

METHODS OF BIRTH CONTROL

FOREWORD

BY

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This booklet, along with the contraceptives mentioned therein, can be had at the following places:—

(1) BIRTH CONTROL LEAGUE

12 Budhwar Peth, Poona 2.

(2) AGENCY BOOK-DEPÔT,

Kandewadi Naka, Navakliwadi,

Bombay No. 4.

FOREWORD

Other considerations apart, it has to be admitted that the pace of the maternity and child-welfare movement would be materially accelerated by paying due regard to birth-control. The child of unfit parents, and particularly one which is unwelcome to them, is handicapped from the very start of its life. Similarly, the condition of a woman, who is not in normal health, is often worsened by a pregnancy which in certain grave diseases means: nothing but death to her. Moreover, the greater the number of pregnancies and the quicker they succeed each other, the greater the danger to the health, nay the very lives, of the mother and the children. All these calamities can be easily averted by the mere regulation of the arrival of the offspring.

Every reasonable person will admit that.

without the aid of a voluntary check on the growth of population, no tangible and permanent improvement in the lot of humanity is possible. Well may one admit, therefore, the propriety of the words of Mr. Upton Sinclair, who in his letter to the Editor of Janmabhumi, Madras, writes:—
 “Certainly, whatever else you may do and however wise and benevolent may be your other efforts to help your people, you will accomplish absolutely nothing until you substitute quality for quantity in your racial production, and lift your people above those laws which govern the production of rabbits.”

Besides the apathy of public workers towards birth-control, the other important reason which retards the rapid progress of that movement is the lack of knowledge of suitable methods among the common people. This booklet is an attempt towards meeting that desideratum, and there is no

doubt that one of the methods described herein, namely, the use of a rubber sponge dipped in pure cold water alone, is bound to revolutionize the technique of contraception. The unnecessary fear about the surgical operations of sterilization, entertained by many persons, would also be dispelled by the perusal of this booklet which, therefore, deserves as wide a circulation and patronage as possible.

R. H. Bhadkamkar

Note:—

This booklet, though it contains some information that is **entirely new** to books on birth-control, is, in the main, prepared with the help of the following authoritative works on that subject and the debt is acknowledged here with gratitude.

1. "Medical Aspects of Contraception":—
The report of the Medical Committee appointed by the National Council of Public Morals in England.

2. "Parenthood : Design or Accident ? "
by Michael Fielding.

3. "Sterilization and the Unfit" by
Walter Gallichan.

4. "A student's Manual of Birth Control"
by Lily C Butler, M. R. C. S., L. R. C. P., D.
P. H.

5. "Contraception, Its Theory, History
and Practice " by Marie C. Stopes, D.Sc.,
Ph. D.

AN APPEAL

The Birth Control League, Poona, has, for over the last five years, been trying its best to popularize the cause of Birth Control as undertaken by it, but lack of funds stands in the way of the speedy achievement of its objects. All are, therefore, requested to help this institution which serves a need of prime importance to this country. Every contribution sent to its Hon. Treasurer, Mr. L. R. Gokhale, M. L. C. Pleader, 419, Narayan Peth, Poona City, will be thankfully acknowledged.

G. R. Gadgil, BAR-AT-LAW
President,
Birth Control League,
580; Sadashiv, Poon No

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Methods of BIRTH CONTROL.

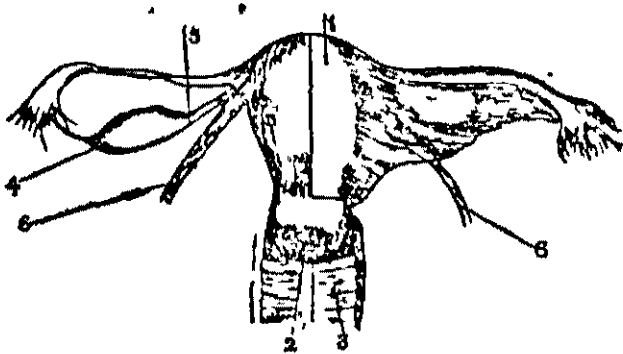
The principles explained.

For the sake of comprehending clearly the application of the various methods of contraception, or birth control as it is popularly known, it is essential, in the first instance to understand how conception takes place.

The ovaries and the womb are the principal female organs of generation. The ovaries, which are two in number, are situated one on each side of the lower part of the abdominal cavity and each one of them is connected with the womb by means of a passage called a Fallopian tube. The womb has its neck or cervix, as it is called, projecting like a knob into the vagina.

which is the canal through which sexual intercourse takes place. (See figure No. 2.) There is a small aperture in the middle of the cervix called the " Os " or mouth, which alone connects the ovaries with the vagina through the Fallopian tubes. The roof of the vagina shuts it off completely from the inside of the abdomen so that there is no fear of objects like rubber pessaries losing themselves into the body cavity.

