

Review on Oral Contraceptive Drugs

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Date of Submission: 06-09-2020

Date of Acceptance: 29-09-2020

ABSTRACT: oral contraceptives are the type of drug used to prevent pregnancy containing hormones like estrogen and progesterone. there are two methods to use oral contraceptives three are combined pill and progesterone only, there are some other use of oral contraceptives such as acne, Adolescents, Epilepsy, Family History of venous thromboembolism (VTE). There is a new pill which is taken once a month in place the common pill which have to be taken every day at the same time every day. There is a formula for a missed pill in separate.in Conclusion: a woman is advised not to take the ocp's drug if she is pregnant, breastfeeding, diabetics.

KEYWORDS: placebo, Estrogen, Progestin

I. INTRODUCTION

The first oral contraceptive was submitted first for regulatory approval in 1957 as a medication for disorder in the menstrual cycle and cause infertility.

The oral contraceptive drugs haven't been submitted to FDA or approval specifically as an oral contraceptive until 1960. In 1960 and 1961 the first oral contraceptive drugs were marketed in the United States of America, the drug contains more than 2 to 5 times as much estrogen and 5 to 10 time more progestin as the oral contraceptive drug we are using nowadays. These oral pills have been more reliable contraceptive methods for many millions of women worldwide. They were given as a combination of estrogen and progestin containing 21 tablets consecutive 7 days. This 7 days' placebo was meant for blood discharge happening during that time.

Using this drug formulation is highly linked to increased risk of diseases such as pulmonary embolism, ischemic stroke, and myocardial infarction in any disease-free adult women. This oral contraceptive drug was starting to not be used in high doses during the 1960s-1970s due to the increased risk of disease they could cause, because reducing the dose of this drug did not

reduce its effectiveness they are believed that blood clot has been reduced due to estrogen.

Nowadays the oral contraceptive drugs on the market contain about 20µg to 50µg ranging Ethinylestradiol or by other name mestranol. There are over 90 brand name drugs are available on the market as the 2007 research done in the United States of America.

Depending on the administering way the oral contraceptive drugs are classified into three

Monophasic:- a fixed amount of estrogen and progestin in each tablet.

Biphasic/Triphasic:- a varying amount of the two hormones according to the stage of the cycle.

ED (every day):- include the 7-day placebo tablets.

II. DEFINITION:

Oral contraceptive drugs are a type of drug taken by mouth to control childbirth. There are two main things of pills "Active pills" which refer to the one containing hormone and are physically therapeutic. Whereas the second one "Inactive or Placebo" refer to the one without hormone and are not physically therapeutic. The main purpose of the placebo is for the women to stay on her schedule. Taking the inactive pills does not stop a woman from having her period. Taking the active pill will result in the cease of menstruation, and when the woman wants to conceive she can put a stop to the pill and she may start ovulating again within two weeks after stopping the pill. As soon as ovulation occurs she can get pregnant. All pill packs had 21 days of an active pill and 7 days of inactive pill which in sum equals 28 days forming the monthly menstrual cycle.

The pill has hormones for preventing the women get pregnant and some of the pills contain more estrogen in them than the other. The one thing to be noticed is the more estrogen absorbed the more side effects will there be such as nausea, headache, breast tenderness, and rare but potential fatal blood clots. During the time the pill was first introduced in the 1960's it has about 150µg of

estrogen and the side effects were common and it was taken from the market. And these days it contains about 50µg with fewer side effects. There are two options for the pill dose. [4]

1. Low-dose pill option

This pill has 35 µg or less of estrogen, they are generally called "low dose". They are both safe and effective for most women.

Some examples of low dose pills are: -

- a. Drospirenone and Ethinylestradiol (Yasmin)
- b. Levonorgestrel and Ethinylestradiol (levora)
- c. Norgestrel and Ethinylestradiol(lo/ovral-28),
- d. Norgestimate and Ethinylestradiol (ortho – tri-cyclenlo).
- e. Norethindrone and Ethinylestradiol(estrostep or ortho-novum).

estrogen type used here are just two types they are Ethinylestradiol or estradiol.

