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CLINICAL COMPARISON ON EMERGENCY CONTRACEPTION WITH INTRA UTERINE DEVICE (CU T 200 B) AND POST COITAL PILL (LEVONORGESTREL)

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ABSTRACT

A method which a woman can use after unprotected intercourse to avert pregnancy is called Contraception. A particular form of contraception that is used in an emergency to avert pregnancy following unprotected intercourse is called Emergency contraception. The main objective of this study is to find the need for emergency contraception and to evaluate the efficacy and side effects of two different contraceptive methods i.e. contraceptive pill and Intra Uterine Device (IUD). Material and Methods: A 2-years study was conducted at Federal Medical Centre (FMC) Owerri, Imo State, Nigeria. Results: A total of 74 subjects were registered with study. In that 17 (22.97%) chose IUD and 57 (77.03%) chose pill as emergency contraceptives. To subjects who came within 72 hours of unprotected intercourse the pill was given and to those who came after 72 hours but within 120 hours of unprotected intercourse the IUD was given. Reasons for choosing emergency contraception were: no previous contraception used (52 %), problem with barrier methods (40%), problems with other IUD (8%). Side effects were minimal with Pill, Nausea (6.34 %). Among IUD users, irregular bleeding (12.8%) and low abdominal pain (20.5%). Conclusions: Both Pill and IUD are safe and effective methods of emergency contraception with minimal side effects.

Keywords: Emergency Contraception, IUD, Pill.

INTRODUCTION

Contraception is defined as a method which can be used after unprotected intercourse to prevent pregnancy [1-3]. A particular form of contraception that is used in an emergency to avert pregnancy following unprotected intercourse is called Emergency contraception. The rationale of this study was to assess the clinical effectiveness and associated side effects with the use of contraceptive pill containing Levonorgestrel and Intra-uterine device (Cu T 200 B) in emergency contraception, and to learn the need and comparative acceptability of the methods when offered through common approach [3-8].

Objectives

The objectives of this study were

1. To study the requirement of emergency contraception
2. To review the women who were seeking emergency contraception and the rationales for seeking emergency contraception.
3. To study the comparative acceptance of the two methods (Pill and IUD)
4. To evaluate the effectiveness and side effects of the two methods

MATERIAL AND METHODS

The present study was carried out in the Obstetrics and Gynecology Department, Federal Medical Centre (FMC) Owerri, Imo State, Nigeria, a government health care institution, for a period of 2 years. During this period, women of reproductive age group who visited the hospital within 120 hours of single unprotected intercourse willing to avoid unintended pregnancy were selected. The selected subjects were explained about the advantages and disadvantages of both the methods, and emergency contraception method of the patient's choice was provided to the subjects who selected based on inclusion and exclusion criteria and contraindications. However, both pill and IUD methods were offered to the subjects if they reported to the hospital within 72 hours of unprotected intercourse. If the subjects reported after 72 hours, but within 120 hours, of unprotected intercourse only IUD was offered.

The inclusion criteria:

Women with regular menstrual cycle for last 3 months, who had a single act of unprotected intercourse within 72-120 hours and willing not to have further acts of intercourse during the same cycle and available for follow-up.

The exclusion criteria:

Women with irregular menstrual cycle in last 3 months, known or suspected pregnancy, nulliparity, previous ectopic pregnancy, undiagnosed vaginal bleeding, migraine, thromboembolism, and evidence of reproductive tract infection were excluded.

The women who fulfilled the criteria for inclusion and agreed to participate were registered for the study. From each registered subject, written informed consent was obtained [9].

OBSERVATION AND RESULTS

During the study period of 2 years, a total of 74 subjects were registered with study. Emergency contraceptive was given to the subjects after excluding contraindications and exclusion criteria, and according to their own choice for who had a single act of unprotected intercourse and reported within 72 hours but for the subjects who reported within 120 hours, of unprotected intercourse only IUD was offered [11-17].

Total subjects who requested for Emergency Contraception during study period 284

Emergency Contraception given to	74(26.06%)
Not eligible for Emergency Contraception	210 (73.94%)

Reason for non eligibility:

Intercourse >5 days	85 (29.92%)
Intercourse >3 days but wanted to use Pill	6 (2.11%)
Period overdue	92 (32.39%)
More than one unprotected intercourse	12 (4.22%)
H/O Irregular period	20 (7.04 %)
Lactational amenorrhea	22 (7.75%)
Out of area of approach for follow up	10 (3.52%)

The subjects were divided into two groups, A and B.

Group A

Majority of the women (n=48; 64.86%) selected Pill treatment. The first dose of 0.75 mg was given orally as tablet within 72 hours of single unprotected intercourse followed by the next dose after 12 hours.

Group B

A total of 26 (35.14%) women who selected IUD (Cu T 200 B) came after 72 hours, but within 120 hours, of single unprotected intercourse. IUD (Cu T 200 B) was inserted under aseptic and hygienic conditions.

