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Original Review Article

Long Term Reversible Contraception Use in Comparison to Tubal Ligation

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Key words

Long acting reversible contraception (LARC),
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Abstract

There are multiple different types of contraceptive methods are available. Unplanned, unwanted pregnancy is one of the most important social, economic and national problem. Preferences in couple is in consideration with its lower failure rates. We present a review article with comparison of different methods of long term contraception and their effectiveness. Tubal ligation is an operative intervention which can have complications, in comparison with long term reversible methods such as intrauterine contraceptive device can be more feasible and less invasive. Failure rates of long-acting reversible contraceptive (LARC) are comparable, in fact lower than that of female tubal ligation, and should be considered as a more feasible option.

1. Introduction

Many different types of contraceptives methods are available. Permanent methods such as tubal ligation, male and female; long term reversible methods such as intrauterine contraceptive devices, injectables, implants; and short term methods such hormonal pills and barrier methods. There is still no perfect method. The most preferred method for a couple is one which has the least risk of failure. Unwanted pregnancy can be catastrophic for a couple especially in resource limited countries.

2. The National Scenario:

Unplanned, unwanted pregnancy is a social, economic and national problem. An estimated 15.6 million

abortions (14.1 million–17.3 million) occurred in India in 2015. Abortions accounted for one third of all pregnancies, and nearly half of pregnancies were unintended.¹ They form a significant number of pregnancies and could be a major factor of population increase. For many decades the National Family Planning Program in India is encouraging various methods of contraception, more so permanent methods of female sterilization and also male sterilization. Though very effective and most often irreversible, these methods can have complications and in fact are major surgeries. We need to look for more cost effective and reversible options with minimal failure rates (**Refer table no. 1**)

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Table 1: Women experiencing an unintended pregnancy within the first year of use (%).

Method	Typical use	Perfect use ²
Copper T intra-uterine devices	0.8	0.6
Progesterone intra-uterine system	0.2	0.2
3-year implant	0.05	0.05
Female sterilization	0.5	0.5
Male sterilization	0.15	0.10

3. Discussion

LARC (long-acting reversible contraceptive) methods are easy to administer to the well motivated couple. They are most commonly done in the outpatient setting by a qualified health care provider. This is very easy for the patient in comparison to tubal ligation which requires admission and operation theatre facilities. Tubal ligation involves trained gynecologist and anesthetist where as long-acting reversible contraceptive LARC can be inserted by a family physician as well.

LARC (long-acting reversible contraceptive methods) are long term, Norplant implants are effective for 5 years, intrauterine contraceptive device (IUCD) which contains copper has a range from 5 to 8 years of effectiveness. Mirena intrauterine system (IUS) has contraceptive effectiveness of 5 years.^{2,3} Biggest advantages they are all completely reversible with simple removal. This is important as many a time women may change their mind and if there is a change of partner or life circumstances may desire future fertility. This option would not be possible in tubal ligation.

Although with advent of artificial reproductive technology it is possible to have children with IVF (in vitro fertilization) after female sterilization, albeit, it's a costly option. But, fertility following male sterilization is rarely if at all possible. However, women have a lot of misconceptions about intrauterine device insertion use. They attribute a lot health issues to it. Multiple studies have proven that they do not cause any long term side effects like menorrhagia, dysmenorrhea, but women post intrauterine contraceptive device (IUCD) insertion associate these symptoms to

intrauterine contraceptive device (IUCD) and ask for its removal. This is where proper and detailed counseling would help. The side effects post insertion is limited to first few months and usually subside on their own. The detailed counseling of women prior to insertion is essential.

Intrauterine devices have very low failure rates as low as 1 in 1000 women.^{2,3} Moreover, typical use and perfect use failure rates are almost similar. This is unlike oral contraceptive pills or barrier methods when there is vast difference between typical use and perfect use and efficacy is totally dependent on the user.

Tubal ligation techniques and timings have an effect on its failure rates. Failure rate after female tubal sterilization is 1 in 200. Failure rate after male sterilization is close to 1 in 1000, after 72 days of the procedure and confirmed with a semen analysis.^{2,3}

When female tubal ligation is considered, timing is important. Failure rates are higher if done along with cesarean delivery or immediately post partum. Effectiveness is said to be better when done at least 6 months after child birth. This could be attributed to edematous post partum tissue, which can form re-anastomosis of the tubes.

There are various techniques; both open surgery and laparoscopy can be considered. Specific techniques for tubal ligation are also numerous. Pomeroy's method, salpingectomy, Parkland method, Madlenar's method, Irving method, Uchida method, Aldridge method, coagulation of fimbrial ends can be done. Method is chosen as per surgeon discretion, failure rates though almost similar are lowest for fimbriectomy. The type of method used would also determine if reversal would be possible or not. Reversal is usually most successful with Pomeroy's method especially if done post partum. In comparison, long acting reversible contraceptive are very effective in terms of failure rates.⁴ They have the ease of insertion and removal if required. They do not have associated risks of major surgery or anesthesia. Moreover if the women change her mind and wants to conceive these LARC can be easily reversed without long term effects.

The non hormonal copper containing are easily available under the national family planning programme. Mirena intrauterine progesterone system is a more costlier option. Their failure rates are almost similar but there are no symptoms of

dysmenorrhea or menorrhagia with Mirena (intrauterine progesterone system) as it can also be used to treat such conditions.

The most common complication that is associated with both tubal ligation and Long acting reversible contraceptive (LARC) intrauterine device (IUD) is the chances of ectopic pregnancy. Women have to be counseled that if she misses her period she should be seen by a health care provider to rule out pregnancy and ectopic pregnancy.

Women who opt for Long acting reversible contraceptive (LARC) should get it removed after its recommended duration, which is usually of 5 years, as the effectiveness may be a concern. This information should be given to every women opting for Long acting reversible contraceptive (LARC).

Long-acting reversible contraceptive (LARC) methods which include the copper containing intrauterine devices (IUCD), progestogen-releasing intrauterine system (MIRENA) and injectable and implantable contraceptives are widely available. They offer a safe and effective contraceptive option for many women who do not want to have any further children.

Conclusion:

Long-acting reversible contraceptive (LARC) methods which include the coppercontaining intrauterinedevices (IUCD), progestogen-releasing intrauterine system (MIRENA) and injectable and implantable contraceptives are widely available. They offer a safe and effective contraceptive option for many women who do not want to have any further children.They are very effective but still lot of women do not opt for them and go for permanent operative methods.

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