2. Ultra-low dose pill choice

The pill has 20µg of estrogen or less, some of the examples are

- a. Norethindrone and ethinylestradiol (Loestrin Fe).
- b. Levonorgestrel and Ethinylestradiol (Alesse).
- c. Drospirenone and Ethinylestradiol and Ethinylestradiol (mircette) Drospirenone and Ethinylestradiol (Yaz).

Classification

The oral contraceptive pill has been through many incarnations since the first time production in the 1960's this incarnation is referred to as "generation". There are 4 generations of oral contraceptives which are the 1st, 2nd, 3rd, 4th generation, the main difference between them is the type of progesterone that is used in making the pill.

First-generation pill

They had a higher concentration of both estrogen and progestin. There are different artificial progesterone's found in the first generation pills which include norethindrone, lynesterol, norethynodrel, ethynodiol diacetate.

This generation is linked with many side effects due to the high concentrations. They are off the market these days.

Second generation pill

They come into use in the 1970s, they have a much lower amount of hormones. progestin such as levonorgestrel and norethisterone are present. Some of the drugs are still on the market such as Logynon, Microgynon, and Loestrin.

Third generation pill

They come into use in the 1980s, they use progestins such as norgestimate, desogestrel, and gestodene and cyproterone acetate. Some of the drugs are still on use example, Cilest and Marvelon.

Fourth-generation pill

This pill is the most recent generation of combined pills that contain progestin such as norgestimate acetate or dienogest, drospirenone.

The fourth-generation pills include Yasmin (ethinylestradiol and drospirenone), zoely (estradiol hemihydrate and mnomegestrol acetate), and olaira (estradiolvalerate and dienogest).

The various kinds of oral contraceptive drugs are

Female contraceptive pill: - there are 2 types of female oral contraceptive drug available:

This combined oral contraceptive pill contains progesterone and estrogen and is taken once a day.

The other kind of pill which is the progestin-only pill contains only progesterone and it is taken once a day.

Ormeloxifene which is also known as centchroman is a selective estrogen receptor modulator that is taken twice a week. Mifepristone is an antiprogestone drug that is taken daily.

Male contraceptive pill: - the male contraceptive pills are no longer marketed, it is chemically known as 11-beta-methyl-19-noresterone dodecylcarbonate (11-beta-MNTDC), it is a drug which shows the combined action of androgen and progesterone.

Impact of using oral contraceptive pills

Research nowadays on the relation between oral contraceptives and the risk of cancer is coming from studies like population-based case-control studies and prospective cohort studies. Data from the observational cohort studies can't form that taking the pills can prevent or cause cancer.

These studies have provided some proof that some cancers such as breast cancer and cervical cancer are the major risk of the women on oral contraceptive pills, whereas cancer like endometrial cancer, ovarian cancer, and colorectal cancer is reduced by one-third of the women who are not on the drug.

Brest cancer

Research done on women who participated in epidemiologic studies shows that those women who use the oral contraceptive drug had a little increase of about 7% relative to the women who don't take them. Women who use the pills show a 24% increase in risk that didn't increase during the time of use. This risk will be reduced when it is stopped.

The 2010 nurse health study which followed about 116,000 female nurses who were aged between 24 and 43 showed females who used the oral contraceptive drug had a little increase in the risk of getting breast cancer, and the study also shows most of the women who showed the risk was taking the same kind of drug which was "triphase pill" which its dose administration was changed in 3 states for women menstrual cycle.

Cervical cancer

Women who are using oral contraceptives for more than 5 years are at higher risk of cervical cancer than the women who are not using. The longer the uses the oral contraceptive are at greater risk of cervical risk. A study done on it show 10% increased risks for less than 5 years of use. 60% of risk using the drug for five to nine years of use, and it doubles the risk within 10 years use.