Within 7 days of onset of vaginal spotting or bleeding the follow-up was carried out. At follow-up visit occurrence of any side effects, onset time, and duration and amount of menstrual bleeding were noted. If there were additional acts of intercourse, the type of contraception opted was noted.

Table 1 shows demographic profile of the study group.

Most of subjects were between 25 and 34 years of age (66.67% in Group A and 53.84% in Group B). More than fifty percent of the subjects of Group A (52.08%) and subjects of Group B (53.85%) had one or two children. Majority of subjects in Group A (55.17%) and in Group B (23.08%) reached hospital within 24 hours of unprotected coitus. Less than fifty percent of subjects (37.84%) reached hospital after 72 hours, but within 120 hours, of unprotected coitus.

Table 2 shows reasons for Emergency contraception

More than half were no contraceptive used (51.35%), 1/3rd of subjects had problems with barrier methods (37.84%), and problems with IUD (%). Majority (45.84%) in Group A and 23.08% in Group B used EC due to problems with barrier methods in the form of slippage or breakage of condom, or failure to use condom during intercourse. There was no failure of emergency contraception in any group in the present study.

Table 3 shows resumption of menses after emergency contraception method is used

Menses resumed on time, i.e., within ±7 days of expected date of next menses in 75% cases of Group A and 84.62% cases of Group B. Menses started before 7 days of next expected date in 10.41% cases of Group A and 15.38% cases of Group B.. Delay for >7 days occurred in 14.59% cases of Group A, while in Group B. there was no delay in onset of period.

Table 1. Demographic characteristics

Characteristic	Group A (n=48)	Group B (n=26)	Total (n=74)
	No. (%)	No. (%)	No. (%)
Age (years) <25	5 (10.42)	4 (15.39)	9 (12.16)
Age (years) 25-34	32 (66.67)	14 (53.84)	46 (62.16)
Age (years) >35	11 (22.91)	8 (30.77)	19 (25.68)
Parity 1-2	25 (52.08)	14 (53.85)	39 (52.70)
Parity 3-4	20 (41.67)	10 (38.46)	30 (40.54)
Parity >4	3 (6.25)	2 (7.69)	5 (6.76)
CoitusEC interval (hours) <24	26 (55.17)	6 (23.08)	32 (43.24)
24-48	20 (41.67)	8 (30.77)	28 (37.84)
49-72	2 (4.16)	2 (7.70)	4 (5.41)
	>72 0 (0)	10 (38.46)	10 (13.51)

Table 2. Reasons for using Emergency Contraception

Reason	Group A (n=48)	Group B (n=26)	Total (n=74)
	No. (%)	No. (%)	No. (%)
No use of contraception	25 (52.08)	13 (50)	38 (51.35)
Slippage of condom	3 (6.25)	2 (7.69)	5 (6.76)
Breakage of condom	12 (25)	1 (3.85)	13 (17.57)
Forgot to use condom	7 (14.59)	3 (11.54)	10 (13.51)
Displaced/expelled IUD	1 (2.08)	7 (26.92)	8 (10.81)

Table 3. Resumption of menses

Days	Group A (n=48)	Group B (n=26)	Total (n=74)
	No. (%)	No. (%)	No. (%)
Early (<7 days)	5 (10.41)	4 (15.38)	9 (12.16)
On time (±7 days)	36 (75)	22 (84.62)	58 (78.38)
Delay (>7 days)	7 (14.59)	0 (0)	7 (9.46)

In Group A, the incidence of nausea, giddiness, and menstrual disturbances was very low; 5.60% subjects developed nausea, only 7.34% subjects experienced more bleeding than previous menses, and 4.12% subjects had irregular bleeding or spotting after Pill use. In Group B there was low abdominal pain in 15.75% cases, heavy bleeding in 26%, and irregular bleeding in 11.62% [19-25].

DISCUSSION

Emergency contraception is the woman's only reliable option for preventing pregnancy after an unprotected sexual intercourse or failure of contraception. Emergency Contraception can save millions of women from unintended pregnancies and complications and deaths due to unsafe or illegal abortions. It is thus apparent that a wider knowledge and more widespread use of effective emergency contraception would be life saving for several women. Consequently, there is an rising demand for emergency contraception, and search for effectual methods to prevent unintended pregnancy is continuing continually worldwide. For rape victims, postcoital hormonal contraception containing high-dose estrogen was first reported in 1960s [26-29]. Emergency contraceptive pills were also known as "morning after Pills" [30-33]. Use of IUDs as a method of emergency contraception was introduced in late 1976 by Lippes. The combined regimen of estrogen and progestogen was introduced in the early 1970s and became accepted as Yuzpe method. In Yuzpe method administration of two doses of 100 µg of ethinyl estradiol plus 500 µg of levongestrel each, with a 12-hr interval between doses was practiced but it has high incidence of side effects like nausea and vomiting. In 1980 Latin American team introduced new generation progestogen pill as Emergency contraception pill (Post coital pill) to decrease such side effects of estrogen progestogen combination [34-37]. Johansson *et al*., in 2002 conducted Phamacokinetic study of different dose regimens of Post coital pill [38]. Joint analysis of effectiveness of Pill as emergency contraception was studied by Mikolajczyk and Stanford in 2007 who concluded that Post coital pill acted as emergency contraception by disruption of ovulation as well as its postfertilization effects [39-40]. The rationale of this current study was to assess the clinical effectiveness and associated side effects with the use of contraceptive pill containing Levonorgestrel and Intra-uterine device (Cu T 200 B) in emergency contraception,

