

# Vaginal Bleeding Patterns Among Lactating Women Using Contraceptive Methods

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**Abstract :** Menstrual diary records were obtained from 322 lactating women, each for one year duration starting from delivery. The women were divided into 4 groups according to types of contraceptive used i.e. 114 Depo-provera, 99 Norplant, 32 IUDs and 77 tubal sterilization. A comparative analysis of their vaginal bleeding patterns was performed. The analytic procedures involved dividing each subject's diary into 4 successive 90-day reference periods, and indices for each period were calculated. Depo-provera and Norplant had a similar number of bleeding/spotting episodes. The median values of bleeding/spotting episodes for either group were 1,0,0 and 0 for reference period 1,2,3 and 4, respectively. Median values of bleeding/spotting episodes for each reference period for women using IUDs were 1,2,3 and 3; and for women undergoing tubal sterilization were 0, 0.1 and 2. Median values of number of bleeding/spotting days for reference period 1,2,3 and 4 were as follows : Depo-provera 9.0, 0.0, 0.0 and 0.0 ; Norplant 5.0, 0.0, 0.0 and 0.0; IUDs 4.0, 8.0, 9.0 and 10.5; and tubal sterilization 0.0, 0.0, 0.5 and 7.0. (*Thai J Obstet Gynaecol* 1992;4: 33-41.)

**Key words :** vaginal bleeding patterns, lactating women, contraceptives

Although lactational amenorrhea has been regarded as a good method of fertility regulation particularly when other family planning methods are not readily available or desirable, it is common practice in Thailand to start temporary contracep-

tives at six weeks postpartum. Among hormonal contraceptives, progestogen only contraceptives, either in injectable or implant forms, which have not been shown to have any adverse effect on lactation and may even augment milk production, are popular<sup>(1,2)</sup>. Some ex-

perts recommend that progestogens, rather than combined oral contraceptives, be used by breast-feeding women<sup>(3,4)</sup>. Disturbance in vaginal bleeding induced by methods of contraception is an important side effect because of its potential impact on acceptability and continuation rate. Knowledge of these changes is essential for effective counselling.

Most studies concerning the influence of contraceptives on the vaginal bleeding pattern were concentrated on non-lactating women<sup>(5,6)</sup>.

The objective of this paper is to study the influence of progestogen only contraceptives (Depo - provera and Norplant) on vaginal bleeding patterns among lactating women by comparing them with lactating women who had undergone abdominal tubal sterilization (TR) or who were fitted with Multiload Cu250 IUDs.

## Materials and Methods

Women who fulfilled the following criteria were recruited to the study: 18-35 years old; having had vaginally delivered term single infants; having breast fed and intending to breast feed for at least 6 months; and intending to use one of the following contraceptive methods: Depo - provera (DMPA), Norplant, IUDs, and TR. All women were asked to complete their menstrual records for one year after delivery and report to the investigators monthly. The reference period method, recommended by WHO 1985<sup>(7,8)</sup> was used to analyze the vaginal bleeding

records. The method adopted the woman as the unit of analysis, divided her diary into four consecutive 90-day periods i.e. period 1 (delivery to 90 days), period 2 (91 to 180 days), period 3 (181 to 270 days) and period 4 (271 to 360 days). Vaginal bleeding patterns were summarized within each period. The indices used to determine the vaginal bleeding pattern included number of bleeding/spotting episodes and number of bleeding/spotting days. Bleeding/spotting episode was defined as any set of one or more bleeding or spotting days bounded at each end by two or more consecutive bleeding-free days. Subgroups of subjects with clinically important bleeding patterns within each reference period were also analyzed. These subgroups included women experiencing 1) no bleeding throughout the reference period (amenorrhea), 2) prolonged bleeding, i.e. bleeding/spotting episodes lasting more than 14 days, 3) frequent bleeding, i.e. more than 5 bleeding/spotting episodes, 4) infrequent bleeding, i.e. 1 or 2 bleeding/spotting episodes, 5) irregular bleeding, i.e. 3 to 5 bleeding/spotting episodes and less than 3 bleeding/spotting-free intervals of 14 days or more, 6) none of the above (normal bleeding pattern). If prolonged bleeding occurred in conjunction with any one of infrequent, frequent or irregular bleeding, a woman was considered as having prolonged bleeding. No women failed to record bleeding/spotting episodes.

