

## Profile of Clients Requesting For Removal of Intrauterine Devices in Jos, Nigeria

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### Abstract

**Background:** Intrauterine contraceptive devices are commonly used reversible methods of contraception in Jos, Nigeria. There is dearth of information on the effect of the IUD on client weight during the period of use. It is expected that the increased bleeding disorder associated with the intrauterine device may predispose to anaemia and some degree of weight loss.

**Method:** A retrospective study of all patients having their previously inserted IUDs removed at the Jos University Teaching Hospital, Northern Nigeria, between January 1999 and December 2004.

**Results:** The mean ( $\pm$  SD) age and parity of the clients was  $32.9 \pm 6.9$  years and  $4.0 \pm 2.2$  respectively. All the women were married and none of them was a nullipara. The TCu-380A IUD was used in 99.3% of the cases. The women were using the method for a mean of  $51.5 \pm 51.0$  months or 4.3 years, and the commonest indication for removal was the desire for another pregnancy in 30.7% of the clients, followed by back pain in 12.6%. The mean weight ( $\pm$  SD) of the women at the insertion of the IUD was  $66.67 \pm 13.95$  kg and the mean weight at the removal of the device was  $69.3 \pm 14.9$  kg. The average weight gain with IUD use was therefore 2.6 kg.

**Conclusion:** The observed weight increase in IUD users is probably occasioned by the annulment of the fear of pregnancy, and the tendency of women to gain weight with increasing age.

**Key words:** Intrauterine device, weight gain, TCu-380A

### Résumé

**Introduction :** Ordinairement, on utilisait les stérilets contraceptifs comme des méthodes contraceptive à double face à Jos, Nigéria. Il y a la pénurie de l'information sur l'effet du stérilet (IUD) sur le poids du client au cours de la période de l'utilisation. Comme on doit s'y attendre l'augmentation dans des troubles saignants associé au stérilet pourrait prédisposer à l'anémie et au quelques degrés de perte du poids.

**Méthodes :** Une étude à effet rétroactif de tous les patients qui avaient auparavant subi l'enlèvement de leur IUDs stérilets au centre hôpitalier universitaire de Jos Nigéria du nord, entre janvier 1999 et décembre 2004.

**Résultats :** L'âge moyen ( $\pm$ -SD) et la parité des clients était  $32,9 \pm 6,9$  ans et  $4,0 \pm 2,2$  respectivement. Toutes les femmes sont mariées et aucune d'elles était nulipara. Le TCu-380A IUD était utilisé en 99,3% des cas. Les femmes utilisaient la méthode pour un moyen de  $51,5 \pm 51,0$  mois ou 4,3 ans, et l'indication la plus ordinaire pour l'enlèvement était le désir pour une autre grossesse en 30,7% des clientes, suivi par mal de reins en 12,6%. Le poids moyen ( $\pm$ -SD) des femmes au cours d'insertion d'IUD était  $66,67 \pm 13,95$  Kg et le poids moyen pendant l'enlèvement de la méthode était  $69,3 \pm 14,9$  Kg. En moyenne, le poids pris avec l'utilisation du IUD était donc 2,6 Kg.

**Conclusion :** L'augmentation du poids notée chez les sujets qui utilisent IUD est peut-être attribuable à l'annulation de la peur d'une grossesse, et la possibilité d'une augmentation du poids au fur et à mesure que les femmes deviennent de plus en plus âgées.

**Mot clés:** Système du stérilet, poids pris, TCu-380A

## Introduction

The intrauterine contraceptive devices became available from 1909, when Dr. Richter of Waldenburg described the method.<sup>1</sup> The intrauterine devices (IUDs) have been used throughout the world for more than three decades, and millions of women have found them to be effective, safe and convenient.<sup>2</sup> The IUD is especially suitable for older parous women who wish to prevent further pregnancies but who are not ready to choose a permanent method of family planning; who are in stable relationships in which neither partner has any other sexual partners; and who have no history of pelvic inflammatory disease or ectopic pregnancy.<sup>3</sup>