Endometrial cancer

Women who use oral contraceptive pills are a lower risk of getting endometrial cancer than those who are not. The formulation contains a higher content of estrogen which reduces the risk. The longer the women used the pill the greater the risk reduction which can be determined by percent as 30%. This continues even after the medication is stopped for many years.

Ovarian cancer

Women who use the oral contraceptive pill are at a lower risk of getting ovarian cancer than those who are not. The risk is reduced at least by half for those in use that those who are not. The protection of the pill is greater as the length of the use is longer and the protection continues for about 30 years after the medication is stopped. This phenomenon mostly helps the women with a family history of ovarian cancer and women with a mutation in the BRCA1 or BRCA2 gene. The contraceptive pill suppresses ovulation. [8]

Colorectal cancer

Women who use oral contraceptive drugs are at lower risk of colorectal cancer than those who don't.

Non contraceptive use of oral contraceptive

Acne: -

Acne occurs when there is an extra amount of androgen is present in the body, oral contraceptive pills tend to reduce the androgen level. The mechanism depends on the hormonal combination in the pills. A study which is done by American Family Physician shows about 83% of the women who are taking the combination of norgestimate and Ethinylestradiol.

Brest pain

The oral contraceptive help alleviate what's known "cyclic breast pain" this pain comes with the menstrual cycle.

Dysmenorrhea

The pills are not approved by the FDA but women taking the pill rarely experience menstrual cramps.

Endometriosis

Endometriosis is when painful periods lead to fertility issues, this can be reduced by taking the combination pill of estrogen and progesterone oral contraceptive pill.

Functional ovarian cyst

They are a very common type of cyst and they usually dissolve within two menstrual cycles without treatment. the oral contraceptive pills are used to reduce this type of cyst by preventing ovulation.

Iron deficiency anaemia

Taking oral contraceptive drugs to decrease the risk of bleeding too much during menstruation, its mechanism is preventing ovulation and thinning the lining of the uterus. Iron deficiency anaemia occurs due to heavy bleeding and this can be prevented by taking the pill.

PMS (premenstrual syndrome) and PMDDS (premenstrual dysphoric disorder)

This is the symptoms women tend to show when they are about to have their period such as mood swings, cramps, breast soreness, bloating, acne, and taking the pill will ease the symptoms by leveling out the hormones during the monthly cycle.

Polycystic ovarian syndrome (PCOS)

Its common name is hirsutism, this occurs when there is a hormonal imbalance in girls and young adults and there is excessive production of testosterone. It causes unwanted hair growth, and irregular menstruation, and acne. These symptoms are low in women on the medication.

Metrorrhagia

When a women experience abnormal bleeding from the uterus they can control their period with oral contraceptive if any medical diagnosis could not find the abnormal bleeding.

Mittelschmerz

It is a one-sided lower abdominal pain related to ovulation, this can be blocked by the use of oral contraceptive drugs.

This contraceptive method drugs are mostly referred "the pill", they are the combination of estrogen and progesterone they are taken by mouth and used to prevent pregnancy.

Formulation

There are different varieties of formulation of an oral contraceptive drug, they are mainly formulated as the combined pill of estrogen and progesterone and the progestin-only pill. The combined contraceptive is found forms by differing in the dose of estrogen and the dose of estrogen and progesterone change within one to four weeks.

Extendedcycle oral contraceptives:

Oral contraceptives are given in a cyclic manner that contains 21 days of active pills and 7 days of inactive pills which are called "placebo". There are four types of extended-cycle oral contraceptive regimens.

