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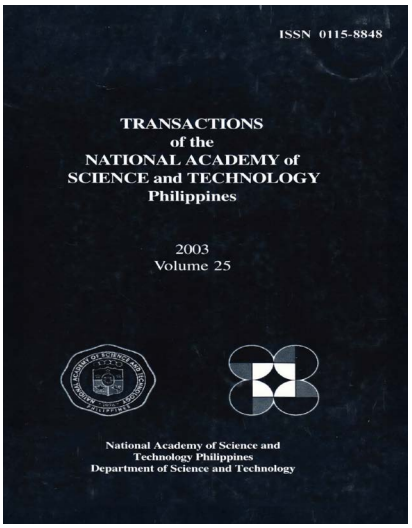

Hormonal Contraception: An Approach to the Demographic Crisis in the Philippines

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HORMONAL CONTRACEPTION: AN APPROACH TO THE DEMOGRAPHIC CRISIS IN THE PHILIPPINES

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Abstract

This paper aimed to analyze the acceptance of hormonal contraceptives and the performance of women-users in the Philippines. It further discusses the development of the hormonal contraceptives, the recent evidences about health benefits and risks and issues in oral contraceptive uses, and new drugs and their benefits. The hormonal contraceptive methods in the form of oral contraceptive pill and injectables enjoy the first choice of Filipino women who use contraceptive methods. Discontinuation rates are due to side-effects and health concerns. The method failure for such methods is 5.4% on the first year. The prospect of immediate future use is higher than with other methods. The paper makes some recommendations on hormonal contraceptives for individuals and institutions.

Key words: hormonal contraceptives, injectables, reproductive control methods

Introduction

The idea of control of conception with a pill this dates back to the 1920s. However, it was nearly half a century ago (forty seven years) when the idea became a reality after more than a decade of research. The oral contraceptive (OC) pill was introduced commercially for women's use in 1959. Today, more than a hundred million users the world over are benefiting from the effectiveness of the OC pill which has been improved through the years. In the Philippines, the oral contraceptive pill was the top choice of married women in the

active reproductive age (15.3%) according to the latest (2002) Family Planning Survey.

As a historical note, we first conducted at the PGH Family Planning Clinic in 1966 the clinical trial of the first relatively low-dose combined pill then, marketed as Femenal, containing norgestrel acetate 1 mg and ethinyl estradiol 50 mcg. The results of this trial were presented in the first international convention of Obstetrics and Gynecology held here in 1967 and subsequently published (Apelo and Negre-Pareja, 1968).

Indeed, as Dicsfaluzy summarized, "The widespread adoption of contraception fundamentally changed the approach to reproductive health, the use of family planning, the timing of planned births, and the concept of gender equity" (Dicsfalusy, 1997).

This paper aims (1) to analyze the acceptance of hormonal contraceptives and the performance of women-users in the Philippines; (2) to discuss the development of the hormonal contraceptives; (3) to discuss recent evidence about health benefits and risks and issues in oral contraceptive use; (4) to discuss new benefits and new drugs and (5) to discuss hormonal contraceptive for the male.

Hormonal Contraceptives

Development

The development of hormonal contraception can be divided into four phases:

First phase — reduction of the dose of estrogen (17-alpha ethinylestradiol)

The first oral contraceptive (OC) that was approved by US FDA in 1959 and introduced in the market in 1960 was Enovid which contained 10 times the progestin and 4 times the estrogen content of today's pills. In five years, OC became the leading contraceptive in the US and became available in another two years in other countries particularly the developing world. Eighty per cent of women in the US born since 1945 have used the pill. In the other countries, this is one of the leading contraceptives except in Japan, China and India where its use is just starting to gain ground.