The influence of non-hormonal intrauterine device for example the Copper T 380A (TCu-380A), on weight change has been controversial. Neither type of IUD causes weight changes.<sup>4</sup> Women do not gain weight or notice mode changes when using the IUD.<sup>5</sup> A group of workers have observed that the IUD does not make you gain weight.<sup>6</sup> On the other hand, another group of workers have found that some women reported increased changes in body weight after the insertion of IUD.<sup>7</sup> However, Mirena, a levonorgestrel containing IUD, can cause weight gain, headache, increased blood pressure and acne.<sup>8</sup> Intrauterine contraceptive devices generally fall into three groups. The inert plastic devices such as the lippes loop, the metal bearing devices exemplified by the TCu-380A, and the hormone containing devices like the progestasert. Common contraindications to the use of the IUDs are menorrhagia, nulliparity,<sup>9</sup> women with heavy menstrual periods,<sup>10</sup> dysmenorrhoea, history of pelvic inflammatory disease, uterine fibroids which distort the endometrial cavity, and congenital abnormalities of the uterus. One of the reasons for discontinuation of the method amongst others is excessive menstrual bleeding.

The devices are expected to be removed at the expiration of the device, or when the effective lifespan of the IUD has expired. They are also removed at other times when the client makes such a request. Medical indications for removal include pregnancy, acute pelvic inflammatory disease (PID), endometrial/cervical malignancy, uterine perforation, partial expulsion, and excessive menstrual bleeding. The devices are also removed when a client reaches the age of menopause.

Weight changes, or weight gain during IUD use, to the best of our knowledge, have not been documented in this part of the country. We present the results of our findings of weight changes in all clients that had their IUDs removed in Jos, Nigeria over the period of study.

## Materials and Methods

This was a retrospective descriptive study of all clients requesting for the removal of intrauterine devices (IUDs) at the Jos University Teaching Hospital, Jos, Nigeria. The study period was between

1999 and 2004. The records of all clients that requested for their IUD to be removed in the family planning clinic were retrieved and relevant information extracted for analysis. The data was entered into the Epi-Info statistical software and analysed.

## Results

A total of 533 intrauterine devices (IUDs) were removed during the period of study. All the women were married. The TCu-380A was used in 99.3% of the cases. The mean ( $\pm$  SD) age of the clients was  $32.9 \pm 6.9$  years. Women of active reproductive age (20-39 years) were using the method in 83.4% (Table 1). The mean ( $\pm$  SD) parity was  $4.0 \pm 2.2$ . Majority (85%) of the women were of parity 2 and above (Table 2).

The commonest indication for IUD removal was the desire for pregnancy in 30.7%. Back pain was the indication for removal in 12.6%, vaginal discharge/infection/PID in 11.6%, expiration of the device in 9.4%, excessive menstrual loss in 4.7% and reaching menopausal age in 2.5% (Table 3).

By the end of the first year, 25.6% of women had had the IUD removed, 71.4% had been removed by 5 years and 90.2% by 10 years. Fourteen (9.8%) of the women were using the device beyond the expiration time of 10 years. The mean duration of the use of the IUD in the clients was  $51.4 \pm 51.0$  months or 4.3 years. The weight of the women at the insertion of the IUD ranged from 32.0-132.0 kg with a mean ( $\pm$  SD) of  $66.7 \pm 14.0$  kg. The range of weight at the removal of the device was 36.0-130.0 kg with a mean ( $\pm$  SD) of  $69.3 \pm 14.9$  kg. The average weight gain with IUD use was therefore 2.6 kg (Table 4).

Table 1: Age of clients having removal of IUD

Age (years)	No. (%)
$\leq 19$	2 (0.4)
20 - 24	53 (9.9)
25 - 29	133 (24.9)
30 - 34	129 (24.2)
35 - 39	121 (22.7)
40 - 44	59 (11.1)
45 - 49	27 (5.1)
$\geq 50$	9 (1.7)
Total	533 (100)

Range: 18-60; Mean:  $32.9 \pm 6.9$  S.D.

Table 2: Parity of clients having removal of IUD

Parity	No. (%)
1	80 (15.0)
2 - 4	246 (46.1)
$\geq 5$	207 (38.9)
Total	529 (100)

Range: 1-10; Mean:  $4.0 \pm 2.2$  S.D.