The ovaries of mature women produce certain cells called the ova and once in each menstrual cycle one such cell or ovum leaves an ovary and passes very slowly along a Fallopian tube towards the cavity of the womb. It is really this cell or ovum that develops into the embryo when it has been fertilized by an *active* male generative cell, called the spermatozoon, which is present in the semen of the male. The fusion of the two cells generally takes place in a Fallopian tube and then the fertilized ovum



1. Uterus. 2. Os 3. Vagina.
4. Ovary. 5. Ovarian Ligament
6-6. Round ligaments.

usually passes down into the womb where, having embedded itself, it undergoes various changes that end in the birth of a child. If an ovum is not fertilized by any sperm, it dies and is expelled from the body along with the menstrual flow.

It must be clear from these facts that *fertilization can take place only when an active spermatozoon passes into the womb through the os or mouth and meets the mature ovum.* To impregnate an ovum the spermatozoa must be active, enfeebled ones being quite useless for that purpose. We can now clearly see the various expedients that can be employed to bring about contraception or birth-control. Firstly, the spermatozoa can be rendered inactive so that they may be unable to fertilize an ovum. *This result can be brought about only by the use of some chemical inserted into the vagina but not by the swallowing of any medicine.* No faith whatever should, therefore, be put in

any contraceptive that has to be taken by the mouth, howsoever glorious and tempting its advertisement may be. Secondly, the spermatozoa can be prevented from entering the womb by the use of some mechanical obstruction, such as a rubber pessary worn by a female and a French Letter worn by a male. Thirdly, by means of a surgical operation on the male, called Vasectomy, it can be so arranged that there should be no spermatozoa in the semen and fourthly, by means of a similar operation, called Salpingectomy, on the female, ova can be prevented from appearing anywhere in the genital tract. We have now to consider in some detail everyone of the methods mentioned above

Chemical contraceptives.

The chemical contraceptives devised to disable the spermatozoa are useful only when

sperms are confined to the vagina, but as on occasions active spermatozoa are emitted directly into the womb along with the semen, no chemical substance can *by itself* prove to be a dependable contraceptive on all occasions unless it happens to be in the nature of a jelly, the thick smear of which in the 'vaginal vault' as well as over the cervix would offer a mechanical obstruction and also have a spermicidal action. Some kind of mechanical obstruction, meant to cover the os, is essential. Chemicals, however, are useful in rendering the sperms lying in the vagina inactive.

Chemical spermicides can be divided into two classes: (1) the effervescent ones and (2) the non-effervescent ones. The effervescent spermicides are either tablets or jellies. The tablets have for their base a substance that does not melt at body temperature but which, in contact with water,

undergoes chemical changes that result in the formation of a more or less dense foam, which is able to distribute the chemicals much more evenly and effectively than the non-effervescent contraceptives. The foaming jellies are better than the foam-producing tablets because the tablets often fail to dissolve completely even when they are dipped in lukewarm water before insertion. The effectiveness of the tablets depends in a very large measure on the amount of moisture in the vagina, and the foam produced by them is often inadequate and unstable. The jellies not only produce a foam in the complete absence of vaginal moisture but they produce it at once. The foam produced by the jellies penetrates the folds of the vaginal membrane and at the same time forms a barrier across the neck of the womb which may persist for fully half an hour and may remain capable of destroy-

ing spermatozoa for several hours longer. The PermFoam and Bymeston Foaming Jelly are the best known varieties of such jellies and the Semori and Speton are the well-known foam-producing tablets. The Right tablets belong to this very group. [They are sold at one rupee per dozen whereas the cost of Septon is Rs. 1-14 per doz] The prices of the jellies mentioned above, however, being very high—a box of six tubes being priced at 5 shillings and each tube containing just sufficient quantity for use on a single occasion only—they are beyond the means of all except the well-to-do. [Patentex is another well-known jelly of this type. It is priced at Rs. 3-8 per tube]

The non-effervescent spermicides are either the soluble pessaries, such as the "Wife's Friend" or "Lam-buts" or the ointments and jellies like the quinine ointment and the Lactic Acid Jelly etc.

The first group consists of substances such as quinine or chinsol, made up in cocoa-butter or similar substances. When inserted into the vagina they melt at body temperature, forming a film which acts as a barrier over the cervix and prevents any active sperms from entering the womb. They melt readily and need little moisture for their action and hence in cases of frigidity and where there is a scanty vaginal secretion they are to be recommended. [The soluble pessaries are sold at about Rs. 1-8 per box of one dozen.]

All soluble pessaries as well as the foam-producing preparations are to be inserted high up into the vagina five to ten minutes before sexual intercourse so that they may have time just sufficient to melt and form a barrier of film over the cervix. If they are put in much earlier there is the danger of the spermicide losing its efficacy, on account of the disappearance of the substances

inserted, either by melting or by the production of foam. If, however, they are used too late they may not get sufficient time to produce the required results. In this respect, ointments like the quinine ointment or jellies like "Contraceptalene" are more serviceable because as they do not melt they can be used much earlier, even several hours before the sexual act, and there is no necessity of their insertion into the vagina, in the nick of time, in a period of excitement.