Hormonal (steroid) contraception is available in two forms which are synthetic derivatives of the native hormones secreted by the ovaries (progesterone and estrogen): progestogen-only and progestogen in combination with estrogen. They suppress ovulation by a feedback mechanism to the hypothalamopituitary axis which is responsible for the suppression of gonadotrophin stimulating hormones. The progestogens (-ins) are the gonanes, estranes and pregnanes. The estrogens were ethinyl estradiol and mestranol. Both types are administered through a variety of routes offering different dose regimens and durations of action. Currently, combined hormonal contraception is only available as an oral or injectable preparation using the ethinyl estradiol as the estro-

gen component.

With the "boom" of the pill followed the "bust" of "pill scares." As early as the mid 1970s, evidence that combined OCs increased the risk of thromboembolism, heart attack, and stroke appeared. The studies involved OCs containing 50 micrograms or more of estrogen with a progestin. Except for thromboembolism, the increased risks among OC users were concentrated in older women who smoked or had other risk factors such as high blood pressure. To reduce the risk of circulatory system disease, the second- and third- generation OCs now contain **less estrogen.**

Second phase — the introduction of new progestins

All other pills containing less than 50 micrograms of estrogen are considered second generation except those containing progestins (cyproterone acetate or norgestimate), which are difficult to categorize. The reduction of the dose of estrogen was followed by reduction in the doses of the progestins as well. Different progestins of varying potencies were used in the second generation of Ocs. Third generation OCs contain an estrogen dose less than 50 micrograms and either of two newer progestins, gestodene or desogestrel. A new progestin-like agent (drospirenone) has recently been introduced. Other pharmacologic agents are now being developed and studied.

Third phase— was the introduction of new delivery systems such as the intrauterine levonorgestrel-delivery system, vaginal rings, transdermal patches, gels.

Progestogen-only gels, vaginal rings, transdermal patches are being developed and marketed as well in other countries. Low-dose progestogen-only contraception is available not only as oral but implantable or intrauterine formulations while high-dose contraception is given by intramuscular injection.

Fourth phase — development of newer estrogens (replacing EE)

Since Inhoffen and Hohlweg first synthesized and characterized Ethinyl estradiol, a compound noted for its stability and high estrogenicity, has been the first choice in OC. Newer estrogen preparations are being studied that have the potential of overcoming liver barrier without altering important liver functions similar to transdermal absorption, estrogen sulphamates. New progestins are likewise in different stages of development such as nestorone, dienogest, drospirenone, the mesoprogestins, steroidal and non-steroidal selective progesterone receptor modulators (SPRMs).

Despite the variety of routes of administration for progestogen-only methods, the combined OC pill is more widely used because of better menstrual cycle control. Progestogen-only will be the choice for women with pre-existing medical disorders such as hypertension, those with higher than average risk of venous

thromboembolism, or focal migraine, wherein the combined hormonal contraception is contraindicated.

Components of the Oral Contraceptives

The progestogens are synthetic agents which act like progesterone. As used in oral contraceptives they are classified into the estranes, gonanes, pregnanes. The estranes include norethindrone, norethindrone acetate, **norethynodrel**, ethynodiol diacetate, and lynestrenol. The pregnanes include the 17- hydroxy progesterone or medroxyprogesterone acetate while the gonanes are composed of levonorgestrel, desogestrel, norgestimate and gestodene. Recently drospirenone, a progestogen-like preparation was introduced. Drospirenone is a progestin-like drug not derived from testosterone but 17 alpha-spironolactone and is an antimineralocorticoid and antiandrogenic with progestogenic activity.

The estrogens used in combined oral contraceptives are ethinylestradiol and mestranol, the latter of which is less potent, now less currently used in recent formulations. A variety of combinations of progestogen and estrogen are employed: monophasic, triphasic/multiphasic, sequential, estrophasic. The monophasic pills contain the same amount of estrogen and progestogen throughout the cycle while the multiphasic contain varying proportions of the component agents at different phases of the cycle intended to reduce metabolic effects without reducing the contraceptive efficacy.

