

The Levonorgestrel Intrauterine System: A Long Term Option for Indian Women for Contraception and Treatment of Abnormal Uterine Bleeding

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Introduction

India is a developing country with a population of 1.24 billion. Women's healthcare in India poses two major problems - fertility control and chronic anemia. According to the National Family Health Survey- 3 (NHFS-3) only 49% of the currently married women aged 15-49 yrs use modern contraceptives. Female sterilization is the main type of contraceptive. Two-thirds of women using contraception are sterilized. More than half the women would be sterilized by age of 26 years.

The infant mortality (57 per 1000 live births) and under five child mortality (74 per 1000 live births) are still very high in India [1]. Hence it is better for Indian women to use long acting reversible contraceptives rather than sterilization. Only 2% of women in India use Copper-T. Many women discontinue copper devices because of Heavy Menstrual Bleeding (HMB). Studies have shown that Copper-T causes more bleeding compared to LNG-IUS which is more likely to cause amenorrhoea [2]. A long acting reversible contraceptive like LNG-IUS would be a better option for fertility control for Indian women compared to a Copper -T.

The National Family Health Survey- 3(NHFS-3) shows that 55.3% of women in India are anemic. The LNG-IUS, by its virtue of causing scanty bleeding or amenorrhoea would be suitable for Indian women as a long acting contraceptive as well as a long term treatment option for abnormal uterine bleeding [3].

Discussion

LNG-IUS was launched in 1990 in Finland as a long acting reversible contraceptive. LNG-IUS is available in more than 100 countries. The LNG-IUS contains 52mg of levonorgestrel, releasing a small quantity

(20 micrograms/day over 5 years) of the hormone in the uterine cavity. This results in low serum levels, but high concentrations of levonorgestrel locally in the endometrium. Levonorgestrel brings about atrophy of the endometrial glands and decidualization of the stroma. The endometrial cyclical activity is lost and the endometrium becomes thin and non-responsive to oestrogen. The suppression of endometrium brings about effective contraception. The changes in the endometrium cause spotting in the initial months of insertion and later cause scanty bleeding or amenorrhoea which is beneficial for women with abnormal uterine bleeding. In addition to being a highly effective long acting reversible contraceptive LNG-IUS provides positive health benefits in women with gynaecologic diseases causing heavy menstrual bleeding and dysmenorrhoea. LNG-IUS has been demonstrated to be beneficial in endometriosis, leiomyoma, adenomyosis, endometrial hyperplasia, and early-stage endometrial cancer [4,5]. Many countries have approved the use of LNG-IUS for contraceptive and various non-contraceptive purposes like idiopathic menorrhagia, leiomyoma, endometriosis, adenomyosis and endometrial protection during hormone replacement therapy. There are a few studies from India providing information regarding LNG-IUS use for contraception and the treatment of Abnormal Uterine Bleeding [6-9].

Intrauterine devices provide a long term, reversible safe and effective contraception worldwide. The government of India has approved Copper IUDs for contraception. However, only 2% of women in the reproductive age use Copper IUDs [10]. Many women discontinue copper IUDs because of heavy menstrual bleeding and pelvic pain. LNG-IUS is recommended for 5 years for contraception and is found to be effective for up to seven years of continuous use. LNG-IUS is safe, effective and a reversible contraceptive. Majority of the women using LNG-IUS have reduced menstrual bleeding and 15 -20% of women become amenorrheic by the

end of one year [11]. This effect of reduction of menstrual bleeding or amenorrhoea would be huge advantages to Indian women as majority are anaemic. As most of the medical and paramedical workers are trained in insertion of copper-T, insertion of LNG-IUS would not be difficult in India.

The LNG-IUS should replace female sterilization as a long term reversible contraceptive as there is a high infant and under five child mortality. The morbidity and mortality following surgical sterilization can be avoided. The local effect of LNG-IUS on endometrial suppression resulting in reduced menstrual bleeding is a definite advantage in anaemic women [4].

Abnormal Uterine Bleeding is a common symptom in women in the reproductive age. The abnormal uterine bleeding may be due to functional or structural causes. For benign conditions the treatment options are long term medical therapy, LNG-IUS, endometrial ablation or hysterectomy. 70% of the Indian population live in villages. Majority of the rural women suffering from abnormal uterine bleeding either do not have access to medical treatment or cannot afford medical treatment. However, when they reach a health facility both the doctor and patient opt for a definitive treatment like hysterectomy, as medical therapy is ineffective prolonged and unpredictable. LNG-IUS is used in very few centres in India because of the cost. LNG-IUS made available at a lower cost would definitely be a better option for Indian women as surgery involves hospitalization, loss of income, surgical and anaesthetic risks. The surgical morbidity is increased by pre-existing chronic anaemia.

LNG-IUS is effective in reducing menstrual blood loss in women with functional and structural lesions. The amount of reduction in the blood loss is greater than other medical therapies like oral contraceptive pills, oral progestogens, tranexemic acid or mefenamic acid. Systematic reviews have shown that LNG-IUS and endometrial ablation have similar therapeutic effects in the treatment of heavy menstrual bleeding [12-14]. LNG-IUS and endometrial ablation show similar therapeutic effects in obese women [15]. LNG-IUS is useful for the treatment of gynaecological conditions such as idiopathic menorrhagia, uterine fibroids, endometriosis and endometrial hyperplasia [16]. LNG-IUS has proved to be safe and effective in treatment of menorrhagia in the perimenopausal age and postmenopausal women. The small dose of levonorgestrel released in the uterine cavity makes the endometrium non proliferative which reduces the menstrual blood loss. This is a positive health benefit of preventing anaemia particularly in developing countries [17,18].

Several studies have shown that LNG-IUS is a reliable long term treatment option for idiopathic menorrhagia [19]. Continuation rates and repeat insertion of LNG-IUS are superior to other conventional medical therapies. Long term randomized controlled trials have shown equal satisfaction and health related quality of life with LNG-IUS and Hysterectomy [20,21]. In a systematic review, in selected cases of women with breast cancer treated with Tamoxifen LNG-IUS has proven to protect the endometrium [22].

There is strong evidence that medical treatment, particularly, LNG-IUS is effective in treatment of AUB and many unnecessary hysterectomies and endometrial ablations are done without first trying medical treatment [23,24]. LNG-IUS for the treatment of heavy menstrual bleeding was found to be cost-effective in various countries and settings. LNG-IUS was more effective and less costly than surgical procedures [25].

Conclusion

The LNG-IUS is a safe, reliable, long term, non-surgical and reversible contraceptive. It is an effective alternative to Copper devices which cause heavy menstrual bleeding and pelvic pain as LNG-IUS reduces menstrual bleeding. This is a definite advantage for an anaemic population. LNG-IUS is a reversible alternative to female sterilization in a country where infant and under five child mortality is very high. The LNG-IUS is a better option for the treatment of abnormal uterine bleeding for Indian women, where majority of the women are anaemic, live in the villages and do not have access or cannot afford surgical or long term medical treatment.

Hence, chronically anemic women can easily cross over the transition from a contraceptive phase to perimenopause and menopause with LNG-IUS preventing Heavy Menstrual Bleeding due to various gynecological conditions.

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