As all soluble pessaries or foaming preparations are likely to produce smarting of a tender vagina, it is advisable that they should be avoided by newly married women until the wound in the vagina, caused by the rupture of the hymen, has healed completely.

There is a difference of opinion among scientists as to the degree of the efficacy and harmlessness of different chemicals used as spermicides and there is no doubt that

substances that have a deleterious effect on certain women have no such effect on others. If, therefore, any substance is found to disagree with any woman it has to be substituted by another. There seems to be, however, much force in the contention that lactic acid being normally present in the vagina, and the acid reaction of that part being neutralized during intercourse by the pouring out of an alkaline mucus favourable to the sperms, it is but meet that the normal reaction should be restored by the use of lactic acid itself as a spermicide. "Contraceptalene" is a jelly with lactic acid. A lactic acid jelly can be made to the following prescription also.

Lactic Acid 1%
 Boric Acid Puly 10%
 Glyceride of Starch 89%.

Before we turn our attention to other methods, it is necessary to note that the vagina having absorbing powers, and cases

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of poisoning due to the absorption of certain dangerous drugs from the vagina having been reported, care must be taken not to introduce into it any substance which, if absorbed, may be harmful.

Rubber pessaries.

Rubber pessaries are the appliances which we have to note next. There are several varieties of these articles but the three most important ones are the cervical cap, the Dutch pessary and the Dumas cap. The cervical cap covers only the cervix or the neck of the womb, while the Dutch pessary is wider and shuts off the whole of the upper part of the vagina, including the cervix, from the lower one. Though the cervical cap may be used successfully by the *perfectly normal and intelligent women*, the Dutch pessary is used in most of the birth-control clinics in Europe and America and is preferred to the cervical cap for the

following reasons. It is easy to learn how to insert and remove it correctly and it can be used even in the case of an abnormality of the cervix which is the rule rather than the exception in the case of women who stand in due need of contraception. As there are 18 sizes of the article, an exact fit can easily be obtained in each case. It is not easily displaced by bodily movement, it does not gup the cervix which the woman can herself feel to be covered over by the rubber, and it does not dam back secretions from the cervix. *A woman should be given the largest size she can take with absolute comfort, for that ensures that the whole rim of the pessary will be pressing on the walls of the vagina, thus leaving no opening for the male fluid to get past the rim and into the womb.* Evidence of a good fit is to be found in the fact that once the pessary is in its proper position the woman cannot feel it except with her fingers.

In exceptional cases, such as relaxation of the vaginal walls, prolapse or falling down of the womb etc, however, either the cervical cap or the Dumas cap should be used instead of the Dutch pessary. [A Dutch pessary costs about Rs 2-4 and the cervical cap about Rs. 1-12 each.]

Before a particular type of pessary is selected for a female, it is necessary that she should be examined by an expert who can, not only ascertain the suitable pessary and its exact size, but also advise her to adopt some special remedies if they are found to be essential in her case. It is already noted that the Dutch pessary is manufactured in no less than 18 different sizes and as the cap must fit the vagina or the cervix accurately before it can be useful as a contraceptive, it is imperative that a proper size should be ascertained in the first instance with the help of an expert. Many persons, without taking the trouble of

undergoing this procedure, make use of any pessary that is easily available to them and then blame contraceptive methods in general for the failures which are to be properly attributed only to their own negligence.

Instructions regarding the insertion and removal of pessaries and the essential care to be taken about them can best be imparted in a clinic, so that there would be certainty as regards the woman concerned having fully understood the process, which, by the bye, is not a very difficult one.

For the sake of those, however, who cannot have the benefit of such instructions, the following directions are given, along with the advice that the very first opportunity should be taken to consult an expert to assure oneself that the right procedure is being followed.

For inserting and removing the caps, any position, which is found convenient,

by the woman, may be assumed. For instance, the woman can either lie on her back with her feet tucked towards the abdomen, or she may assume a stooping position, sitting on her heels with her knees completely bent and feet apart. She should then catch hold of the rim of the cap between the thumb and the forefinger of the right hand. The Dutch cap should be inserted with its dome pointing *upwards* and the hollow side downwards, the cap itself assuming an elongated shape when the rim is pinched together. It should then be introduced into the vagina along its back wall and should be pushed *in a downward and backward direction* as far as it will go. One part of the rim will then be fixed in the space below the cervix called the posterior fornix. The woman should afterwards press *upward* on the last part of the rim to enter the vagina so that it will take up a position in the space behind and supported by

the pubic bone (which is the bone situated at the very lowest part of the abdomen). *Care must be exercised to see that the pessary is inserted in a downward and backward direction, for if it is pushed straight in, the rim catches on the upper wall of the cervix and is deflected into the space called the anterior fornix with the result that the cervix is left entirely exposed.* (See fig. 3.) When the pessary is pushed in a downward and backward direction, one portion of it will go *below* the cervix, which is nearer to the lower part of the vagina than to the upper one, and thus the cervix can be covered completely.

