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A STUDY ON CONTRACEPTIVE CHOICES BY POSTPARTUM PATIENTS WITHIN 48 HOURS OF DELIVERY IN A TERTIARY CARE HOSPITAL OF NORTH INDIA

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Abstract

Introduction: Intimacy with partner and communication is positively connected with contraceptive usage. Awareness regarding contraception and birth spacing helps awoman to get away with her reproductive years safely without complications. To address women's need for family planning, the provision of a wide range of safe, effective and affordable contraceptive methods is essential. A mix of methods offered must cater to women's needs and preferences. It is also important to note that every contraceptive method has advantages and disadvantages. Contraceptive use also helps individuals to fulfill their sexual desire with no fear and stress.

Materials and Methods: A retrospective analytical study was conducted at Kalpana Chawla Government Medical College, Karnal, Haryana by collectingdata of patients getting discharged from postpartum wards between 1st January, 2023 to 1st January, 2024 after either getting delivered normally or via lower segment cesarean section and their contraceptive choices were noted at the time of discharge. With an average of 400 deliveries per month, around 4800 patients werestudied in around one year duration.

Results: 70 percent patients opted for Male Condom (Barrier Method) as a method of contraception, 10 percent patients wanted ligation, 10 percent for PPIUCD, 3 percent for Injection Antara, 4 percent for POP, 3 percent did not wantto use any method.

Conclusion: There is an unmet need for contraception in our country. Womenare aware regarding contraceptive choices but the greatest hindrance is availability of the contraceptive device and its cost effectiveness. Disbursal at the time of discharge when the patient has a calm mind and is able to properly make a feasible choice regarding the contraceptive method is a suitable measure to capture this unmet need.

Key Words: communication, PPIUCD, lower segment cesarean section.

INTRODUCTION

Intimacy with partner and communication is positively connected with contraceptive usage. Awareness regarding contraception and birth spacing helps a woman to get away with her reproductive years safely without complications. To address women's need for family planning, the provision of a wide range of safe, effective and affordable contraceptive methods is essential [1]. A mix of methods offered must cater to women's needs and preferences. It is also important to note that every contraceptive method has advantages and disadvantages[2.] Contraceptiveuse also helps individuals to fulfill their sexual desire with no fear and stress.

Moreover, After introduction of JSY and JSSK, women want to deliver in government set up. Access to safe and effective contraceptive services in the postpartum period would enable women to space their births and prevent unintended pregnancies, thereby averting maternal and child mortality. At this time,three new contraceptive methods were introduced in the National Family Planning program injectable contraceptive, a non-hormonal weekly pill and progesterone- only pills for lactating mothers—all provided free-of cost. Intrauterine device (IUD) remains low despite being covered under public health services for decades and condom use only increased subsequent to HIV prevention efforts in the country. However, despite these changes in the policy environment, the use of reversible contraceptive methods, as well as male sterilization, is still low in India, and female sterilization continues to be the dominant method, accounting for two- thirds of the total contraceptive use [1,3]. The utilization of contraceptive methods among Indian women is related to several factors such as personal, interpersonal, partner related, service related and/or method related[4]. The limited choices and access to family planning services, poor quality of available services, cultural and religious opposition, fear of adverse effects and gender-based barriers are responsible for the very high rate of unmet need for contraception in low-resource countries such as India[5]. Many women typically use contraceptives for approximately 3 decades[6]. The choice of contraceptive is determined by patient preferences, tolerance for contraceptive failure, and adverse effects. Clinicians should elicit patient preferences, identify possible contraindications to specific contraceptives, and facilitate contraceptive initiation and continuation. Clinicians should also be prepared to address misperceptions.

In this study, we have evaluated contraceptive choices by postpartum womenwithin 48 hours of delivery

OBJECTIVE: To note and assess the contraceptive measures opted by patients inthe postpartum ward within 48 hours of their delivery either via lower segment cesarean section or vaginally.

