

EFFECTIVENESS OF INTRAUTERINE CONTRACEPTION DEVICE IN MULTIPAROUS WOMEN

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Abstract: Intrauterine devices (IUDs) serve as long-term contraceptive methods by being inserted into the uterine cavity to prevent fertilization. Copper-based IUDs and levonorgestrel-releasing IUDs are among the most commonly used types, offering an effective alternative to hormonal contraception methods like the "morning-after" pill. **Objective:** The study aims to assess the effectiveness of intrauterine contraceptive devices in multiparous women during the early postpartum period. **Methods:** This descriptive case series was conducted at the Department of Obstetrics and Gynecology, Shalamar Hospital, Lahore. The study spanned six months, from 26-08-2019 to 25-02-2020. A total of 109 multiparous women were included, who received IUD insertion via the vaginal route within 48 hours post-delivery. Follow-up was conducted in the outpatient department (OPD) for six months, with subsequent confirmation of IUD presence. Complications were evaluated, and effectiveness was assessed. **Results:** The average age of participants was 30.0 ± 4.6 years, with an average gestation period of 30.0 ± 4.6 weeks, BMI of 25.4 ± 2.8 kg/m², and parity of 3.0 ± 0.9 . The majority of subjects were enrolled (41.3%), followed by secondary (33%), primary (19.3%), and illiterate (6.4%). Intrauterine contraceptive effectiveness was monitored in 69 women (63.3%). **Conclusion:** The study concludes a high effectiveness rate (63.3%) of IUDs in multiparous women. Copper T emerges as the most effective, safe, long-acting, and commonly used contraception method.

Keywords: Efficacy, Intrauterine contraceptive device, Multiparous.

Introduction

Studies have shown that the risk of unwanted pregnancy is highest in the first year after birth. The new IUD is an excellent, long-lasting method of birth control (1). According to the National Family Health Survey 2005–2006, 61% of births in India occur less than three years apart, and 22% of married women do not need family planning (2). A stratified analysis shows that 65% of women need family planning within the first year after birth (3). Only 26% of women use this method of family planning in the first year after birth (4). PPUICD has been proven safe and effective and has a high retention rate (92%) (5). One study showed that 83% of different parents could successfully conceive if fetal implants were implanted after birth (6). Another study showed that if the home device is implanted after birth, success can be achieved in 64.67% of parous cases (7). This study aims to check and measure the effectiveness of IUCD in the postpartum period. Data show that the IUD will be effective in more than 80% of cases if inserted after birth. However, different results are obtained in the literature. Although the effectiveness of the intrauterine device (IUCD) is very high, the use of the intrauterine device (IUCD) is still low in many women. That is why we are conducting this local study to confirm the effectiveness of the intrauterine device (IUCD) in many women. This will improve our practice, reduce patient burden by ensuring patient satisfaction, and help manage the large population. The world is a whole of people. If the population increases too quickly, especially in developing countries, achieving social and economic growth will not be possible. Current resources are running out very quickly. The solution lies in family planning (8-10). Famous Muslim physicians from Arabia and Persia followed Greek medical

culture and expanded the Greeks' knowledge of disease prevention. Islamic religious laws do not restrict the use of birth control methods, and the processes and procedures used in Islamic countries are generally reasonable and valid (11). The influence of gender is frequently mentioned in early literature. Medical writer AL-Razi described fifteen different antibiotics. Ibn Sina, the most famous eleventh-century Islamic scholar, mentions other types of protection, including safe periods, sexual abstinence, and various suppositories (12). Pakistan's population growth has been faster since its founding. Today, it is the seventh most populous country in the world. Reducing population growth is one of the main objectives of the Eighth Five-Year Plan (13).

Thus, this study evaluate the effectiveness of IUCD in local population.

Methodology

A descriptive case series study was conducted at the Obstetrics and Gynecology Department of Shalamar Hospital in Lahore over six months, from August 26, 2019, to February 25, 2020. The sample size was 109 cases, calculated with a 95% confidence level, a 9% margin of error, and an expected efficiency percentage of 64.67% with Intrauterine Contraceptive Device (IUCD) usage in multiparous women. Non-probability consecutive sampling was employed to select participants meeting specific criteria. Inclusion criteria comprised multiparous women aged 20–40 years who underwent expected vaginal delivery at term (gestational age >37 weeks) and sought contraception to prevent unwanted pregnancy. Exclusion criteria included women with diabetes, morbid obesity

(BMI>35 kg/m²), intrauterine infection, antenatal bleeding, or uterine rupture. Data collection involved obtaining written informed consent from participants and recording demographic information, including age, parity, gestational age, and BMI. Subsequently, participants received IUCD implantation within 48 hours post-delivery and were followed up in the outpatient department (OPD) for six months. After this period, participants returned to the OPD for confirmation of IUCD presence, reporting any complications such as bleeding, lower abdominal pain, or expulsion. A senior radiologist performed ultrasound examinations, scoring effectiveness according to operational definitions. Data analysis was conducted using SPSS version 21, with mean and standard deviation calculated for quantitative variables and frequency and percentage for qualitative variables. Effect modifiers were controlled through stratification, and chi-square tests were used for statistical significance assessment ($p \leq 0.05$).