Table 3: Indications for the removal of IUDs among 529 clients

Indication	No. (%)	Mean duration of use
Desire for pregnancy	170 (30.7)	36.1 ± 28.9
Back pain	70 (12.6)	64.6 ± 80.6
Vaginal discharge/infection/PID	64 (11.6)	34.4 ± 32.8
IUD has expired (> 10 years of use)	52 (9.4)	136.8 ± 55.8
Wants a change of method	51 (9.2)	46.8 ± 39.5
Wants re-insertion of another IUD	37 (6.7)	54.8 ± 44.3
Excessive menstrual bleeding	26 (4.7)	22.1 ± 21.2
Client needs rest from the IUD	24 (4.3)	40.3 ± 39.0
Inter-menstrual bleeding	15 (2.7)	44.7 ± 56.2
Woman has reached menopause	14 (2.5)	101.0 ± 70.4
Partial expulsion of IUD	11 (2.0)	34.9 ± 45.3
Husband's rejection/disapproval	5 (0.9)	14.3 ± 22.6
Husband's death	5 (0.9)	58.0 ± 54.7
Hypertension	5 (0.9)	33.4 ± 32.9
Others	5 (0.9)	36.0 ± 0.0
Total	554*	

PID: pelvic inflammatory disease; IUD: intrauterine device; others include missing IUD 2, cervical polyp 2, going for religious pilgrimage

1: \* There were more than one indication in some clients

Table 4: Weight distribution of clients at insertion and removal of the IUD

Weight (Kg)	No. at insertion (%)	No. at removal (%)
≤ 39	2 (0.5)	1 (0.2)
40-49	39 (8.7)	29 (6.5)
50-59	118 (26.4)	93 (20.8)
60-69	124 (27.7)	106 (23.8)
70-79	92 (20.6)	115 (25.7)
80-89	51 (11.4)	64 (14.3)
90-99	9 (2.0)	20 (4.5)
100-109	8 (1.8)	13 (2.9)
≥ 110	4 (0.9)	6 (1.3)
Total	447 (100)	447 (100)
Range	32-132 kg	36-130 kg
Mean	66.7 ± 14.0 S.D.	69.3 ± 14.9 S.D.

Average weight gain with IUD use: 2.6 kg; p value: 0.8098; Odds ratio: 0.96.

## Discussion

The women were found to gain an average of 2.6 kg. This is however lower than the average 4.5-9.0 kg of weight gain in oral contraceptive users.<sup>11</sup> The pills act through both anabolic and fluid retention pathways to cause weight gain which the IUD does not possess. In many women using contraceptive methods for regulation of fertility, weight gain is caused mainly by the oral contraceptives. This has been attributable to fluid retention due either to the progestin or the oestrogen in the pill through systemic effect on the patient. Oestrogen induced weight gain has been attributed to increased subcutaneous fat around the hips, thigh, and breasts.<sup>11</sup> The oral contraceptives also have anabolic effects, causing increased appetite and therefore increasing food intake<sup>11</sup>. This type of weight gain occurs over several years.

The depression, anxiety or stress induced by the hormones in the pill may be accompanied by an increased food or calorie intake resulting in weight gain.

The effect of the IUD on weight has been met with controversies. While some authors state that it has no effect on body weight,<sup>4-6</sup> Others have documented that women have reported changes in body weight after the insertion of an IUD<sup>7</sup>.

Mirena<sup>®</sup>, a modern intrauterine hormonal contraceptive system containing levo-norgestrel, is effective for up to 5 years,<sup>8</sup> and can cause weight gain, headache and possibly acne. IUDs do not have hormone effects on the rest of the body. Women are therefore not expected to gain weight or notice mood changes when using the IUD<sup>5</sup>. IUDs have no hormone effects on the rest of the body. Women do not gain weight or notice mood changes when using the IUD.<sup>5</sup> Except for the hormone releasing IUDs, other types of IUDs have no systemic effects or side effects. The TCu-380A is not associated with fluid retention, or does it possess any anabolic effects as the pill. The TCu-380A IUD, predominantly used in the study, acts locally by interference with sperm transport from the cervix to the fallopian tubes, inhibition of sperm capacitation or survival and inducing endometrial changes that inhibit the process of implantation.<sup>3</sup> It therefore has no systemic effects of the hormonal contraceptives that predispose to weight gain in users. It is therefore not expected to be associated with weight gain. The increased menstrual loss with resultant anaemia in many IUD users is expected on the other hand to be associated with weight loss. This was not the finding in this study.

This apparent increase in weight in IUD users in the study may just be a coincidental finding. However, the freedom from the fear of pregnancy, increasing age of the patients may be possible associated factors. Around menopause, most women

gain weight and experience an increase in body weight.<sup>12</sup> This may be another contributory factor manifesting as weight gain in the IUD users in the study.

More studies with a larger population of IUD users are required to determine whether the weight gain in the users is a significant finding and the possible reasons for such an increase.

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