Since outcome variables (bleed-

ing/spotting episodes or bleeding/spotting days) were not normally distributed, the non-parametric Kruskal-Wallis test was used as a significant test.

### Results

Three hundred and twenty two women were recruited and classified into four groups according to types of contraceptives they had chosen i.e. 114 DMPA, 99 Norplant, 32 IUDs, and 77 TR (Table 1). Table 2 shows baseline characteristics of the subjects. Most of them were labourers or farmers. The women in TR group were older and had higher parity than the other three groups. They also had

lower percentage (2.6 %) of resumption of menstruation at 6 weeks postpartum but it was not statistically significant. Over half of them fed supplementary food to their babies early at the age of one month or younger.

**Table 1** Sample size

Study groups	No.
DMPA	114
Norplant	99
IUDs	32
TR	77
Total	322

**Table 2** Subject characteristics by methods of contraception

Characteristics	DMPA (%)	Norplant (%)	IUD (%)	TR (%)	p value
Occupation					
- labourers or farmers	82.5	74.7	72.8	75.8	0.0983**
Age (X ± SD)	24.3 ± 3.7	25.3 ± 4.1	24.6 ± 3.5	28.5 ± 3.2	0.0000*
Parity (median)	1	1	1	2	0.0000*
Resumption of menstruation at 6-week postpartum	12.3	12.1	9.4	2.6	0.1113**
Age of starting supplementary feedings					
< 1 month	10.5	6.1	9.4	11.7	
1 month	63.2	63.6	56.3	48.1	
≥ 2 months	26.3	30.3	34.4	40.3	0.3183**
Age of weaning					
3-6 months	4.4	3.0	6.3	2.6	
7-12 months	29.8	26.3	34.4	31.2	
> 12 months	65.8	70.7	59.4	66.2	0.8933**

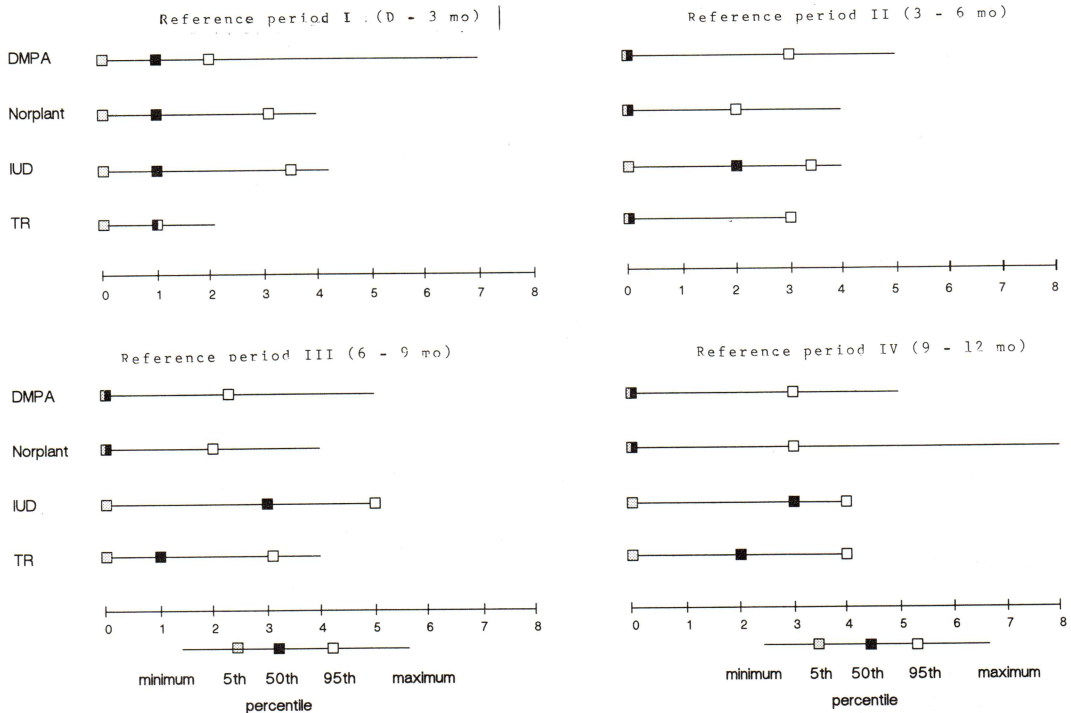
\* Significant

\*\* Not significant

*Number of bleeding/spotting episodes*

Figure 1 shows number of bleeding/spotting episodes by study groups and reference periods. Generally almost all of our subjects had infrequent episodes of vaginal bleeding/spotting throughout their first postpartum year. The maximum episodes for all reference periods ranged from 2 to 8.