84/7 regimen: -this regimen is formulated in a way it can deliver 84 days of estrogen and progestin followed 7 days of placebo. Currently, a product that is approved by the FDA for 84/7 regimen is

Seasonale: 30mcgEE +0.15mg levonorgestrol

Jolessa: 30mcgEE + 0.15mg levonorgestrol

Quasense: 30mcgEE + 0.15mg levonorgestrol

Seasonique: 84 tablets containing 30mcgEE + 0.15mg levonorgestrol, then 7 tablet containing 10mcgE2

24/4 regimen:this regimen is formulated in a way that it can deliver 24 days of estrogen and progestin and followed by 4 days of placebo. Currently products that are approved by the FDA for 24/4 regimen is

Yaz: 20 mcgEE + 3 mg drospirenone

Loestrin 24: 24 tablets containing 20 mcgEE + 1 mg norethindrone acetate, then 4 tablet containing 75mg ferrous fumarate

21/2/5 regimen: this regimen is formulated in a way that it can deliver 21 days of a tablet followed by 3 days of placebo and 5 days of a tablet, currently products that are approved by FDA for the 21/3/5 regimen is

Mircette: 21 tablets containing 20mcgEE + 0.15 mg desogestrel then 2 placebo tablets then 5 tablet containing 10mcgEE.

Kariva: 21 tablet containing 20 20mcgEE + 0.15 mg desogestrel, then 2 placebo tablets then 5 tablets containing 10mcg EE.

Continuous regimen: they are the combined oral contraceptive pill that decreases or eliminates bleeding period, this works by decreasing the placebo days.

Lybrel: 365 tablets containing 20 mcgEE + 0.09 mg levonorgestrel. [9]

Mechanism

The combined oral contraceptive pill was formulated for the prevention of ovulation by suppressing gonadotropin release, combined contraceptive pills inhibit the follicular development and prevent ovulation.

The negative feedback progestin tends to decrease the frequency pulse of gonadotropin-releasing hormone (GnRH) which is released by the hypothalamus, it decreases the release of follicle-stimulating hormone(FSH) and luteinizing hormone (LH) by the anterior pituitary. when the level of FSH decrease inhibition of follicular development, it prevents the increase in the level of estradiol. The lack of positive feedback of estrogen and the negative feedback of progesterone and on LH release prevent a mid-cycle LH surge. Prevention of ovulation can be done by inhibiting the follicular development and by the absence of luteinizing hormone surge. The negative feedback of estrogen on the anterior pituitary reduces the release of FSH in a great amount, which inhibits the development of the follicle and helps prevent ovulation.

The other way of the mechanism of action of all contraceptives containing progestin is by the inhibition of penetration of sperm through the cervix into the upper genital tract by reducing the level and increasing the viscosity of cervical mucus.

Effectiveness

There are two ways we can assess the effectiveness of oral contraceptive pills (COCPs). Perfect use and Actual use. Perfect use or in other name method effectiveness include only the people who are taking the pills correctly and consistently, whereas the Actual use in another name typical use effectiveness rates are of all COCP users, which include the people who do not take the pill correctly or consistently.

The main reason that makes the pills not work correctly is not taking them every day and forget to take them, and other things like diarrhoea, vomiting more than 48 hrs. Lower the capability of the pill to prevent pregnancy.

Some other medications that can reduce the pills activity are

- The rifampin antibiotic drug: other antibiotic doesn't make the pill less effective
- Some HIV medication
- The griseofulvin antifungal drug: other antifungal doesn't make the pill less effective
- Some anti-seizure medication: some drugs which can be used to treat psychiatric disorder like bipolar disorder)
- The herb St. John's worts.

If a person is taking these pills one should use a condom as a backup. Or switch to some other contraceptive methods. How long the pills be effective depends on when the women start taking then and the type of pill it is.

Combination pills

If the women start taking the pills within 5 days after the first day of the period, there is no chance of pregnancy. For example, if the period starts on Monday morning, the pill can be started anytime until Saturday morning and be protected from getting pregnant on the same day.

