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A Comparative Study of Loestrin  
Versus Lo-Femenal  
in Mexico City, Mexico

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March 1990

## I. Introduction

A comparative study of two low dose combination oral contraceptives (OCs) was conducted at the Instituto de la Nutrición "Salvador Zubrian", in Mexico City, Mexico. This study was designed to evaluate clinical acceptability by determining rates of continuation and reasons for discontinuation, including pregnancy, between Loestrin (Parke-Davis), a low dose OC, and Lo-Femenal (Wyeth), the low dose OC pill currently provided by the United States Agency for International Development (USAID) programs. The study also evaluated the effects of the OCs on blood lipids. A major reason for the selection of these two oral contraceptives was to compare combined OC pills with a low estrogen dose composition.

The incidence of some common side effects associated with combined oral contraceptives (e.g. nausea, vomiting, spotting, and breakthrough bleeding) varies for different formulations and for the same formulation when evaluated in different geographic areas. Oral contraceptives with lower estrogen doses may reduce short and long-term side effects.

## II. Study Design

### Oral Contraceptive Evaluated

Each of the OCs administered in this study was provided in 28 day packs of 21 active steroid tablets and 7 iron tablets. Loestrin has a composition of 150 mcg norethindrone acetate and 30 mcg ethinyl estradiol (EE). Lo-Femenal has a composition of 300 mcg of the progestin, norgestrel, and 30 mcg EE. The iron

tablets in each of the products contained 75 mg of ferrous fumarate.

### Study Procedure

Women recruited into the study had to meet the following criteria: be between the ages of 18 and 35 years old; be sexually active; have terminated her last pregnancy at least 42 days prior to admission to the study (if not breastfeeding) or have terminated her last pregnancy at least four months prior to admission to the study (if breastfeeding); have had at least one normal menstrual period since termination of her last pregnancy; be in good health; rely exclusively upon the pills as her only method of contraception throughout the course of the study unless advised otherwise by the investigator; and for those women participating in the blood lipids evaluation, have not used oral steroidal contraception within 60 days of admission; give informed consent and be followed up for at least 12 months.

Normal clinical criteria for contraindications to OC use were followed. In addition, women with any of the following conditions were to be excluded from the study: pregnancy; history or evidence of thromboembolic disorders; significant cardiovascular disease; diabetes; renal dysfunction; epilepsy; hypertension; migraine; severe liver disorders; breast cancer; undiagnosed vaginal bleeding; chronic use of internal medications, such as antibiotics and barbiturates, which could reduce pill effectiveness.

A total of 150 women were admitted to the study from February 1986 through July 1988. The women were randomly allocated to receive either Loestrin or Lo-Femenal according to preprinted sealed envelopes opened at the time of

admission; 75 women were given Loestrin and 75 women were given Lo-Femenal. Follow-up visits were scheduled at 1, 4, 8 and 12 months after admission to the study. However, approximately one-half of the women reported for their 12-month follow-up visit by 11 months. One woman was not included in the analysis due to a protocol violation; she did not have at least one menstrual period since termination of her last pregnancy due to injectable contraception. One woman was also excluded from analysis because she never started treatment. All of the 148 women included in the analysis were interval patients ( $\geq$  42 days since last pregnancy termination). None of the women were breastfeeding at admission. The study was not blind, because an evaluation of the products as they appear on the market was desired.

At this center, 41 women who had not been using oral contraceptives in the two months prior to admission participated in an evaluation of the effects of low dose contraceptives on blood lipids; 21 in the Loestrin group and 20 in the Lo-Femenal group. For these women, blood samples were to be taken at admission, the four month and the seventh month follow-up visits. The lipid evaluation included determination of total cholesterol, triglycerides, high-density lipoprotein (HDL) cholesterol and low-density lipoprotein (LDL) cholesterol values.

Data from this study were recorded by the clinic staff on standard forms and were sent to Family Health International (FHI) for processing and analysis.

### III. Results

#### Sociodemographic Characteristics

Selected patient characteristics are presented by group in Table I. The mean age of the Loestrin group was 25.4 years and of the Lo-Femenal group, 25.5 years. The mean education level was 12.5 years for Loestrin users, and 10.9 for Lo-Femenal users; this difference was statistically significant ( $p < .05$ ). The mean total live births was 1.1 for both the Loestrin and Lo-Femenal groups.

#### Contraceptive Practice

Table I also presents a summary of the contraceptive practices of the women one month prior to admission to the study. Ten women (13.5%) from the Loestrin group and 14 women (18.9%) from the Lo-Femenal group reported having used no contraception in the month before study admission. The method most commonly used prior to admission in both groups was the IUD, by 26 women (35.1%) in the Loestrin group and 20 women (27.0%) in the Lo-Femenal group. A total of 28 women (37.9%) in the Loestrin group and 33 women (44.6%) in the Lo-Femenal group reported ever having used oral contraceptives prior to the study; this difference was not statistically significant ( $p > .05$ ).