episodes for either group were 1,0,0 and 0, for the reference period 1,2,3 and 4 respectively. Median episodes among IUDs group increased from 1 in the first reference period to 3 in the fourth reference period. They had highest episodes for all reference periods when compared to other groups. Women in TR group resumed menstruation between 6 to 9 months after delivery, when they had a median epi-



**Fig. 1** Numbers of bleeding/spotting episodes in each 90-day reference period.

Overall, variability between women was small. The maximum range of 5th to 95th percentile was only 5 episodes. DMPA and Norplant groups had a similar pattern of bleeding/spotting in terms of episodes. The median values of bleeding/spotting

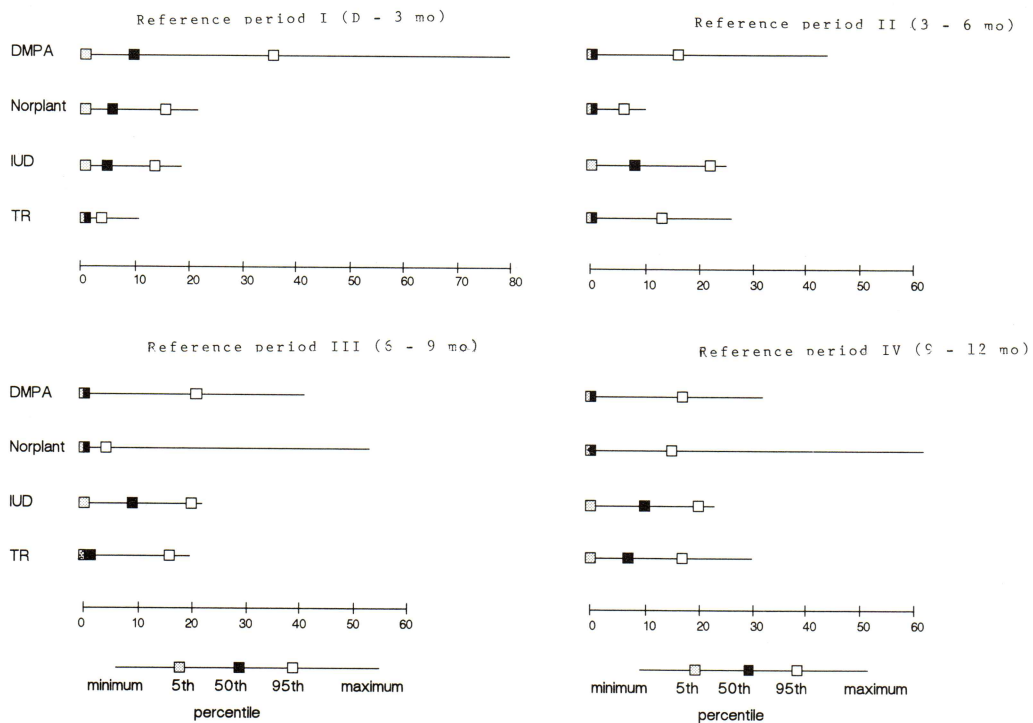
sode equal to 1. The median episode increased to 2 between 9 to 12 months after delivery.

*Number of bleeding/spotting days*

Number of bleeding and spot-

ting days is shown in Fig. 2. Variability of number of bleeding/spotting days between women was largest in reference period 1 (5th-95th percentiles = 0.0 - 34.5). Fifth to 95th percentiles of number of bleeding/spotting days in reference period 2,3 and 4 were 0-22.8, 0-20.8 and 0-20.4 respectively. Most women in DMPA and

days in the IUDs group increased from 4 days in the first reference period to 11 days in the fourth reference period. There were no bleeding/spotting days, on average, among the TR group after delivery to 6 months postpartum. Vaginal bleeding resumed after 6 months post delivery and increased in number of days from 0.5 to