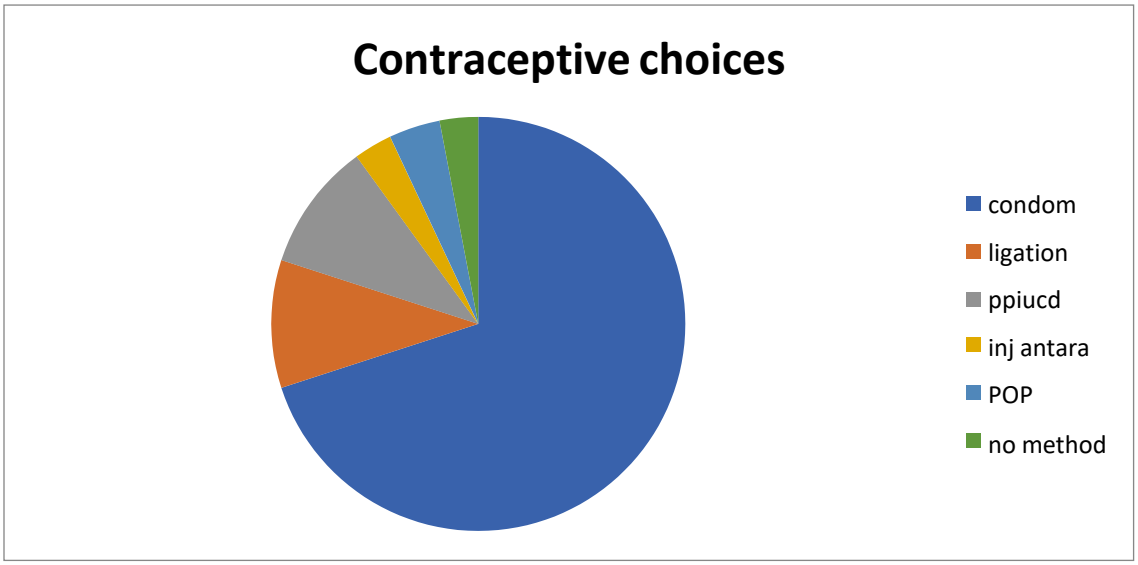
MATERIAL AND METHODS

A retrospective analytical study was conductedat Kalpana Chawla Government Medical College, Karnal, Haryana by collectingdata of patients getting discharged from postpartum wards between

1st January, 2023 to 1st January, 2024 after either getting delivered normally or via lower segment cesarean section and their contraceptive choices were noted at the time of discharge. With an average of 400 deliveries per month, around 4800 patients werestudied in around one year duration.

RESULTS

70 percent patients opted for Male Condom (Barrier Method) as a method of contraception, 10 percent patients wanted ligation, 10 percent for PPIUCD, 3 percent for Injection Antara, 4 percent for POP, 3 percent did not wantto use any method.



DISCUSSION

Reversible contraceptive methods are typically grouped as hormonal (such asprogestin-only pills or nonhormonal (condoms) and long-acting (such as intrauterine devices [IUDs]) or short-acting (such as pills).Irreversible contraceptive methods include female sterilization (ligation)

Pharmacology of Steroidal Hormone Components

Progestins and estrogens are steroid or lipid hormones. Hormonal contraception contains a progestin with or without an estrogen. Progesterone is the only naturallyoccurring progestin; most contraceptive progestins, such as levonorgestrel and norethindrone, are synthesized from testosterone. Progestins provide a contraceptive effect by suppressing gonadotropin-releasing hormone from the hypothalamus, which lowers luteinizing hormone from the pituitary, which in turnprevents ovulation.[7,8] In addition, progestins have direct negative effects on cervical mucus permeability. Progestins reduce endometrial receptivity and spermsurvival and transport to the fallopian tube.[9-11] Estrogens enhance contraceptive effectiveness by suppressing gonadotropins and

follicle-stimulating hormone, preventing the development of a dominant follicle. However, the most important contribution of estrogens to progestin-based contraceptives is the reduction of irregular bleeding. The estrogen component in most combined hormonal contraceptives is ethinylestradiol.

Progestin-Only Contraception

A variety of progestin-only contraceptive methods exists. Their effectivenessvaries based on dose, potency, and half-life of the progestin as well as user- dependent factors, such as adherence to the prescription schedule.[12,13]

Progestin-only pills include norethindrone- and drospirenone-containing formulations, which differ in their ability to suppress ovulation. Norethindrone pills contain 300 µg of norethindrone compared with 1000 µg in a typical combined contraceptive pill. The lower amount of progestin in norethindrone pills results in less consistent ovulation suppression and more potential for breakthrough bleeding. The contraceptive efficacy is maintained by other progestin-mediated effects. Drospirenone-only pills contain slightly more progestin than an estrogen and progestin combined hormonal contraception, which aids in ovulation suppression. In one study in which participants delayed their drospirenone- containing pill intake by 24 hours, mimicking a missed dose, ovulation suppressionwas maintained with only 1 participant of 127 having evidence of ovulation.[14] The benefits of progestin-only contraceptive pills include ease of initiation and discontinuation, fertility return within 1 cycle, safety profile, and minimal effect onhemostatic parameters.[15]

Depot medroxyprogesterone acetate (DMPA) is an injectable progestin available inintramuscular (150 mg) and subcutaneous (104 mg) formulations, which are administered at 12- to 14-week intervals. While DMPA is associated with irregularuterine bleeding, this pattern improves with longer duration of use. A systematic review of DMPA-related bleeding patterns (13 studies with 1610 patients using DMPA) found that 46% of those using DMPA were amenorrheic in the 90 days following the fourth dose.[16] DMPA is the only contraceptive method that can delayreturn to fertility. The contraceptive effect and cycle irregularity can persist for up to 12 months after the last dose,[17] likely due to persistence in adipose tissue and its effectiveness in suppressing the hypothalamic-pituitary-ovarian (HPO) axis.