To insert the cervical cap, the woman must hold it in such a way that the dome is pointing *downwards*, instead of *upwards* as in the case of the Dutch Cap. She should then introduce it into the vagina. When the cap reaches the end of the vaginal canal it will naturally expand and then

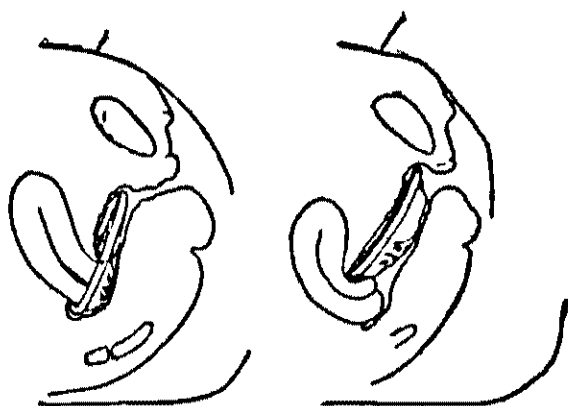


Fig. No. 3

1 Dutch pessary
placed correctly

2 Dutch pessary
placed incorrectly
(after Butler)

would slip into its place over the cervix just as the Dutch pessary does across the vaginal vault.

To remove the Dutch cap, the woman must pull it down by means of a finger hooked round the front part of the rim, where it can be felt against the pubic bone. The cervical cap can be removed similarly by hooking it down by a finger placed round the rim which, in its case, lies over the cervix.

Every pessary must be thoroughly washed with soap and water before insertion. *After wearing it, the woman must ascertain with her fingers that it has really covered the cervix—a hard knob-like object—which she can feel through the rubber. This precaution should on no account be omitted, because, as we have just seen, it sometimes so happens that a pessary placed incorrectly leaves the cervix entirely exposed.* The

pessary must be retained for at least eight hours after sexual intercourse; on the other hand it is equally necessary that it should not be left in longer than 12 hours, after which period it must be removed to allow any natural secretion from the womb to escape. After it has been removed, a pessary should again be washed in soapy water, thoroughly dried and kept buried in a tin of French chalk. If used with such care, it will generally last for about a year. It must be regularly examined against a bright light to assure oneself that the rubber has not developed even the smallest hole. To avoid infection, the wearer must take care to keep her hands clean. She must also avoid constipation which renders difficult the use of a pessary through the distended rectum bulging into the vagina. (See fig. No. 1.) The pessary should never be worn during the monthly period or when a period is expected, and no woman



(F.1) 1. Uterus. 2. Bladder. 3. Anus. 4. Urethra.
5. Rectum. 6. Fallopian tube & ovary. 7. Vagina.

with a copious, or coloured, or offensive vaginal discharge should ever wear it except after examination and advice from a doctor.

We have already seen that a chemical spermicide is, on occasions, ineffective because the sperms are sometimes deposited directly within the cervix. A rubber cap that fits a woman very accurately can render the sperms less capable of fertilizing the ovum, if it is retained in the vagina for not less than 8 hours. A chemical contraceptive being, however, necessary to ensure the complete disablement of the sperms, it is recommended that the use of a rubber check pessary should be combined with the use of some chemical spermicide as the best available method of contraception. A soluble pessary should be placed inside the cap, especially when the cap used is of the Dutch pattern. In the case of the cervical cap, the pessary may be put in

after the insertion of the cap. When an ointment or a jelly is used, both the sides of the cap as well as its rim should be smeared with it.

Sponge with Chemicals.

A contraceptive, which, though not so reliable as the one described above, has the advantage of being much cheaper and, therefore, more available to persons with limited means, is the use of a rubber sponge dipped in some antiseptic lotion, such as permanganate or alum solution—the strength of the permanganate solution being 1 in 2000—soapy water, olive oil and chinsol. As the annual cost of this method can be but a rupee only, this method can be adopted even by very poor persons. It is better to use rubber sponges than marine ones because the latter are more liable to become septic and as they are porous the sperms can find their way into the uterus.

through the pores. *The sponge should be boiled for two minutes after use.*

Cotton-wool Pad.

For emergencies and where rubber caps cannot be used, a cotton-wool pad, sufficiently large to cover entirely the upper part of the vagina, can be recommended. The pad should be dipped into a solution made of vinegar and water in equal parts or into dilute solutions of alum or lemon juice or wrung out in 1% lactic acid and smeared with a little vaseline, or used in conjunction with other chemical contraceptives.

Cotton waste and Oil.