**Fig. 2** Numbers of bleeding/spotting days in each 90-day reference period.

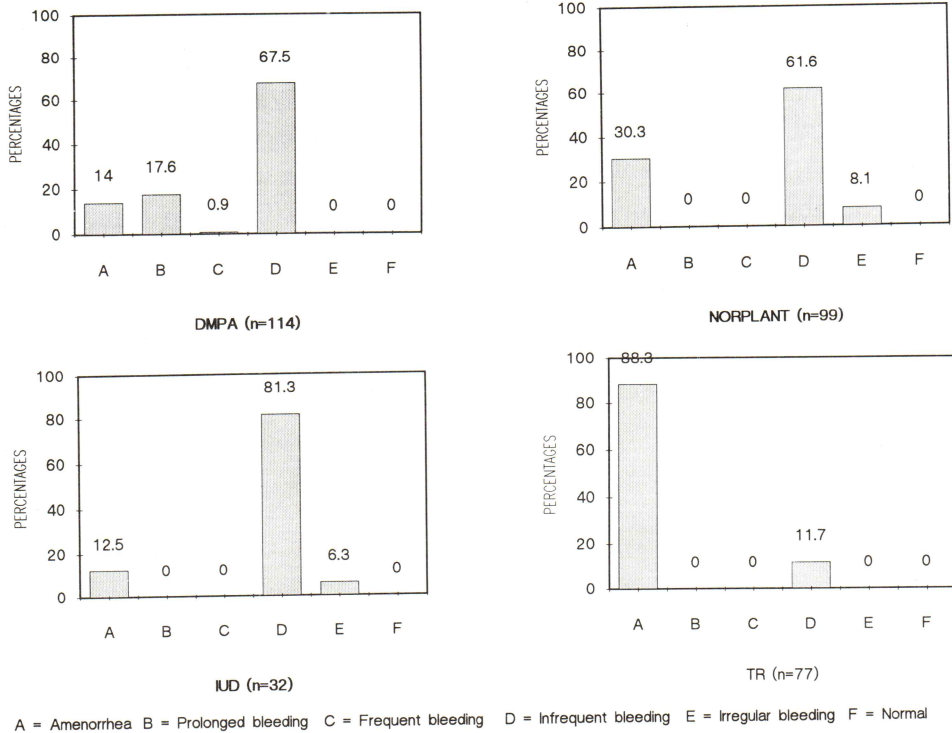
Norplant groups bled only during the first 90 days after delivery. There were more bleeding/spotting days among the DMPA group than either Norplant or IUDs groups in the first reference period.

Number of bleeding/spotting

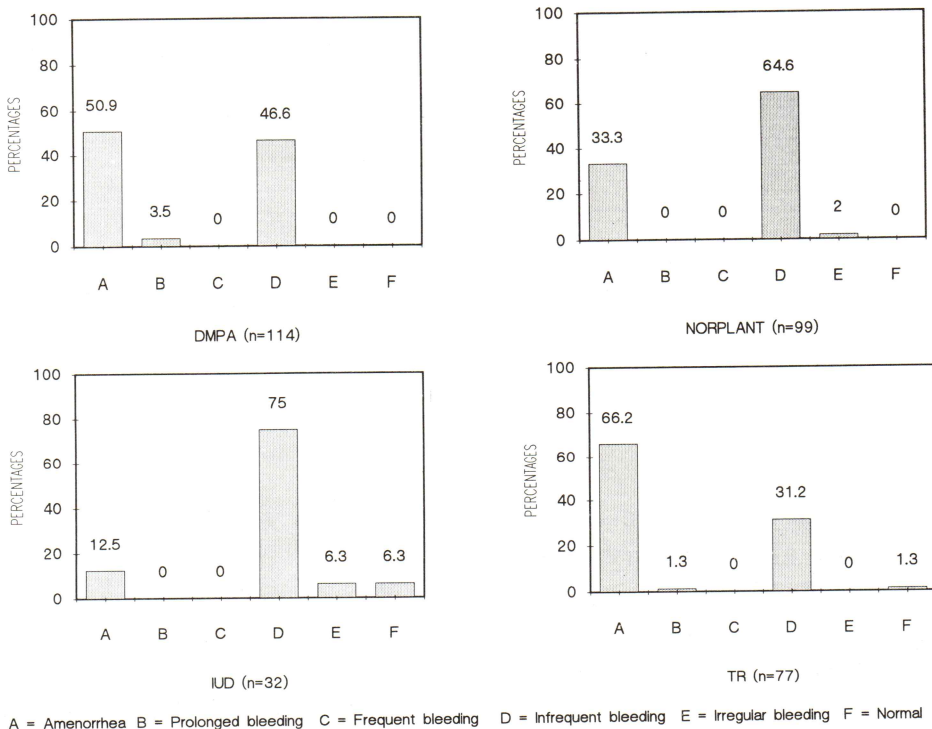
7.0 between 9 to 12 months .