Results

The mean age of the patients was 30.0±4.6 years, the mean gestational was 30.0±4.6 weeks, the mean BMI was 25.4±2.8 kg/m², and the mean parity was 3.0±0.9. Regarding the education of the patients, the majority of the subjects were matric and above 45 (41.3%), followed by middle 36 (33%), primary 21 (19.3%), and illiterate 7 (6.4%). The effectiveness of the intrauterine contraception devices was observed in 69 females (63.3%) (table 5). Age, education, BMI, and parity were also stratified as shown in Table 1-4.

Table 5 Distribution of patients by effectiveness

| Effectiveness | Number | Percentage |
|---------------|------------|--------------|
| Yes | 60 | 63.3 |
| No | 40 | 36.7 |
| Total | 109 | 100.0 |

Discussion

Worldwide, the IUD is the most widely used birth control method, and more than 160 million women currently rely on this method (3). The most common use is in China, Southeast Asia, and the Middle East, but in some European countries, up to 24% of women use an IUD (4). The impact of providers' willingness on IUD use can be seen in data showing high adoption rates. Only 1.5% of pregnant Brazilian women use an IUD, but in one hospital in São Paulo, approximately 40% of women use the CuT380A (5). The most critical and socially responsible decision an individual or couple makes is birth control (6). This decision is often based on religion or religious beliefs. Therefore, doctors should address the reproductive needs of their patients with particular sensitivity, agreement, maturity, and non-judgment (7, 13). Many couples use birth control to eliminate children or limit family size. Others choose not to have children due to pre-existing conditions that may hinder fertility, such as poor control of diabetes or heart disease (8). As part of public population policy, some incredibly underdeveloped countries promote disease prevention to limit unnecessary population growth (9, 10, 14). IUD is the most widely used birth control method in the world. Copper

Table 1 Distribution by age

| Age (Year) | Number | Percentage |
|------------|----------|------------|
| 20-30 | 55 | 50.5 |
| 31-40 | 54 | 49.5 |
| Total | 109 | 100.0 |
| Mean±SD | 30.0±4.6 | |

Table 2 Distribution by gestational age

| Gestational age | Number | Percentage |
|------------------------|----------|------------|
| 37 ⁺¹ to 39 | 55 | 50.5 |
| 39 ⁺¹ to 41 | 54 | 49.5 |
| Total | 109 | 100.0 |
| Mean±SD | 30.0±4.6 | |

Table 3 Distribution by BMI

| BMI (kg/m ²) | Number | Percentage |
|--------------------------|----------|------------|
| < 25 | 53 | 48.6 |
| ≥ 25 | 56 | 51.4 |
| Total | 109 | 100.0 |
| Mean±SD | 25.4±2.8 | |

Table 4 Distribution by parity

| Parity | Number | Percentage |
|---------|---------|------------|
| 2-3 | 34 | 31.2 |
| 4-5 | 75 | 68.8 |
| Total | 109 | 100.0 |
| Mean±SD | 3.0±0.9 | |

IUDs are better, more effective, do not cause hormone imbalances, and are licensed for use for up to 10 years. Although effective, these tools have no side effects and often result in users requesting removal (15). Some side effects like bleeding, stomach infections, and pain are common reasons for discontinuing birth control. Medical reasons for withdrawal include partial withdrawal (usually within the first few months of use), joint pain, bleeding or rash (about 20% of cases occur within the first three months), sometimes mild salpingitis, or Pap smear findings. Strematomyces, pregnancy, intestinal infection, discharge, or perforation; Severe pain after insertion may indicate incorrect site or partial perforation (12). As with withdrawal, the incidence of bleeding or pain is directly proportional to the degree of endometrial compression and myometrial dilatation caused by the IUD (13). Current studies show that the success rate of intrauterine devices in women after premature birth is 63.3%. Our findings are consistent with those of Hanif et al. Proven to be effective in 64.6% of studies. The benefits of copper IUDs are demonstrated. A recent review of 42 studies also reported a pregnancy rate of 0.09%, ten times better than oral EC (14-16). The distribution of Copper T contraceptive users in this

study was in grades 4-5, similar to the survey by Jos. Showed that the sections are the most used ones (17). This outcome may be due to the limited use of copper T intrauterine contraceptives to reduce pelvic inflammatory disease in polygamous women and monogamous couples (18-20). Copper-T IUD use rates are highest among college-educated and well-educated women. Unfortunately, lack of formal education is responsible for the lowest rates of contraceptive use.

Conclusion

In summary, we can say that the effectiveness of the IUD found in the current study is high (63.3%). Copper T is an excellent, safe, long-acting, simple, and widely used anti-inflammatory drug in this study.

Declarations

Data Availability statement

All data generated or analyzed during the study are included in the manuscript.

Ethics approval and consent to participate.

Approved by the department concerned. (Lettre No, SHL-158 dated 22.10.19)

Consent for publication

Approved

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Conflict of interest

The authors declared an absence of conflict of interest.

Authors Contribution

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