DMPA may be best suited for those who benefit from amenorrhea (eg, patients with developmental disabilities, bleeding diatheses) but not by those who want toconceive quickly after discontinuation. Typical effectiveness of DMPA and progestin-only contraceptive pills is 4 to 7 pregnancies per 100 women in a $_{\text{year.}}$[12,18]

Progestin-only long-acting methods, such as the levonorgestrel (LNG) IUD and thesubdermal implant, have typical effectiveness rates of less than 1 pregnancy per 100 women per year similar to permanent methods, such as tubal ligation or vasectomy[12, 18]. These methods are also associated with return to fertility within 1 cycle after discontinuation. The LNG IUD maintains efficacy for at

least 7 years, with amenorrhea rates of up to 20% at 12 months and 40% at 24 months[19]. However, initiation requires an in-person visit with a clinician trained inIUD placement. The etonogestrel subdermal implant is effective for up to 5 years[20] and is easily placed or removed. Initiation and discontinuation also requirein-person visits. The bleeding profile of the implant is

less predictable and up to 11% of users remove it in the first year due to irregular bleeding[21]. An analysis of 11 studies (923 participants) from Europe, Asia, South America, and the US foundthat the bleeding pattern in the first 3 months (such as prolonged, frequent, or irregular episodes) is consistent with future bleeding patterns[21]. However, those with frequent or prolonged bleeding in the first 3 months have a 50% chance of improvement in the subsequent 3 months[21].

Combined Hormonal Contraception

Combined hormonal methods that contain both estrogen and progestin include thedaily oral pill, monthly vaginal ring, and weekly transdermal patch. With full adherence, effectiveness of these methods is 2 pregnancies per 100 users per year. However, typical effectiveness is 4 to 7 pregnancies per 100 women per year, with variability in effectiveness related to the user's adherence[12,18]. The importance of patient adherence to hormonal contraception was recently demonstrated by a cohort study of approximately 10 000 individuals in the US. Pregnancy rates were
4.55 per 100 participant-years for short-acting methods (pills, patch, and ring) compared with 0.27 for long-acting reversible methods (IUD, implant)[13]. Women younger than 21 years using short-acting methods had higher pregnancy risk as women 21 or older (adjusted hazard ratio, 1.9 [95% CI, 1.2-2.8])[13]. No risk differences by age were observed for the long-acting reversible methods of IUD orimplant. Absolute rates were not reported by age stratum.

Combined hormonal contraceptives prevent pregnancy through the same mechanisms as progestin-only methods. Their greatest advantage over progestin- only methods is their ability to produce a consistent, regular bleeding pattern. In a study that compared bleeding diaries from 5257 women using 9 different methods of contraception (nonhormonal, combined hormonal contraception, and progestin- only), approximately 90% of combined hormonal contraception pill users (n = 1003) over a 90-day standard reference period reported regular scheduled withdrawal bleeds while no one experienced amenorrhea.[22] Occasionally, patients do not have a withdrawal bleed during the placebo week. A pregnancy test can be performed if the patient or clinician is concerned about the possibility of pregnancyas the reason for not bleeding. If pregnancy is ruled out, the lack of withdrawal bleeding is due to HPO axis suppression and patients can be reassured that lack of withdrawal bleeding does not indicate a health problem or reduced fertility.