Mechanisms of Action

The mechanisms of action of hormonal contraceptives include the following: (1) inhibition of ovulation by suppression of the FSH and LH; (2) thickening of the cervical mucus; (3) inhibition of sperm motility/sperm capacitation; and (4) stimulation of atrophic changes in the endometrium.

Fertility-related Benefits

As in all other modern contraceptive methods, the primary benefit of hormonal contraception is the prevention of unwanted pregnancies including ectopic pregnancies and their attendant risks of morbidity and mortality, which are averted with the use of contraceptive methods.

Effectiveness of the Hormonal Contraceptives

The newer lower-dose combined oral contraceptives containing less than 50 mcg of estrogen appear to be as effective as the older formulations containing 50 mcg of estrogen or more. They prevent ovulation in nearly all cycles.

In a study comparing 6 combined OCs containing 20-50 mcg of estrogen, no significant differences in effectiveness were shown (WHO, 1982). For the perfect users, only one in every 1000 women becomes pregnant in the first year of use. Among typical users, about 60-80 women in every 1000 will become pregnant during the first year of use.

The progestin-only pills are slightly less effective than combined pills except for breastfeeding women for whom they are as effective.

A recent review of 53 reports on contraceptive effectiveness concluded that an average of 7% of OC users are likely to become pregnant in the first three years of use, but the percentage varies depending on whether women take the pill correctly or not. For the conscientious and consistent users, 3.8% become pregnant within three years compared to women their opposite, 7.8% in three years.

Non-contraceptive Health Benefits

It has become apparent with the use of oral contraceptives that there are other health benefits of hormonal contraceptives aside from the menstrual benefits: (1) improvement of the menstrual pattern by more regular cycles; (2) reduction of blood loss (50-60%) because of lighter bleeding in 60-80% of users resulting in less iron-deficiency anemia; (3) less menstrual pelvic pain or dysmenorrhea; (4) less severe premenstrual symptoms; (5) protection of women from two cancers of the reproductive organs, namely: endometrial cancer (of the lining of the uterus) and epithelial ovarian cancer; (6) lower risks of loss of bone density, ovarian cysts, benign breast disease and colorectal cancer

In the UK and the US, studies suggest that these cancers are about half as common among users of the OCs compared to other women. Combined OCs help protect against these cancers by reducing the rate of cell division in the endometrial lining and in the ovaries, by a reduction of ovulatory events, and as recently suggested, by possibly increasing progestin-induced apoptosis or cell death in ovarian epithelium that have incurred genetic damage (Barnes; Berry et al 2002).

The Philippine Experience with Hormonal Contraception and NFP

The data of the 1998 NHDS show that hormonal contraceptives were the first choice of Filipino women-users of family planning methods. The method failure for the pill after first year of use was 5.4% compared to 13% for the previous 5 years and for injectables, 1.9% and 2.4% respectively (Table 2). Discontinuation rates due to side-effects and health concerns for the pill after the first year of use was 17.7% compared to 36.7% for the previous five years and for injectables, 31.8% and 59.4 respectively. As to problems with current method of contraception, with the pill, 85.9% were without problems while 12.1% had side-effects and 1.2% had other health concerns. Nevertheless, the first choice for future use was still the pill, 39% within the next 12 months and 44.2% after 12 months. Injectables came second at 12.2% with cal/rhythm at 11.9% within the next 12 months and 8.3% and 16%, respectively, after 12 months.

Table 1. Reasons for first-year discontinuation and five-years discontinuation prior to the survey of selected methods of contraception. Philippines, 1998.