Dr. Marie C Stopes has, in her article in the November 1934 issue of the "Marriage Hygiene", mentioned a contraceptive which though very simple is, according to her, a very reliable one if used carefully. It is as follows :- "The woman should take a small handful of *cotton waste*. This is

not to be confused with what the Europeans call "Cotton-wool". Cotton-wool is white, prepared, comparatively expensive and loses all its springiness when it is wetted. Cotton waste from her own spinning is springy and soaks up the oil without becoming sodden and flat. The woman should take enough of the cotton waste and make it into a little pad the size of the palm of her own hand and about the thickness of her own thumb. The waste can be held together by lightly winding threads criss-cross like a spider's web so the tufts do not fall apart; or if clever she can crochet a little net for herself into which the pad can be fitted. Then into a cup or small bowl she should pour a little of her ordinary cooking oil. This oil must be a bland one, not mustard oil, but any *bland* cooking oil she is using. The pad soaks it up and then she should lightly squeeze the pad to drain off the extra oil so it does not

drip. This is then inserted high up in the vagina just before she goes to bed. It should be pinched somewhat together until it is up and then should spread out and tuck round the neck of the womb at the end of the vagina. The pad and the oil together form a barrier past which the fertilizing spermatozoa will not be able to enter. It is best to insert this before going to bed so as not to disturb the romantic feeling and peace which sex union should engender. It should remain there in place until the next morning when it can be taken out while dressing and *burnt*. If the waste has been enclosed merely in loose threads then the whole thing can be burnt, but if the pad of cotton waste has been enclosed in a specially made net, then the net may be preserved and washed, but if so it ought to be boiled to be really clean. It is probably better to hold the pad together with lightly bound threads and burn the whole thing.

"The woman must realize she must not remove this pad immediately after the act of union has taken place, for the grease must be allowed thoroughly to deal with the spermatozoa. If removed too soon it would give them an opportunity of swimming in, but if left until the next morning it is almost certain all the spermatozoa would be rendered useless by that time."

Dr. Marie Stopes has stated that the use of a right-shaped sponge alone, dipped in any cooking oil, with no chemical whatsoever, has given cent per cent success as tested by house-to-house visiting by midwives checking each other's work.

Rubber Sponge and Water.

Some persons have long and successfully used a rubber sponge, dipped in pure cold water and inserted into the vagina just before sexual intercourse, as a remedy for birth-control.

The remedy itself must be credited with

contraceptive powers as with its discontinuance they could get progeny and hence the result cannot be attributed to any adventitious cause such as loss of fertility etc. This device has got a scientific backing because a scientist, named Steinhauser, while testing the relative time in seconds taken by customary strengths of a number of spermicidal substances to kill the spermatozoa, proved that plain water by itself is effective in immobilizing the sperms in about ten seconds. This property of water is now generally recognized. On page 145 of "Contraception" by Dr Marie C. Stopes, we get the following. "It should be pointed out that as a spermicide plain cold water is, in itself, sufficient to destroy the activity of the sperms." Dr. Cecil Voge, Ph. D., B. Sc., F. R. S. E. on page 271 of the September 1933 number of "the Practitioner" states: "Water is spermicidal if present in sufficient quantities to lower the tonicity of the

normal salt content of the seminal fluid." Similarly on page 120 of the November 1934 issue of the "Marriage Hygiene" it is mentioned; "Plain water is now proved to be effective in immobilizing spermatozoa in about ten seconds, and causes no irritation to the parts whatsoever." This method, which is full of promise, should, therefore, be tried by all who are prepared to take a chance of failure, and the result of the trial should be communicated to the Birth Control League, Poona, so that some definite judgment can, afterwards, be pronounced on it.

This remedy can be effective though the sponge is inserted into the vagina even an hour or two before sexual intercourse. The sponge used must, however, be of the right type. A rubber sponge, about the size of the woman's palm and about the thickness of her thumb, should be used. The smaller ones lead to very many failures. *It is these failures which form the basis of the*

indictment of the sponge at the hands of some scientists and hence no one should run down this method improperly when the pitfalls can be easily avoided by the selection of a proper article. As in the case of a rubber cap, care must be exercised to see that the sponge has really covered the mouth of the cervix by feeling for the knob-like structure through the rubber. Ordinary hot soapy water will wash the sponge, but it is best also to boil it in salt and water for a minute or two after each use or it may be dipped in boric lotion—strength a teaspoonful to a pint of water—and rinsed frequently. When clean, rinse in ordinary water, dry it and keep dry until it is next used.

The Surgical Operations.

- When it is either necessary or desirable to ensure absolute and permanent sterility, the surgical methods of sterilization—Vasectomy for the males and Salpingectomy for

the females—are quite satisfactory. We have already seen that contraception can be achieved either by making the sperms inactive or by preventing their entrance into the womb, or by preventing either the ova or the spermatozoon from making their appearance in the genital tract and in the semen respectively. It is already explained that the ova are carried from the ovaries to the womb through channels that are called the Fallopian tubes. There are similar ducts, called the vasa deferentia, in the case of a male that carry the spermatozoa, the male generative cells, from the testes to the male sexual organ. *It is evident that if the Fallopian tubes are severed completely no ovum can make its appearance in the genital tract and if the vasa deferentia are cut there would be no sperm in the semen, and thus in both the cases, fertilization can be prevented.* Vasectomy and Salpingectomy are operations

that bring about this very result.

Vasectomy.