Considerations with Hormonal Contraception

Regardless of the route of delivery, ethinylestradiol and other estrogens are metabolized by the liver and activate the hemostatic system. The most significant risk of combined hormonal contraception is estrogen-mediated increases in venousthrombotic events.[23-25] Large international cohort studies

have identified the risk ofdeep vein thrombosis at baseline in reproductive-aged women to be approximately2 to 10 per 10 000 women-years. The risk associated with combined hormonal contraception is approximately 7 to 10 venous thrombotic events per 10 000 women-years.[26-28] The risk of venous thromboembolism is substantially greater in pregnancy. One UK study of 972 683 reproductive-aged women with 5 361 949 person-years of follow-up found a risk of deep vein thrombosis of 20 per 100 000 in women who were not pregnant. This rate increased to 114 per 100 000 women- years in the third trimester of pregnancy and to 421 per 100 000 in the first 3 weekspostpartum.[29] The absolute risk of ischemic stroke in reproductive-aged women nottaking combined hormonal contraception is 5 per 100 000 women-years.[25] Combined hormonal contraception is associated with an additional absolute risk of approximately 2 per 100 000 (i.e., overall risk of 7 per 100 000).[25] This study did not exclude women who smoked cigarettes or had hypertension.[25]

Clinicians who prescribe combined hormonal contraception should counsel womenregarding signs and symptoms of arterial and venous thrombosis, especially for women with multiple additional risk factors, including body mass index (calculatedas weight in kilograms divided by height in meters squared) at or over 30, smoking, and age older than 35 years. While progestins are not associated with an increase in thromboembolic risks[30, 31]. US Food and Drug Administration package inserts for these methods contain "class labeling" or the same risks as estrogen and progestin combined hormonal contraceptive methods. Patients at increased risk of thrombosis can be provided a progestin-only, nonestrogen-containing method because this method of contraception does not increase risk of venous thromboembolism[32].

Nonhormonal Contraceptives

Behavioral Methods

Behavioral contraceptive methods include penile withdrawal before ejaculation and fertility awareness–based methods. Imprecise terms, such as *natural family planning*, the *rhythm method*, or other euphemisms may be used by patients when referring to these methods. The effectiveness of withdrawal and fertility awareness depends on patient education, cycle regularity, patient commitment to daily evaluation of symptoms (first morning temperature, cervical mucus consistency), and the patient's ability to avoid intercourse or ejaculation during the time of peak fertility. Data on pregnancy rates are frequently of poor quality and highly dependent on study design[33]. A meta-analysis of higher-quality prospective studies of women at risk for undesired pregnancy reported failure rates of 22 pregnanciesper 100 women-years for fertility awareness methods[34].

Condoms and Diaphragms (Barrier Methods)

Other nonhormonal methods prevent sperm from entering the upper reproductivetract through a physical barrier (condoms and diaphragms) or through agents thatkill sperm or impair their motility (spermicides and pH modulators). First-year typical use effectiveness for these methods is 13

pregnancies per 100 women in a year [12,18].

Copper-Bearing IUD

The copper-bearing IUD is a highly effective nonhormonal reversible method.[12,18] Typical use pregnancy rates are 1% per year[12,18]. There is no effect ona user's HPO axis and thus ovulation and menstrual cyclicity continues. The primary mechanism of action is spermicidal, through direct effects of copper salts and endometrial inflammatory changes[35]. The major challenge with the

copper IUD is that it can increase the amount, duration, and discomfort of menses mostly during the first 3 to 6 months of use[36]. IUD use does not increase later risk of tubalinfertility[37]. If sexually transmitted infection (STI) testing is indicated, testing can be performed concurrently with IUD placement[38-40]. This expedited process of testing for STIs at the time of IUD placement does not increase the risk of pelvic inflammatory disease. The absolute risk of pelvic inflammatory disease after IUD insertion is low in those with (0%-5%) or without (0%-2%) existing gonorrhea or chlamydial infection[41].

The acceptance or denial of contraceptive methods is influenced by individual, family and community-level factors[42].

In our study, there was mainly preference given to barrier contraception that is malecondom by the patients under study. Regarding the determinants of contraceptive use by them, it is encouraging that all women gave importance to their decision along with their husbands' decision. Easy availability and easy usage make Male condom the preferred method of choice by around 70% patients.

Typical use (both incorrect and inconsistent use) of the male condom has a failure rate of approximately 14%[43]. Efficacy is 97% with perfect use (correct and consistent use) and 86% with typical use[43].

Choosing a method of contraception is an important decision. A method that is noteffective for an individual can lead to an unintended pregnancy. A method that is not safe for the user can create unfortunate medical consequences. A method that does not fit the individual's personal lifestyle is not likely to be used correctly or consistently. Individuals themselves must make the decision about the contraceptive method they use, taking into consideration the feelings and attitudesof their partners. The best method of contraception for an individual or couple is one that is safe and that will actually be used correctly and consistently[43].

CONCLUSION

There is an unmet need for contraception in our country. Womenare aware regarding contraceptive choices but the greatest hindrance is availability of the contraceptive device and its cost effectiveness. Disbursal at the time of discharge when the patient has a calm mind and is able to properly make a feasible choice regarding the contraceptive method is a suitable measure to capture

this unmet need.

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