If she starts taking the pills any other time, she needs to take the pill for 7 days before and she would be protected from pregnancy. It is better to use some other type of protection if there will be any sexual contact during the first week on the pill. [6]

Progestin-only pills (mini-pills)

The progestin-only pill can be started to be used any day of the month. The protection starts after 48 hrs. So for protection in the first 48 hrs. It is better to use some other kind of protection.

One of the major factors that affect the effectiveness of the pill is obesity. Obesity alters

how these hormonal contraceptive pills are absorbed, distributed, metabolized, and eliminated. the best-acting contraceptive that works on obese women is the long-acting reversible contraceptives. [5]

Choice of pill

A young woman without any health or skin problem it is probably not a situation if it is a low dose oral contraceptive is prescribed or not. The presence of ill conditions like acne, hirsutism, epilepsy, and cost affect the choice. Using a triphasic formulated medication has no benefits and it may increase the premenstrual symptoms such as breast tenderness, and dysmenorrhea. Women who develop bleeding on low dose monophasic pills, a triphasic pill may improve cycle control.

For those with special health care and skin problem the choice made has to be:

Adolescents

Once an adolescent has begun menstruating COCs can be prescribed. The pills prescribed has to be a monophasic formulation because they are simpler to use. It is reasonable to prescribe a pill that provides effective cycle control. Teenagers are more intolerant of breakthrough bleeding than older women and stop taking the pill this occurs. in a clinical method, cycle control is better with norethisterone, which has a beneficial effect on acne but it may increase the incidence of the absence of withdrawal bleeding. [2]

Epilepsy

All the older anticonvulsant drugs induce enzyme in the liver that could increase the rate of metabolism of ethinylestradiol except valproate sodium and clonazepam. A woman using medication that can induce enzyme should use 50 µg estrogen pills. If bleeding develops in the second cycle, a double dose of 35µg combined pill or combination of a 30µg and 50µg COC can be used. [2]

Acne

Acne can be improved when any combined pill but, in the number of women we can see acne getting worse using a levonorgestrel formulation. Instead using a desogestrel, cyproterone acetate or gestodone formulation improve the condition. If women could not afford the new pill a formulation with 500 µg norethisterone, which is less potent a less

androgenic than levonorgestrel, usually results in an improvement in acne. Using tetracycline for reducing acne does not decrease the effectiveness of the pill, for women with hirsutism, cyproterone acetate is the most suitable as this progesterone bind to androgen receptor blocking the action of testosterone, which is the cause of hirsutism. [2]

Family History of venous thromboembolism (VTE)

Women who had no risk for VTE can use any combined pill prescribed containing 35µg or less of ethinylestradiol. Whereas women with a history of VTE can use progestogen-only methods or any other alternative method of contraceptive. If the women are non-smoking aged over 40 years and carry an increased risk of VTE and if they are obese, a 20µg ethinylestradiol /100µg levonorgestrel combination of the drug must be prescribed. In case of side effects, a higher levonorgestrel combination or using the third generation progestogen is given. [2]

Women over the age of 35 years

If the women are non-smokers they can use a low dose COC until menopause. If she continues to use oral contraceptives until she reaches the menopause, she gains a considerable amount of benefits, as women enter their 40's they often develop a bleeding problem due to fibroids, adenomyosis, or dysfunctional uterine bleeding. The COCs give an effective method for controlling bleeding problem until menopause. They also control hot flushes and other symptoms of premenopausal, because it is hard to fit hormone replacement therapy (HRT) to a woman naturally occurring cycle. [2]

The best time to start COCs

The COCs should be started when we are sure that women are not pregnant. They are preferable to be taken every day at the same time starting from the first day of the period. Starting the pill during the first 7 period days reduces the possibility if starting them while she is pregnant.

Benefits of COCs

- Menstrual pain relief: cramps.
- Acne improvement.
- Decreased anaemia.
- Protection against ovarian, colorectal, and endometrial cancer.
- Decrease the possibility of ovarian cyst.
- Reduction of menstrual volume.