Bilateral Vasectomy is infallible as a sterilizing agent. The operation is a simple one involving a slight incision on each side of the scrotum, picking up, cutting and tying the very small tubes, called the vasa deferentia, through which the sperms pass, thus preventing their appearance in the semen. After this, the patient can, if necessary, go about his work without any further inconvenience, but it is advisable that he should rest for the next 3 or 4 days. The wounds must be dressed for about a week to have them healed. The operation is bloodless, may be done under local anæsthetic and takes only 15 to 20 minutes. Even after the operation there is a discharge of semen in the sexual congress, because the seminal vesicles, the prostate, Cowper's glands and the lining of the ejaculatory ducts, all contribute their

secretions to the fluid. That discharge of semen, however, lacks spermatozoa because, Vasectomy abolishes the production of the sperms and hence they cease to appear in the semen after the operation. [The expenses of the operation come to nearly Rs.30.]

A necessary Precaution.

It must be noted in this connection that for a few months—usually not more than six—after Vasectomy, there is a chance of the semen containing active spermatozoa because there are reservoirs of semen in the body, called the seminal vesicles, which are situated beyond the part operated upon and the semen already collected therein, therefore, remains unaffected by the operation. Hence until active sperms have disappeared altogether from the semen, recourse must be taken to the other contraceptive devices inspite of vasectomy. This difficulty being there, it is advisable that a man should have the operation per-

formed upon himself when either his wife is already pregnant or when there is no chance of the couple coming together on account of separation or through any other cause until chances of conception have disappeared altogether.

Salpingectomy.

Salpingectomy, or the operation in the case of a female, is a more complicated affair, the complete removal of the Fallopian tubes, that are situated in the abdominal cavity, being essential. Even this is not a very serious operation with modern aseptic surgery, but it entails rest in bed for a couple of weeks. The expenses come to about Rs. 150. This operation can be performed at present through the vagina, there being thus left no necessity for opening the abdomen. A minor operation, which closes the uterine openings of the Fallopian tubes by intra-uterine cauterization, has also been devised. This procedure, in which a

fine electric cautery is used, involves neither the necessity of an anæsthetic nor an incision.

These Operations bring about Rejuvenation.

Dr. Norman Haire, the famous surgeon, says - "These operations are quite harmless and do not at all decrease sexual desire, potency or pleasure " They are practised even on entirely sane people of both sexes as a means of rejuvenation and the results in the vast majority of cases are remarkably beneficial The Vasectomy operation, as performed upon individuals suffering from premature aging, chronic fatigue symptoms, inefficiency in work and other disabilities, has been highly successful in a number of recorded cases The effect of severing the vas deferens in men, and the ovarian tube in women, is, in most instances, mentally and physically beneficial. Ligation of the vas deferens, though

rendering the subject sterile, does not interfere with the production of the testicular hormone; on the contrary there is proof that the secretion is heightened, with marked signs of improvement of health, a reaccess of vigour and frequently a renewal of the sexual potency. *It must, however, be distinctly understood that surgeons being so far unsuccessful in making these operations reversible, there is no chance of further parenthood for the persons operated upon.*

In the issue of "Physical Culture" of May 1932, Sir W. Arbuthnot Lane, the famous surgeon, has clearly shown how Steinach's operation—which is nothing but Vasectomy—brings about rejuvenation. On account of the importance of the article, its substance is given below

Owing to the deficient modern diet and the defects in the manner in which it is

taken, malnutrition and constipation result whereby there is not only an inability of the tissues to resist disease but there is also self-poisoning. The intestinal canal constitutes a poison-factory from which poisons are disseminated throughout the body, lowering the vitality of all the body-cells and leading to their ultimate death. Now, there are certain glands in the body, namely the thyroid and the adrenals, among the functions of which is that of helping to destroy the poisons absorbed from the intestinal tract. These glands belong to the group which are called endocrine or internal secretory and altogether they control human destiny in a most remarkable fashion. A relative failure of the thyroid and adrenal glands, is instrumental in hastening body-decay and senility. These glands, while able to destroy moderate amounts of intestinal poisons, are themselves susceptible to these poisons, and it is obvious that a time must

come when they are unable adequately to carry out their anti-poison campaign, with the result that the widespread systemic effects of the intestinal poisons proceed unhindered.

The sex gland, in both men and women, has an important influence on health generally, but particularly in relation to senility. It has an endocrine function, as well as that of producing germ cells. The sex endocrine glands control mainly our sexual development and generally control our physical and mental vigour. Their absence or deficiency in early life results in an emasculated individual, impotent and of poor physique. In old age there is a natural tendency for these glands to diminish in their functional activity; in fact many of the morbid processes of senility are directly attributable to a lack of the sex endocrine secretion. A failure of the endocrine glands, and particularly the sex

gland, is the central feature in the causation of premature senility.

Now it is obvious that if the endocrine glands are strengthened anyhow, they would be better able to cope with the poisons in the body and with the elimination of the foreign matter and the increase in the sex endocrine secretions, rejuvenation would be brought about. The injections of the extracts of the sex glands of healthy animals, grafting the sex gland of a vigorous healthy animal upon a decrepit person and resorting to various exercises to strengthen the endocrine glands are the diverse attempts in this direction.