Reasons	Pills		Injection		Calendar/Rhythm	
Method failure	5.4	13	1.9	2.4	18.4	50.7
Desire to become pregnant	4.5	17	2.2	5.9	4.9	19.4
Side-effects and health concerns	17.7	36.7	31.8	59.4	1.2	2.6
Husband disapproves		0.8		3.0		1.0
All other reasons	16.2	32.7	15.9	29.2	11.3	25.1
All reasons	43.8	99.4	51.8	96.9	35.9	97.8

Source: NDHS 1998

Table 2. Preferred methods for future use

Method	In 12 months	After 12 months	Total
Pill	39.0	44.2	40
Injection	12.2	8.3	11.7
Cal/Rhythm/Per.Abst.	11.9	16	12.8
Sterilization female	9.4	5.7	8.7
IUD	10.6	5.0	9.3

Source: NDHS 1998

It appears that although the first choice of the Filipino women-users of FP methods was the oral contraceptive pill and the injectable which together are hormonal contraceptives, the discontinuation rates both for the 5 years preceding the survey and after the first year of use were due to side-effects and health concerns. The majority (85.9%) had no current problems with their methods, however. The other favorable data for hormonal contraception is the plan for using the methods for the next year and beyond 12 months which for the pill is 39% and 44.2 %, respectively and for the injectables, 12.2% and 8.3 %, a total of over 51% for the first 12 months and another 52% for the next 12 months. **This augurs well for hormonal contraception.**

The usual side-effects of the oral contraceptives such as breakthrough bleeding, lighter and shorter menses, nausea or vomiting, fluid retention, breast tenderness, weight changes, bloating and amenorrhea, are usually resolved in the first few months by switching brands. The adverse effects, which have been published in world literature and of which we need to be updated, are actually not well documented in our country. Primarily because the reasons for discontinuation among our women-users appear to be related to side-effects and health concerns, our later discussion will focus on these and include an update on these concerns.

Medical Eligibility

Medical eligibility for COC use has changed during the past 40 years. In 1999, WHO after reviewing its family planning guidance initiated the creation of new evidence-based guidelines starting with Improving Access to Quality Care in Family Planning published in 2000. Two of the series of evidence-based cornerstones are the Medical Eligibility Criteria and The Selected Practice Recommendations for Contraceptive Use. Example of medical eligibility criteria as applied today is in Table 3.

Table 3. Changes in medical eligibility for use of Combined OC (WHO)

Condition	1961	2001
Age		
Fr menarche	3	1
> 40 y	3	1
Breastfeeding	4	2 or 3
Hypertension	4	1 or 2
Breast disease	2	1
Dyslipedemia	4	2 or 3

Health Risks of Oral Contraceptives

For the greater majority of women, modern oral contraceptives are safe for use. In countries with high maternal mortality rates as in the Philippines where 172 women die per 100,000 (MMR), the risks of pregnancy and childbearing especially are much higher than the health risks of OC use. Where the maternal mortality rates are low, the pill use is safer than childbearing except for older women who smoke or have hypertension. With the lower dose of OCs today, the risks of a number of medical conditions appear to be lower than in the past. Assessing the health risks of long-term OC use more accurately with new methodologies have been possible in recent large studies to better identify the groups most likely to experience them.

The major established health risks of OCs are certain circulatory system diseases, particularly heart attack, stroke and venous thromboembolism. A major finding in the last decade is tahe increased risk of heart attack in the older OC users with hypertension. For OC users who do not smoke and do not have high blood pressure, however, the low doses of today's pills appear to minimize the risks.

Other health risks include gallbladder disease in susceptible women, changes in carbohydrate metabolism and rare non-cancerous liver tumors.

There is no evidence of differential effect of third generation OC (containing desogestrel and gestodene) with reference to cancer risk, or any other side-effect of OC use.

Several issues remain unresolved for any quantitative risk-benefit evaluation of use of various types of OC, for neoplasms as well as vascular diseases (Skegg, 2000). It is difficult to recommend further modifications that may appear favorable on the risk of selected diseases where there are beneficial effects without the risk of incurring other side-effects and diseases.

Current Health Issues on Hormonal Contraceptive Use and Recommendations Based on Evidence

Use in the Young and Old

Theoretical concerns about use of OC among young adolescents have not been supported by scientific evidence. Linear bone growth is not affected after menstrual cycles have been established. The recommendation is no longer valid for women above 35 to undergo a risk benefit assessment by a physician while younger women below 35 years may use the OC any time. In the absence of adverse clinical conditions, COCs may be used until menopause.