#### Complaints at Admission

None of the women reported a pre-existing medical condition at admission. At admission, 11 women (14.9) in the Loestrin group and 8 women (10.8) in the Lo-Femenal group reported one or more menstrual/bleeding complaints (Table II). Dysmenorrhea was reported by 3 women (4.1%) in both groups. Fifty-four women

(73.0%) in the Loestrin group and 51 women (68.9%) in the Lo-Femenal group reported one or more minor physical complaints (Table II). Vaginal discharge was the most frequently reported physical complaint; by 44 women (59.4%) in the Loestrin group and by 39 women (52.7%) in the Lo-Femenal group.

#### Regularity of Use

Regularity of use (for the time since last contact) data were collected at 1, 4, 8 and 11 months after beginning oral contraceptive use. Compliance was assessed by self-report and from the date the last pill was taken prior to the date of follow-up visit. Follow-up visit data indicated that of the 142 women ever followed up, 12 women (16.7%) in the Loestrin group and 13 women (18.6%) in the Lo-Femenal group missed one or more pills at some time during the study period.

#### Side Effects

One serious complication was reported by a woman in the Loestrin group (Table III). Serious complications were based on the subjective interpretation of the patient. The woman reported severe headaches and discontinued from the study; she had completed 5 months of pill use.

Table III also presents minor medical complaints reported at follow-up. Minor complications were reported by 10 women (13.9%) in the Loestrin group and 12 women (17.1%) in the Lo-Femenal group. One woman in the Lo-Femenal group was hospitalized for gall bladder removal (cholecystectomy).

A summary of menstrual complaints ever reported throughout the follow-up period is shown in Table IV. Of the 142 women who returned for at least one follow-up visit, 33 women (45.8%) in the Loestrin group and 15 women (21.4%) in the Lo-Femenal group reported at least one menstrual complaint throughout the study period; this difference was statistically significant ( $p < .01$ ). Significantly more women in the Loestrin group reported intermenstrual bleeding ( $p < .05$ ). There were a greater proportion of Loestrin users compared to Lo-Femenal users who ever reported primary other menstrual complaints (other than intermenstrual bleeding), primarily dysmenorrhea (13.9% vs. 5.7%) and amenorrhea (11.1% vs. 5.7%); the differences are statistically significant ( $p < .01$ ).

A summary of typical pill-related problems and complaints ever reported at all follow-up visits is presented in Table V, and a summary of the changes in complaints is reported in Table VI. A total of 62 women (86.1%) in the Loestrin group and 59 women (84.3%) in the Lo-Femenal group reported at least one of these typical pill-related complaints; the two groups were not significantly different ( $p > .05$ ) in reports of these complaints. Overall, the largest increase in complaints were for headaches, nausea and breast discomfort for Loestrin users. Lo-Femenal users presented with the largest increases in complaints for nausea, headaches and dizziness (Table VI).

While Loestrin use was associated with significant increases in intermenstrual bleeding, other menstrual complaints and breast discomfort, the Lo-Femenal group did not have significant increases in these complaints. The Lo-Femenal group had significant increases in dizziness and vomiting that the Loestrin group did not have. The two groups share significant increases in nausea and headaches.

### Lipid Test Results

A summary of the lipid test results is presented in Table VII for the two subgroups. The two groups had different baseline values for total cholesterol, triglycerides, HDL and LDL cholesterol. However, these differences were not statistically significant ( $p > .05$ ). The results were evaluated as relative changes from baseline for each group independently. The mean total serum cholesterol increased 9.4% and 4.1% for Loestrin and Lo-Femenal, respectively. The mean serum triglyceride increased 14.6% for Loestrin users over 7 months. However, for Lo-Femenal users, there was a slight increase (4.7%) after 3 months, followed by considerable increase (10.8%) during the next 4 months for a total increase of 15.5%. The mean HDL cholesterol levels decreased by 4.1% for Loestrin users over 7 months, while the same levels increased by 1.3% for Lo-Femenal users over the same time period. The mean LDL cholesterol levels for both pill groups increased over 7 months; by 19.6% for Loestrin and by 8.6% for Lo-Femenal. There was a considerable increase (25.0%) in the LDL:HDL ratio after 7 months for the Loestrin group. This ratio did not change appreciably for Lo-Femenal.

### Discontinuation Rates and Reasons

A summary of all reasons for discontinuation is presented in Table VIII. A total of 28 women (38.9%) in the Loestrin group and 20 women (28.6%) in the Lo-Femenal group discontinued during the study period. In the Loestrin group, personal reasons, such as desiring a change in methods, were the primary reasons

given for discontinuation, followed by method unrelated reasons. In the Lo-Femenal group, the primary reasons for discontinuation were for planned pregnancy and personal reasons.