The name of Serge Voronoff, who transplanted the sex gland of apes into human beings, is well-known in this connection. The effects of grafting seem hardly short of the miraculous, but they persist from three to five years only. After this time, the graft tends to die, being replaced by con-

ctive tissue, and its effects pass off. Repetition of the operation may then be resorted to in suitable cases.

Another experimenter, Steinach, has carried out similar transplantation operations in animals with similar results. He has also elaborated another rejuvenation operation applicable to human beings. *He ties the duct which leads from the sex gland with the object of stimulating the endocrine sex function at the expense of the procreative.* With improvement in the former function, the sex endocrine secretions are produced in greater quantities in the body with the result that senility is warded off and rejuvenation takes place.

In fairness to Sir W. A. Lane, however, it must be added that though he fully recognizes the importance of these scientific discoveries, he prefers simplicity of diet with intestinal cleanliness to gland rejuvenation as a means to a long and healthy life. Like all

human inventions, Steinach's operation also may have its limitations and it may not be quite a desirable procedure in exceptional cases like those of persons whose arteries are permanently hardened. These persons, however, do not generally stand in need of any means for birth-control and hence we can safely assume that as a rule, Steinach's remedy can be availed of very profitably by the vast majority of persons for the sake of prevention of conception, if not for rejuvenation.

These operations have now passed the experimental stage and in thousands of such operations—in California alone there were about ten thousand operations from 1909 to date—the results have proved to be quite satisfactory. Many eminent scientists extol them highly. Dr. Adolf Lorenz, the famous Viennese surgeon, says of sterilization:—“It eventually will come to all civilized countries as a means of getting rid of the

scum of humanity." (Vide the "Scientific American" of June 1934). Dr. Havelock Ellis writes in "Marriage Hygiene" of August 1934:- "Sterilization is the best and safest method of birth-control. There can be no doubt that it will eventually be so regarded."

It now remains to note all those methods that are either likely to be harmful or that have been proved to be of a distinctly harmful nature.

Grafenberg's ring.

A method, involving the introduction within the cavity of the womb of a small flexible ring made of coiled silver wire, generally known as Grafenberg's ring, is also sometimes advised as a contraceptive device. This remedy is, however, now out of favour. At the Seventh International Birth Control Conference of 1930, those who were against Grafenberg's ring appeared greatly to outnumber those who were

for it. Dr. Leunbach of Copenhagen, on the basis of 176 cases, was decidedly of the opinion that the ring fails in the two essentials of harmlessness and reliability. In some cases, the ring is ejected from the womb, often without the patient's knowledge, in some it produces uterine bleeding and pain, very occasionally the ring actually embeds itself in the uterine wall and not infrequently it lights up afresh a latent pelvic infection. The ring, moreover, cannot prevent an extra-uterine pregnancy.

The Condom or French letter.

The Condom or French letter is a sheath of rubber, which is rolled on to the male organ just before sexual intercourse. The emitted semen is retained in this sheath and so prevented from entering the vagina. There is a similar sheath for use by a female that covers up the whole of the vagina and not its dome only, as a rubber pess-

sary does. Except on special occasions, such as the presence of venereal diseases or the inability or inconvenience on the part of a woman to use a rubber pessary or any chemical as in the very beginning of a married life, these devices are now deprecated for various reasons. In the first place, a sheath prevents contact between the glans penis and the vaginal tissues, and, therefore, robs the coital act of its full physiological benefit. It also robs the woman of contact with the seminal secretions and thus is detrimental to her. It is unpleasant to use. A man of not very strong sex-capacity finds that it reduces the potentiality for consistent erection and proper ejaculation.

When, however, a condom is the only available contraceptive, the following precautions should be taken. It is advisable to buy a sheath directly from a reputable manufacturer, if possible, and not to use it

more than six times or after six months from the date of its purchase. Test the sheath each time before and after use. The presence of any tiny hole can be detected by blowing into it. Use a fairly thick article with a teat-end. Wear the sheath before the beginning of the coital act and do not postpone the adoption of the precaution to a time just before the ejaculation of the semen. Before use, roll the sheath on itself inside out, expel the air from its end, lubricate the male organ with Contraceptalene or K. Y. Jelly, put on the sheath and when it is on, lubricate the outside as well. If a condom is without a teat-end, leave about half an inch of the same overlapping beyond the tip of the male organ. If after intercourse it is found that the sheath is torn the woman should douche immediately. After use, wash, dry and powder the sheath and put it away flat, and not folded, in a box.

Douching.

