ORIGINAL ARTICLE

# A COMPARATIVE TRIAL OF COPPER T 380 AND Cu 375 IUCD

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**Background:** The IUCD, primarily in the form of copper IUD is used by more than 150 million women around the world, making it the most widely used reversible method of contraception. The objective of this study is to do double blind clinical trial to compare the side effects of Copper-T and Cu 375 IUCD in women using contraceptive method and had used no contraception before. **Method:** A total of 80 women of reproductive age group who are sexually active and who wanted to practice some contraceptive method were included in the study. After filling Performa speculum examination was also done and all the contra indications for the fitting of IUCD were ruled out. **Results:** In this comparative study the effectiveness and side effects of two copper releasing IUCDs, Copper-T and Cu 375 IUCD was observed. Pelvic inflammatory disease occurred more often with Cu 375 IUCD than other group. Dysmenorrhoea was also experienced more with Cu 375 IUCD user than Copper-T. Menorrhagia rate was also high in Cu 375 IUCD users. The only case of uterine perforation was in the user of Copper-T. **Conclusion:** It is concluded from this study that Copper-T is a highly effective method of contraception than Cu 375 IUCD with good patient acceptance and lesser side effects.

**Keywords:** Contraception, expulsion, PID

## INTRODUCTION

IUCD are extremely effective, useful and well tolerated method of contraception. Over the past few years, the intrauterine device IUD has overcome many of the problems that had initially made it unpopular. Today it is probably the most cost effective, reversible form of contraception available.

The placement of contraceptive devices in the uterus for the purpose of preventing pregnancy was first described in scientific literature in the early 1900s. The original IUDs were composed of contraceptive rings made out of a variety of materials ranging from steel to silkworm gut.[1–4] In 1960s IUD was reinvented in the form of inert plastic IUDs that are available in a wide variety of shapes and sizes including Lippies Loop, Margulies Spiral and Saf-T-Coil.[5] In 1970s it was discovered that the addition of Copper-To the plastic device improved contraceptive efficacy, thereby allowing it to be made smaller, which improved the ease of insertion and decreased some of its untoward side effects.[5] Today, 2 types of IUDs, containing either copper or progestin have re-emerged as effective, safe and acceptable methods of contraception.

Pakistan is amongst the countries which has the highest population rate in the world. The current estimates of a most growth rate range from 2.85–3.15%. If this growth remains unchecked there will be a population explosion and world run out of its food resources. Family planning contributes to safer motherhood by preventing too early, too close, too many or too late in life pregnancies.[6] Many un-wanted pregnancies are terminated by illegal septic abortion and family planning is an indispensable ingredient to prevent these complications.

Highlighting the side effects of IUCD and the presence of the latter 'P' in most of the heading to be covered when counselling a potential acceptor is a useful method of remembering the key factors of pregnancy, periods, pain, pelvic infection expulsion and perforation.[7]

## MATERIAL AND METHODS

It included all the patients attending family planning clinic for IUCD insertion in Fatimid Foundation Quetta and Naseeb Shaheed Memorial Hospital Kharian from Jan 2008–May 2010. A strict statistical record of all these patients using IUCD (Copper-T and Cu 375 IUCD) was kept in these clinics. All these women attending clinic for family planning were fully evaluated before giving advice regarding the best suitable contraceptive method. The patient selected for IUCD insertion after following parameters were evaluated.

Detailed history was obtained from each woman with special reference to any pregnancies, menstrual cycle, past and present genital tract infection or any systemic disease.

General physical, systemic and abdomino-pelvic examinations were done. At the time of pelvic examination, the size, shape and position of the uterus was defined and conditions like genital infection were excluded.

A questionnaire made which include check list for both history and physical examination, so that no contra indications were

overlooked.

A clinical assessment for the possible presence of severe anaemia was carried out if laboratory test for Haemoglobin was not available.

## RESULTS

A total of 150 women attended the family planning clinic during the 16 months periods during which study was carried out. Out of these, 80 women were selected for IUCD insertion, 40 were selected for multi load and 40 for Copper-T. Insertion was performed on healthy sexually active women who had requested contraception and had no contraindication for the fitting of an IUCD.

All the patients who were selected for IUCD insertion had copper-T 380 and Cu 375 IUCD (375 Copper) was used during study. In our study more than 90% of insertions of IUDs are performed by the doctors and remaining by trained Lady Health Visitor. Women receiving the device were counselled regarding the problems associated with the fitting device (e.g., failed insertion) and of adverse events reported at insertion (e.g., pain or vaso-vagal reaction).

One prospective comparative clinical trial suggested that insertion failure and reported pain on insertion occurred more often with the Cu 375 IUCD than with the Copper-T 380 device.

The peak age range for the IUCD insertion was 26–38 years. No patient was aged less than 20 years. The net 6 and 12 months IUD continuation rate was 97% and 92% for Cu 375 IUCD copper 375 compared to Copper-T 380 A 89% and 93%. Main complications associated with IUCD are shown in Table-1.

**Table-1: Complications Associated with IUCD**

| Complications | Cu 375 IUCD | Copper-T |
|---|---|---|
| Dysmenorrhoea | 27% | 24% |
| Menorrhagia | 5% | 2% |
| Perforation | 0% | 1% |
| Expulsion | 4.6% | 2.4% |
| PID (6 months later) | 3.1% | 0.5% |
| Pregnancy rate | 1% | 0% |

## DISCUSSION

In developing countries IUCD seems to be one of the most effective method of birth spacing because most of the women are illiterate and worked up with house hold affairs as it provides effective contraception without paying much attention to the method, e.g., to attend family planning clinic repeatedly or to remember taking a pill. They have significantly extended use effectiveness and are easy to insert, the useful life span probably can be prolonged to 6–8 years.[8] There is no evidence of impairment in resumption of fertility in women who discontinue use.

In our study ages of majority of users were between 26 and 38 years and parity was between 2 and 3. According to Skajaa K *et al*[9] on account of a high frequency of infection, increased tendency to extrusion and poor affectivity, the use of IUCD in young nulliparous women are not recommended. Very few insertion problems were encountered in our study.

The most common problems encountered were dysmenorrhoea which was 27% with multiload compared to 24% with Copper-T. Main problems noted were menorrhagia (5%) in patients using Cu 375 IUCD compared to 2% in Copper-T users, pelvic infection (3.1%) in multi load users compared to 0.5% in Copper-T users. We observed expulsion in 4.6% cases in Cu 375 IUCD users and 2.4% in Copper-T user. According to WHO (1987) Copper-T device is associated with low expulsion rates, i.e., 3.3–7.1 per 100 women. In this study expulsion took place in young multiparous women substantiating the findings of Zhang J *et al* 1992.[10]

The only possible draw back of IUCD could be that on the whole, majority of our women were already anaemic and IUCD increases the menstrual blood loss by about 40–50%. Severe menstrual blood loss has been reported to occur in first three months after the insertion and then declined in the rest of the years.[11]

Lastly the perforation of uterus by an IUCD is thankfully a rare but recognised potentially fatal complication. In our study the incidence of perforation was 0% with Cu 375 IUCD and 1% with Copper-T. This occurred mainly during insertion and could be avoided by careful examination of the patient to determine the size and position of the uterus.

## CONCLUSION

Copper-T IUCD is a highly effective method of contraception with patient acceptance as good as for other reversible methods such as the pills. The tolerability of (Copper-T) IUCD can be increased by good clinical management, sympathetic counselling, proper selection of IUCD, careful insertion and regular follow up with good access to medical care.

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