- No period and lighter every 4 months.
- Decrease cyclic migraines.
- Decrease or no PMS, depression, and anxiety.
- Reduce fibrocystic breast disease.
- Less likely to develop the pelvic inflammatory disease (PID).
- A decrease in menstrual exacerbation of seizure disorders, asthma, porphyria.

Side effects of COCs

- Nausea
- Breast tenderness: enlargement
- Headache
- Missed period: amenorrhea
- Unscheduled spotting or breakthrough bleeding
- Weight gain
- Mood change
- Decrease sex drive
- Change on vaginal discharge
- Contact lens wearer

Other side effects

- Pregnancy: may result in miscarriage, a birth defect.
- High blood pressure
- Liver tumour
- Breast cancer risk
- Cervical cancer risk
- Yasmin, Yaz, Ocella users: it may cause elevated potassium in women who take blood pressure drugs such as; Advil, Motrin, ibuprofen, naproxen, and other NSAIDs daily.
- Coagulation: increase the risk of deep venous thrombosis (DVT) and pulmonary embolism (PE), heart attack, and stroke. [1]

Drug interaction:

Most drug interactions reducing the action of the oral contraceptive drugs are due to concomitant use of drugs having microsomal enzyme-inducing activity e.g. some antibiotics: rifampicin, anticonvulsant including phenobarbital, phenytoin, primidone and some other antibiotic such as tetracycline may also interact by interruption of enterohepatic circulation of contraceptive steroids.

The drugs that decrease the effectiveness of COC's: Topamax, Lamictal, Trileptal, phenobarbital, Dilantin, St. John wort, Provigil, ethosuximide, griseofulvin. Some drugs like rifampicin, barbiturate, phenytoin, and carbamazepine reduce the pill and cause breakthrough bleeding or an increased chance of pregnancy.

For a broad-spectrum antibiotic, such as ampicillin and doxycycline, these drugs cause problems "by impairing the bacterial flora responsible for recycling ethinylestradiol from the large bowel".

Drugs whose effects may be changed by taking COC's:

There is some drug that women take for any medical problem along with it taking the COC's contraceptive, she should talk with a doctor if there are some things that need to change. Some of the drugs include:

Drug for seizure or bipolar disorder e.g. lamotrigine- Lamictal

- Antidiabetic drugs
- Anxiolytic drugs
- Antidepressant drugs
- Drugs for immune suppression
- Antihypertensive
- Drugs for a blood clotting disorder
- The effect of caffeine and alcohol may be enhanced in women taking the COC's

Some other contraindication to COCs use

- Malabsorption syndrome.
- Uncontrolled hypertension.
- Women >35 years smoking >15 cigarettes per day.
- Focal migraine. Severe liver disease.
- Complicated vascular heart disease.
- Diabetes with a circulatory problem.
- Prolonged immobilization.
- History of thrombosis.
- Breast cancer.

Progesterone only pill (mini pill)

Those women who are not capable of taking the estrogen pill or do not want to take it this progestin-only pill is taken as an alternative. It has relatively fewer contraindication than the estrogen pill, some of the contraindications are malabsorption syndrome, undiagnosed vaginal bleeding, and previous ectopic pregnancy.

Classification of progestin's

Progestins:

1. C-21 progestins:
 - Pregnanes: medroxyprogesterone acetate
 - Megestrol acetate
 - Cyproterone acetate
2. 19-nor testosterone:
 - Estrane:
 - Norethindrone
 - Norethindrone acetate
 - Lynesrenol
 - Norethynodrel

- Gonanes:
 - Norgestrel
 - Levoborgestrel
 - Norgestimate
 - Desogestrel
 - Gestoden
- 3. Sprinolactone :
 - Drosprinone

Pharmacologic effects of a progestin as a contraceptive

They inhibit ovulation by suppressing functions of the hypothalamic-pituitary-ovarian axis, thickens cervical mucus, and interferes with implantation, lower the mid-cycle luteinizing hormone, and follicle-stimulating hormone peaks, alter endometrium.