It is neither necessary nor advisable to take the additional precaution of douching when a rubber pessary is used in conjunction with a chemical spermicide. The natural contents of the vagina should not be thus intruded upon. The general effect on the system, particularly of cold douching, is a tendency to catarrh, congestion and other troubles. Frequent douching has also a tendency to destroy the natural secretions and also the normal bacterial inhabitants of the vagina which are of value. The normal definitely acid vaginal secretion is extremely valuable; it has a protective influence over the uterus by virtue of the fact that it is inimical to the existence of the majority of the septic and pathogenic organisms that are so prone to attack the vagina and other membranes. Douching tends further to reduce the sensitiveness of the vagina and, therefore, to

diminish its capacity to play its normal part in the act of coitus

In certain exceptional circumstances, however, such as the displacement of a pessary or the tearing of a rubber sheath or the necessity for the removal of the pessary within 8 hours of sexual intercourse on account of the unexpected advent of a monthly period etc.,—where one has to accept the lesser evil to avoid the greater one—a douche should be taken with one pint of fluid before and one pint after removing the pessary. The advantage of preferring ordinary clean warm water for douches, which are necessary under the circumstances mentioned above, is that this is less likely than a medicated solution to destroy the bacteria on which the health of the vagina largely depends. If, however, spermicides have to be used, a teaspoonful of lactic acid or half a teaspoonful of alum or a tablespoonful of common salt or one or

two tablespoonfuls of lemon juice to a quart of warm water in each case, should be used. *It must be clearly known that a douche is of little value as a contraceptive if used alone.* In the race between the fluid and the sperm, the latter, having the start, and being on occasions favoured with special circumstances such as the closing of the mouth of the womb after its direct admission into it, is much more likely to be the winner.

" Safe period " quite unsafe.

There is a general belief that a woman cannot conceive on certain days of her menstrual cycle and, sexual intercourse being considered to be safe during this time, this period has come to be known as the " safe period ". There is, in the first place, a difference of opinion among the advocates of this theory as to what days exactly constitute this period, some writers

offering you one set of days, while others offer you another. Those who know that ovulation—which means the ripened ovum being sucked into the Fallopian tube and thence travelling onwards in its usual course—takes place in the intermenstrual period at a time *that probably varies in different women*, won't be surprised at this divergence in views. The exponents of the "safe period" method, however, assume that ovulation takes place at a time that is similar in all women and hence they are naturally led to wrong conclusions. The period intervening between the eighteenth day from the commencement of the menses and the twentieth day is often regarded as such a period.

This theory is now an exploded one. Though in every woman's menstrual cycle there are days of heightened and days of diminished fertility, *there is no period of complete infertility*. The chances of

impregnation vary in different stages of the monthly cycle, but *they are never wholly absent*. The belief in this theory has misled many persons.

There is, moreover, one very serious objection against the method of restricting sexual intercourse to the so-called "safe period" Women generally have their sexual desires on the ebb in this period, the sexual urge in their case being greatest during the very days in which, according to the exponents of this theory, all erotic desires must be eschewed from the mind. In other words, it is advised that those women who would utilize this "safe period" as a means of birth-control, should have sexual intercourse when they do not want it and must shun it when they do!

Withdrawal.

Coitus interruptus or withdrawal is incomplete sexual intercourse wherein the male withdraws himself from the female

just before he feels that semen is to be emitted, under the belief that he will thereby avoid depositing any sperm in the vagina and would thus be able to prevent conception. As this method involves neither any preparation nor any expense, it is widely practised and is one of the oldest known methods of contraception. It is, however, an utterly futile one because it is, in the first place, extremely difficult so to time the withdrawal as to avoid depositing even a particle of semen in the vagina—each cubic centimetre of semen containing some five hundred million spermatozoa—and, in the second place, even the pre-ejaculatory secretion of the urethra may contain small numbers of spermatozoa, only one of which is sufficient for impregnation. Successful withdrawal at the very critical time, moreover, is a task possible in the case of exceptional men only. The mental strain involved, in addition, is so great that some of

the worst cases of nervous breakdown are found amongst those who have practised this method, which thus must at once be dismissed as unreliable, unæsthetic, physiologically unsound and disruptive of marital health and happiness.

Stems, studs etc.

All stems, studs, wishbones, whether made of gold or even more precious materials—articles meant for *insertion into* the cervix—are dangerous. By keeping the mouth of the womb always open they facilitate the entrance of harmful bacteria into the uterine cavity. They are really meant for bringing about *abortion* and hence they cannot be classed with methods of *birth-control*. Their use has occasioned several dire maladies and at times even death and hence some authorities go to the length of recommending that it should be

made a criminal offence to sell or use such articles for contraceptive purposes.

Some misconceptions.

The belief, that a woman can postpone pregnancy by continuing to suckle her child, is also not founded on fact. Conception can and does occur in lactating women and may do so even before the menstrual periods have been resumed, some women becoming pregnant even in the very first month after delivery. Conception can also occur in women who have never had an orgasm and hence the deliberate prevention of her orgasm by a woman for the sake of avoiding impregnation is also altogether futile.

Conclusion.

In conclusion, the reader is requested to remember that barring the surgical operations of Vasectomy and Salpingectomy,

meant only for those in whose cases an absolute and permanent sterility has to be ensured, the best available contraceptive for the majority, that has already stood sufficient trial, is the combined use of a rubber pessary and a lactic acid jelly. It is expected, however, that in the very near future, the method of using a rubber sponge dipped in cold water alone, will be accepted by scientists as a remedy even better than the one mentioned above.