Breastfeeding

The progestogen-only OC may be one of the few widely available methods for women during breastfeeding. COC use may diminish breast milk production and duration of lactation during the first 6 months postpartum although no impact on infant weight at one year has been demonstrated.

Hypertension

In 1961, women with hypertension were not given OCs only because of the small risk that their use might increase the blood pressure but today, users with hypertension are at increased risk of stroke and myocardial infarction compared to non-users (WHO, 1996, 1997). However, adequately controlled and monitored patients with hypertension have a lower risk than untreated users so that OCs may be given to medically controlled hypertensive women.

Smoking

Due to increased cardiovascular events with smoking which increase with age and the number of cigarettes smoked per day, the risk of these events with OC use must be strongly considered.

Benign Breast Disease or Family History of Breast Disease

Eligibility of women with above conditions is no longer proscribed for OC use.

Use in Dyslipidemia

Assessment of the type and severity of dyslipidemia and presence of other cardiovascular risk factors required for eligibility.

Duration of Use and Interruption

No need to limit duration of use inasmuch as there is no progression of the known risks with long-term use.

The Risk of Breast Cancer

The Collaborative Group on Hormonal Factors in Breast Cancer in its reanalysis of individual data on 53,297 women with breast cancer and 100,239 women without breast cancer from 54 epidemiological studies (Lancet 1996; 347:1713-27) suggest that women who currently use oral contraceptives of who

have used them in the previous 10 years have a slightly increased risk of breast cancer, whereas women who have used oral contraceptives less recently do not have an increased risk. These epidemiologic studies were conducted over the past 25 years. Subsequent studies have added little to this overall evidence (WHO-IARC, 1999). As reported by the former group, the estimate of diagnosis of breast cancer of 1.06 for ever-use OCs in women with a family history of breast cancer was based on 454 cases.

A recent study was reported by Marchbanks et al (2002), a population-based case control study on the risk of breast cancer among former and current users of oral contraceptives on 4575 women with breast cancer and 4682 controls. Among women from 35 to 64 years of age, current or former OC use was not associated with a significantly increased risk of breast cancer. Use of OC by women with family history of breast cancer was not associated with an increased risk of breast cancer, nor was the initiation of OC use at a young age.

New data from this Women's CARE study to examine the use of oral contraceptives as a risk factor for breast cancer in women who were 35-64 years old and in subgroups of women according to race, age, presence or absence of family history of breast cancer and other factors concluded that among women included in the study, current or former oral contraceptive use was not associated with a significantly increased risk of cancer. Compared to the pooled analysis, the risk of breast cancer was not significantly related to the duration of oral contraceptive use or dose of estrogen.

In both studies, 33% of the women with breast cancer were at least 55 years old at the time of diagnosis. In this study, oral contraceptive use was not associated with an increased relative risk of breast cancer among women with a family history of breast cancer among first-degree relatives. The relative risk associated with the use of high-estrogen-dose preparations for less than a year were 1.0 for less than 1 year, 1.2 for 1-less than 5 years, 1 2 for 5 to less than 5 years, 0.5 for 5 to less than 10 years and 0.8 for 10 to less than 15 years. None of the relative risks were significantly increased.The relative risk of the youngest subgroup, 35-39 years old, did indeed tend to be higher than that in older age groups but there was little evidence that the initiation of oral contraceptive use at a young age was associated with a substantially increased risk of breast cancer even among current users.

In the group of current users who started using oral contraceptives before the age of 20 years, the relative risks were 1.0, 1.0 and 1.1 among the 35-39, 40-44 and 45-64 years old, respectively. In the pooled analysis, the relative risk of breast cancer was highest among the women under the age of 35 years who were current or recent users (recent used within the previous 5 years) and who started use before the age of 20. The data in this study provide strong evidence that former oral contraceptive use does not increase the risk of breast cancer in later life when the incidence of breast cancer is higher.