Women who have a contraindication with the estrogen component of combined contraceptive pill are the candidate for this pill. The dose of progestin in them is not at high risk for venous thrombosis and cardiovascular disease, therefore they are considered safe for women with a history of the thrombotic disease and any other cardiac problems.

With Correct use of progestin-only pills, 5% of women experience unintended pregnancy during the first use, the correct use of the drug is more important for the efficacy of the drug because plasma level falls to baseline level after 24 hrs. Of ingestion. If the dose is 3 hrs. Late a backup contraception should be used for 48 hrs. For preventing unintended pregnancy. [5]

Side effects of progestin-only pill

- Menstrual changes: unscheduled bleeding. Spotting and amenorrhea
- Follicular cyst: ovarian cyst is common to the user as sonographic studies show, most cyst shows little or no symptoms and resolve without treatment.
- Acne: drospirenone has a progestin which is better for acne
- Weight gain
- Headache
- Ectopic pregnancy risk

Emergency pill

They are also called "the morning after pill" is a safe and effective pill that is taken after unprotected sex, contraceptive failure, or sexual assault. It is given as soon as possible within 120 hrs. Of intercourse. They are only meant for

emergency use and they are not an effective method of birth control for routine use.

Three emergency contraceptive methods are safe, simple, and widely available.

Progestin-only emergency contraceptives

They are called "plan BTM". They were approved by the FDA in 1999, consisting of 2 Tablets of levonorgestrel 0.75mg. One tablet is taken within 72 hrs. Of intercourse and the other after 12 hrs. Of the first dose. Alternatively, both tablets can be taken at the same time. They can be used after 120 hrs. If intercourse but the efficacy decrease.

New contraceptive pill

The new birth control pills provide contraception for a month. Taking the pill once a month is more convenient than taking pills day by day. New research done on pigs introduces a monthly taken pill that can prevent pregnancy.

Taking contraceptive pills every day preferably at the same time is difficult to maintain consistency, now a study appearing in science translational medicine provides a new alternative, a pill that needs to be taken once a month. The drug releases common contraceptive drug levonorgestrel gradually for 4 weeks. [7].

Missed pill recommendation.

If one pill is missed for less than 24 hrs.

- Take the pill as soon as possible.
- Take the pill at the usual time.
- No emergency pill needed.
- No backup contraceptive method is needed.

If the pill is missed for more than 48 hrs.

- Take the pill as soon as possible.
- Take the pill at the usual time.
- Emergency pill is necessary.
- A backup contraception is needed. [3]

Packaging of oral contraceptives

Most brands of combined pills are packed in 1 or 2 packet sizes with marked day for a 28-day cycle. The 21 pill packet is taken for 21 days straight and one week without the pill and the 28 days' pill is taken as 21 days of the pill and 7 days of placebo.

Storage

Should be stored in dry and cool place and do not need to be kept in refrigerator, they should be stored properly away from reach of children.

Cost

The traditional contraceptive pills are cheaper than the newer one and have generic alternatives.

Dropindrospirenone and ethinylestradiol- 30 tablets, tablet packaging type: box: Rs3730 Janani levonorgestrel Aspara tablets: Rs 10

28 days' supply ethinylestradiol 20µg, drospirenone 3mg, or ethinylestradiol 20µg- norethindrone 1mg :55 dollar

III. CONCLUSION

For a woman who is healthy and free of any cardiovascular problems, using combined oral contraceptive pills is at lower risk and the net benefit of the pills in these women is great, especially for ovarian cancer risk and its effectiveness in preventing pregnancy.

The pill should not be discontinued immediately in any women with the symptoms of stroke, myocardial infarction. Or venous thrombosis. The users should be regularly screened for cervical neoplasia but not more frequently than nonusers.

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