*Bleeding pattern subgroups in each 90-day reference period*

During the first three months after delivery (Fig. 3), the women in



**Fig. 3** Bleeding pattern subgroups in reference period 1 (delivery - 3 months).



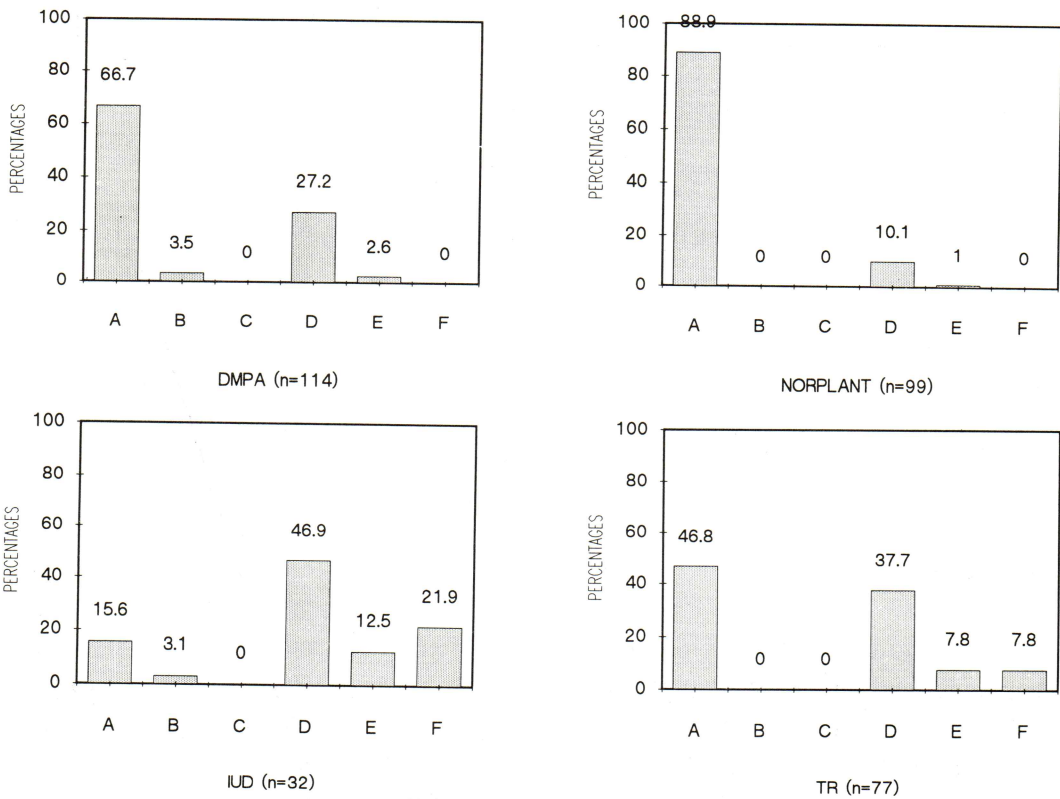
**Fig. 4** Bleeding pattern subgroups in reference period 2 (3 - 6 months).

TR group experienced 88.3% amenorrhea, whereas, there were 12.5 % in IUDs group, 14.0 % in DMPA group and 30.3 % in the Norplant group. Bleeding pattern commonly occurred among study groups other than TR was infrequent. Prolonged bleeding occurred only in the DMPA group (17.6 %).

Norplant group where the figures were from 30.3 % during the first reference period (Fig. 3) to 81.8 % in the fourth reference period (Fig. 6). Contrary to the TR group, percentage of amenorrhea decreased steeply from 88.3 % in the first reference period (Fig. 3) to 27.3 % in the fourth period (Fig. 6).