The Risk of Myocardial Infarction

A report by Tanis et al (2001) analysed a nationwide, population-based, case-control study of the association of second and third generation OCs according to the type of progestagen, dose of estrogen and the presence or absence of prothrombotic mutations. Their study showed that the risk of myocardial infarction was increased among women who used second-generation oral contraceptives. The results with respect to the use of third-generation oral contraceptives were conclusive but suggested that the risk was lower than the risk associated with second-generation oral contraceptives. The risk of myocardial infarction was similar among women who used oral contraceptives whether or not they had a prothrombotic mutation.

Cervical Cancer

Some types of human papillomavirus (HPV) infection of the cervix appears to cause most if not all cases of cervical cancer (126, 137) Analysis of 1000 cervical cancer specimens collected worldwide found evidence of HPV infection in 99.7% of the samples (Walboomers et al 1999).

The studies that have looked at various grades of pre-invasive lesions of the cervix have reported inconsistent findings from no association with OC use to a doubling or even fourfould increase, and an increase with duration of use. Some evidence suggests that OCs accelerate the progression of precancerous lesions to invasive cancers. The increased risk may be concentrated in current and recent users (Beral et al, 1999, Parazzini, 1998). In another study, no increased risk persisted after OC use ended beyond 10 years, and another study found that increased risk was found only when first used at a young age especially 17 years or younger.

Other studies showed the following:

(a) 1985-1997- the International Agency for Research on Cancer (IARC) protocols in case control studies of invasive cervical cancer in 8 countries and carcinoma in situ in 2 countries. Interpretation—Long-term use of OCs could be a cofactor that increases risk of cervical carcinoma by up to fourfold in women who are positive for cervical HPV DNA. In the absence of worldwide information about HPV status, extra effort should be made to include long-term users of OCs in cervical screening programs. Lancet 2002:359:1085-192.

(b) Depot-Medroxyprogesterone Acetate (DMPA) and the Risk of Invasive Adenocarcinomas and Adenosquamous Carcinomas of the Uterine Cervix—David B. Thomas and Roberta M. Ray, and the WHO Collaborative Study of Neoplasia and Steroid Contraceptives. Contraception 1995; 52:307-312. -Hospital-based case control study conducted in two hospitals in Bangkok and one in

Chiang Mai, Thailand, Mexico City, Mexico and Nairobi, Kenya. 239 women with adenocarcinomas and 85 with adenosquamous carcinomas, control of 2534 matched to cases. Smoking, antibodies to herpes simplex, CMV and information on sexual behavior from interviews of husbands for selected subsets. Conclusion: Use of DMPA for over four years does not enhance risk of adenomatous cervical carcinomas and risk is not increased after potential latent period of over 12 years since initial exposure.

(c) Protection of OC use in endometrial carcinogenesis. Wiederpass et al reported in 1999 a case-control study which included 709 cases which suggested that the protection is consistent across type of OC use, i.e. OC potency.

(d) Protection of OC use in ovarian cancer. Data (Beral et al, 1999; LaVecchia and Franceschi, 1999 and WHO-IARC,1999) indicate protection continues for at least 15-20 years after stopping use.

(e) Migraine and stroke in young women case-control study. Chang, Donaghy, Poulter, and WHO Collaborative Study of Cardiovascular Disease and Steroid Hormone Contraception

BMJ 318: 13-18, 2 Jan 1999. Hospital-based case control study five European centers participating with 291 women aged 20-44 years with ischemic, hemorrhagic or unclassified arterial stroke compared with 736 age and hospital-matched controls. Conclusions: Migraine in women of childbearing age significantly increases the risk of ischemic but not hemorrhagic stroke. The coexistence of oral contraceptive use, high blood pressure, or smoking seems to exert a greater than multiplicative effect on the risk of ischemic stroke associated with migraine. (Chang et. al, 1999)

