP methods are not adhered to and intercourse takes place during the fertile window, the risk of conception from a single failure is high. (III)
23. Many women and couples have used natural family planning methods, particularly withdrawal, at some point in their reproductive lives. (III)

24. Coitus interruptus ("withdrawal") as a risk-reduction strategy is preferable to no contraception at all, but typical-use failure rates are relatively high and it does not reliably protect against sexually transmitted infections. (II-2)
25. Lactational amenorrhea is an effective method of birth control when used by women who are less than 6 months postpartum, fully or nearly fully breastfeeding, and have not resumed menses postpartum. (II-2)
26. Abstinence is a contraceptive choice that requires supportive counselling and information-sharing from health care providers. (III)

Recommendations

23. Health care providers should respect the choice of a natural family planning (NFP) method, be aware of options for NFP, and be able to provide appropriate resources/counselling on the correct use of a woman or couple's chosen method. (II-B)
24. Natural family planning methods should not be proposed to women solely based on contraindications to another contraceptive method without a thorough review of other potentially safe and more effective methods. (II-B)
25. Couples using natural family planning methods, including withdrawal and abstinence, should be provided with information about effective methods of emergency contraception and screening for sexually transmitted diseases. (III-B)
26. All pregnant or postpartum women should receive clear instructions on the lactational amenorrhea method of birth control and the criteria that must be met to achieve reliable contraception. (III-B)

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