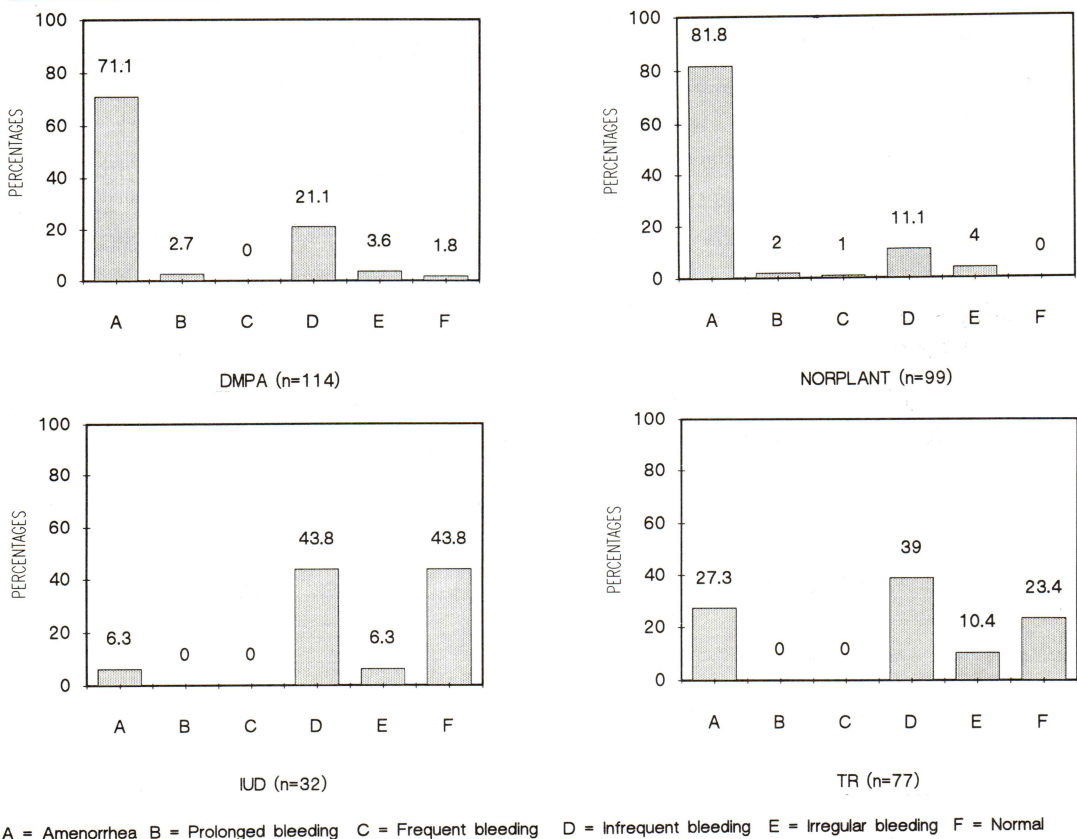
The proportion of women experiencing amenorrhea among the DMPA group rose progressively from 14.0 % in the reference period 1 (Fig. 3) to 71.1 % in the reference period 2 (Fig. 4). This was similar to the

Nearly 40 % among the TR group experienced infrequent bleeding throughout 3 to 12 months post delivery (Figs. 3-6). Normal bleeding occurred most frequently (43.8 %) among IUDs users during the fourth reference period (Fig. 6). Among TR



A = Amenorrhea B = Prolonged bleeding C = Frequent bleeding D = Infrequent bleeding E = Irregular bleeding F = Normal

**Fig. 5** Bleeding pattern subgroups in reference period 3 (6 - 9 months).



**Fig. 6** Bleeding pattern subgroups in reference period 4 (9 - 12 months).

group, normal bleeding started to occur at 1.3 % between 3-6 months (Fig. 4) and increased to 7.8 % and 23.4 % between 6-9 months (Fig. 5) and 9-12 months (Fig. 6) respectively.

### Discussion

Although women in the TR group were older and had higher parity than the other groups, the difference was not large or unlikely to influence vaginal bleeding patterns. Otherwise, study groups were comparable in terms of 6-week postpartum menstruation resumption, infant's age at onset of supplementary feeding and

at weaning.

When compared to non-lactating women using the ovulation method from another study<sup>(5)</sup> who had, on average, 3 bleeding/spotting episodes and 15-16 bleeding/spotting days in each 90-day reference period, lactating women either using progestogen only contraceptives, IUDs or TR had much lower bleeding/spotting days and episodes. This was most likely due to the influence of lactation. Bleeding pattern in the TR group was comparable to lactating women who used no contraception. By the sixth postpartum month, about 20 to 50 % of breast feeding women using no

contraceptives were menstruating<sup>(9)</sup>. IUDs caused more bleeding/spotting days and/or episodes than progestogen only contraceptives or surgically sterilization. Contrary to tubectomized subjects, women using progestogen only contraceptives had vaginal bleeding early after the start of use and became amenorrhoeic after three months postpartum.

### Acknowledgement

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