One accidental pregnancy occurred in the Loestrin group 3 months after admission. The pregnancy was attributed by the investigator to method failure because the woman reported having missed only one pill during the study period.

Lost to follow-up and total discontinuation percentages, along with woman months are presented in Table IX. The lost to follow-up percentages at 11 months for the two groups were 17.6 for Loestrin users and 20.3 for Lo-Femenal users. The 11-month total discontinuation percentages (including lost to follow-up) were 54.1 for the Loestrin group and 47.3 for the Lo-Femenal group. Gross cumulative life table discontinuation rates by reason are presented in Table X.

#### **IV. Summary**

A study of two low dose oral contraceptives, Loestrin and Lo-Femenal, was conducted at the Instituto de la Nutrición "Salvador Zubrian", in Mexico City, Mexico. The study was designed to determine if there were differences in discontinuation rates and reasons for discontinuation between the aforementioned oral contraceptives. This report includes an analysis of 148 women, all interval patients ( $\geq 42$  days since last pregnancy termination). Follow-up visits were scheduled at 1, 4, 8 and 12 months after admission. Most of the women returned for their final visit during month 11 rather than at the

scheduled twelve month visit.

A subgroup of 41 women, 21 in the Loestrin group and 20 in the Lo-Femenal group, participated in serum lipid analysis with blood samples taken at admission, 3 and 7 months. Lipid changes were minimal for the Lo-Femenal subgroup and, although somewhat greater for the Loestrin group, the changes were typical of those induced by norethindrone-containing combination OCs.

The lost to follow-up percentages were 17.6 for Loestrin and 20.3 for Lo-Femenal users. The 11-month total discontinuation percentage (including women lost to follow-up) was 54.1 and 47.3 for the Loestrin and Lo-Femenal groups, respectively. The rate at 11 months for method-related discontinuations was  $9.9 \pm 3.9$  for Loestrin users, and  $8.4 \pm 3.6$  for Lo-Femenal users; this is an indicator of clinical acceptability. The primary reasons for discontinuation in the Loestrin group were for other personal reasons, such as a desire to change methods, followed by method unrelated reasons. The primary reasons for discontinuation in the Lo-Femenal group were for planned pregnancy and personal reasons. There was one accidental pregnancy in the Loestrin group three months after admission. The pregnancy was attributed to method failure. One woman in the Loestrin group reported a serious complication (severe headaches), and discontinued 5 months after admission.

Table I  
Selected Sociodemographic Characteristics

Characteristic	Loestrin (N=74)		Lo-Femenal (N=74)	
	No.	% <sup>a</sup>	No.	% <sup>a</sup>
Age (years)				
Less than 20	5	6.8	5	6.8
20-24	31	41.9	33	44.6
25-29	28	37.8	27	36.5
30-34	10	13.5	8	10.8
35-39	0	0.0	1	1.4
Mean	25.4		25.5	
Education (years)				
1-6	14	19.0	16	21.6
7-12	22	29.8	34	46.0
13+	37	50.0	24	32.4
Unspecified <sup>+</sup>	1	1.4	0	0.0
Mean <sup>*</sup>	12.5		10.9	
Total live births				
0	29	39.2	31	41.9
1-2	37	50.0	34	45.9
3-4	8	10.8	9	12.2
Mean	1.1		1.1	

(cont.)

Table I (cont.)  
Selected Sociodemographic Characteristics

Characteristic	Loestrin (N=74)		Lo-Femenal (N=74)	
	No.	%	No.	%
Contraceptive method used one month prior to admission <sup>1</sup>				
None	10	13.5	14	18.9
IUD	26	35.1	20	27.0
Oral contraceptives	17	23.0	16	21.6
Withdrawal/rhythm	10	13.5	13	17.6
Injectables/implants	5	6.8	3	4.1
Other barrier methods	4	5.4	4	5.4
Condoms	1	1.4	4	5.4
Foam/diaphragm/jelly	1	1.4	0	0.0

N represents the total number of women included in the analysis.

<sup>a</sup>Percentages may not always add up to 100 due to rounding errors; this holds true for all subsequent tables in this report.

<sup>+</sup>Information not available.

<sup>\*</sup>p<.05, using t-test

<sup>1</sup>Values for other barrier methods, condoms, and foam/diaphragm/jelly were collapsed for significance testing.