and to learn the need and comparative acceptability of the methods when offered through common approach.

Need for EC

During the 2-year study period, 284 subjects requested for emergency contraception, indicating its need. However, 210 (73.94%) women were not eligible for Emergency contraception as 92 (32.39%) were already overdue, 85 (29.92%) had their intercourse >5 days earlier, and 12(4.22%) had more than one unprotected intercourse. This shows the need for public awareness regarding proper use of emergency contraception

Relative Acceptance of pill and IUD

When both Pill and IUD were offered as emergency contraceptive agents using common approach, majority of women (64.86%) selected Pill treatment and only 35.14% who had come after 72 hours but within 120 hours of intercourse chosen IUD (Cu T). Three subjects who had inter-course between 72 and 120 hours refused IUD (Cu T), but were willing to take Pill as emergency contraceptive which could not be provided to them as per the criteria of our study. This indicates that majority of women do not like IUD (Cu T) as Emergency contraceptive though it will provide them continued contraception.

Profile of Woman Seeking Emergency Contraception

From the table 1 containing demographic characteristics, 62.16% women belonged to age group of 25-34 years. It was observed that 6.76% of women were para ≥4; 32 women (43.24%) reported within 24 hours and 10 (13.51%) after 72 hours of intercourse. These 10 women were eligible for only IUD (Cu T 200 B).

Reasons for Seeking Emergency Contraception

More than half were no contraceptive used (51.35%), 1/3rd of subjects had problems with barrier methods (37.84%), and problems with IUD (%). Majority (45.84%) in Group A and 23.08% in Group B used EC due to problems with barrier methods in the form of slippage or breakage of condom, or failure to use condom during intercourse. There was no failure of emergency contraception in any group in the present study. This indicates the need to educate the women regarding regular contraceptive use and also regarding correct and consistent use of condom.

Efficacy of Emergency Contraceptives

No failure of Emergency Contraceptives was observed in the current study with the use of either PILL or IUD (Cu T 200 B). A study was carried out in 1997-1998 under World Health Organization in which women from 14 countries had Emergency Contraception using YUZPE regime or PILL, and the reported failure rate was 3.2 and 1.1%, respectively [41]. Fasoli*et al*., (1989) summarized nine studies and reported that out of 879 women who accepted Copper containing IUD as the sole method of postcoital contraception only 1 pregnancy was reported [6]. In 1998, Trussel and Stewart reported 1% failure rate of IUD insertion after ≤5 days of unprotected coitus[7].

Resumption of Menses after Emergency Contraception

Resumption of menses after Emergency Contraception was studied in both groups (Table 3). In 75% cases of Group A and 84.62% cases of Group B, menses were resumed on time, i.e., within ±7 days of expected date of next menses. Delay of >7 days beyond expected date of next menses was observed in 9.46% cases who had used Pill, but in none of the cases who had used IUD (Cu T 200B). Delay of menses may cause anxiety to women and pregnancy has to be ruled out and women reassured.

Side Effects

In the present study, minimal side effects were observed with Group A. Nausea was reported in 5.60% cases and no vomiting was reported. Hertzen and Von Look (1998) [41]reported nausea and vomiting in 23.1% and 5.6%, respectively, with use of pill, and 50.5 and 18.8%, respectively, with use of Yuzpe regime. Abdominal pain was complained by 15.75% cases after IUD use. Heavy bleeding was reported by 26% cases after use of IUD (Cu T) as compared to 7.34% cases after use of Pill, while irregular bleeding was reported by 11.6% cases after IUD (Cu T) insertion as compared to 4.12% cases after Pill use. This indicates that IUD (Cu T) had more side effects in form of abdominal pain (not seen with Pill) and heavy and irregular bleeding (less with Pill).

CONCLUSION

Emergency Contraceptives has a distinct position in preventing unintended pregnancies in present world as an emergency measure in cases of failure of barrier or natural contraceptive methods, and unprotected or unplanned coitus, rapes and incest. In general population, Pill is preferred over IUD (Cu T). Pill has high acceptability with low side effects, while IUD (Cu T) can be inserted at extended interception period and provides contraception for longer period but may produce pelvic pain and menorrhagia.

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