New Developments

Emergency Contraception

A new benefit offered to reduce the number of unplanned pregnancies is that of EC, emergency contraception (Grimes, 1997). The EC (post-coital) is any drug or device, which prevents pregnancy when used after unprotected intercourse. Pregnancy is likely to occur on or during 6 days before the day of ovulation. The "fertile period" extends from 6 days before ovulation to the day of ovulation (Wilcox et al, 1995). The EC can be effective by inhibiting ovulation, tubal transport of embryo, implantation, or disrupting the implanted embryo. The four methods licensed for EC are:

1. The Yuzpe regimen (Trussel et al, 1999) 100 mcg of ethinyl estradiol and 0.5 mg levonorgestrel twice at 12 h interval within 72 h after intercourse. Efficacy is 74%.
2. Levonorgestrel alone (WHO,1998)
   Alone at 0.75 mg twice at 12 h intervals within 72 h after intercourse. Efficacy is 85%.
3. Mifepristone (Glassier et al, 1992, WHO, 1999)
   10-100 mg, within 4 days after intercourse. Efficacy is > 85%.
4. Insertion of the IUD
   Within 8 days after intercourse. Efficacy is almost 100%.

There is only scant evidence regarding which of the methods interfere with all or each of the above mechanisms of action.

Male Hormonal Contraception

Although there are numerous potential opportunities for interruption of fertility because of multiple mitotic and meiotic cellular divisions and morphogenesis in spermatogenesis and spermiogenesis, and despite understanding the molecular regulation of testicular and epidydimal functions, no agents specifically acting on the post-meiotic and post-testicular targets have been identified. Research for the past two decades has focused on on suppression of spermatogenesis indirectly by the abrogation of pituitary gonadotrophins (Oxynos and Wu, 2000).

The two landmark studies to prove the concept that reversible hormonal suppression of gonadotrophins and spermatogenesis by exogenous sex steroids can offer effective and reversible contraception using the prototype regimen of testosterone enanthate 200 mg weekly IM.

The potential long-term risk of testosterone-based male contraception is not clear but life-long replacement in hypogonadal men is extremely safe and not known to be associated with excess mortality or morbidity. There are no evidences that physiological doses of exogenous testosterone increase the risk of prostatic pathologies, cardiovascular disease or behavioural dibsturbances in either hypogonadal or eugonal men.

Combination of testosterone and synthetic progestogens appears most likely means of potential hormonal contraceptive efficacious in inducing azoospermia in Caucasian men compared to testosterone ethanoate alone. The ideal steroid combination and route of delivery is being explored in dose finding and phase II studies. Presently, available GnRH antagonists with testosterone supplement are impractical and expensive though highly effective to induce suppression of spermatogenesis (Swerdloff, et al, 1998).

New androgens, with more selective biological actions are being sought. (Sundaram, et al 1993). Potential contraceptive effects in men are being investi-

gated of progestins: norethisterone enanthate, etonorgestrel orally or non-biodegradable implants (Implanon), levonorgestrel (Norplant). Availability of hormonal male contraceptives in the near future should encourage efforts in basic research to target posttesticular events in males as contraceptive candidates in the 21st century.

Conclusion

1. The hormonal contraceptive methods in the form of oral contraceptive pill and injectables enjoy the first choice of Filipino women who use contraceptive methods.
2. Discontinuation rates are due to side-effects and health concerns.
3. The prospect of immediate future use is higher than the other methods.

Recommendations

1. There is a need to affirm the safety of use of the low-dose hormonal contraceptives.
2. There is a need to sustain continued use through better counseling of users to reduce discontinuation rates. There is a need to sustain continued use through better counseling of users to reduce discontinuation rates.
3. There is a need to update healthcare/medical providers with the eligibility criteria for use of hormonal contraceptives.
4. More patient education on risk-benefit assessment in relation to pregnancies, especially the high risk pregnancies should be provided.
5. More access to low-cost supplies should be made possible by government subsidy.

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