Table II  
Complaints at Admission

Complaints	Loestrin (N=74)		Lo-Femenal (N=74)	
	No.	%	No.	%
<hr/>				
Intermenstrual Bleeding				
None	66	89.2	69	93.2
Moderate	5	6.8	1	1.4
Staining/Spotting	3	4.1	4	5.4
Primary Other Menstrual Complaints <sup>1</sup>				
None	69	93.2	68	91.9
Dysmenorrhea	3	4.1	3	4.1
Intermenstrual pelvic discomfort	1	1.4	3	4.1
Colic during menses	1	1.4	0	0.0
Total women with one or more menstrual/bleeding complaints	11	14.9	8	10.8
Other Complaints Reported in the Past Month <sup>1</sup>				
Vaginal discharge	44	59.4	39	52.7
Headaches	28	37.8	19	25.7
Dizziness	16	21.6	8	10.8
Breast discomfort	12	16.2	14	19.0
Nausea	11	14.9	10	13.5
Vomiting	1	1.4	0	0.0
Total women with one or more complaints	54	73.0	51	68.9
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N represents the number of women included in the analysis.

<sup>1</sup>Multiple complaints may be reported per woman for this category.

Table III

## Medical Complaints Since Admission

Characteristic	Loestrin (N=72)		Lo-Femenal (N=70)	
	No.	%	No.	%
<b>Serious complications</b>				
Severe headaches	1	1.4	0	0.0
<b>Minor medical complaints</b>				
Increased appetite	1	1.4	2	2.9
Chloasma	2	2.8	3	4.3
Abdominal pain	1	1.4	0	0.0
Fibrocystic breast disease	2	2.8	0	0.0
Colitis	0	0.0	1	1.4
Galactorrhea	0	0.0	1	1.4
Leg pains	1	1.4	2	2.9
Mood changes (depression & anxiety)	1	1.4	0	0.0
Other personal (began taking diet pills)	1	1.4	0	0.0
Cholecystectomy	0	0.0	1	1.4
Broken arm	0	0.0	1	1.4
Varicose veins	1	1.4	0	0.0
Combination: headaches, shivering and sleepiness	0	0.0	1	1.4
Unspecified <sup>+</sup>	1	1.4	0	0.0
Total women with one or more minor medical complaints	11	15.3	12	17.1

N represents number of women ever followed up.

<sup>+</sup>Information not available.

Table IV  
Menstrual Complaints Ever Reported Since Admission

Complaint	Loestrin (N=72)		Lo-Femenal (N=70)	
	No.	%	No.	%
Intermenstrual bleeding <sup>*1</sup>				
None	55	76.4	63	90.0
Staining/spotting	6	8.3	5	7.1
Moderate	9	12.5	2	2.9
Severe	1	1.4	0	0.0
Unspecified <sup>+</sup>	1	1.4	0	0.0
Primary other menstrual complaints <sup>2</sup>				
None	46	63.9	59	84.3
Dysmenorrhea	10	13.9	4	5.7
Amenorrhea	8	11.1	4	5.7
Scanty menses	5	6.9	3	4.3
Oligomenorrhea	1	1.4	0	0.0
Lumbar pain	1	1.4	0	0.0
Unspecified <sup>+</sup>	1	1.4	0	0.0
Total women with one or more menstrual/bleeding complaints <sup>**</sup>	33	45.8	15	21.4

N represents number of women ever followed up.

<sup>1</sup>Most severe complaint ever reported.

<sup>2</sup>Multiple complaints may be reported per woman for this category.

<sup>+</sup>Information not available.

\*p<.05, using chi-square, df=1

\*\*p<.01, using chi-square, df=1

Table V  
Other Complaints Ever Reported Since Admission

Complaint	Loestrin <sup>+</sup> (N=72)		Lo-Femenal (N=70)	
	No.	%	No.	%
Vaginal discharge	42	58.3	39	55.7
Headaches	39	54.2	37	52.8
Nausea	37	51.4	36	51.4
Breast discomfort	30	41.7	22	31.4
Dizziness	24	33.4	24	34.2
Vomiting	5	7.0	6	8.5
Total women with one or more complaints	62	86.1	59	84.3

N represents number of women followed up.

Multiple symptoms may be reported per woman.

<sup>+</sup>Information was not available for one woman for each of these complaints.

Table VI<sup>1</sup>

## Changes in Severity of Complaints Since Admission

Changes in Complaints	Loestrin (N=72)		Lo-Femenal (N=70)	
	No.	%	No.	%
Intermenstrual bleeding				
Never reported	54	75.0	58	82.9
No change	4	5.6	0	0.0
Decrease	1	1.4	5	7.1
Increase	12	16.7	7	10.0
New reports	11	15.3	7	10.0
Unspecified <sup>+</sup>	1	1.4	0	0.0
Nausea				
Never reported	33	45.8	31	44.3
No change	6	8.3	4	5.7
Decrease	2	2.8	3	4.3
Increase	30	41.7	32	45.7
New reports	29	40.3	29	41.4
Unspecified <sup>+</sup>	1	1.4	0	0.0
Vomiting				
Never reported	65	90.3	64	91.4
No change	0	0.0	0	0.0
Decrease	1	1.4	0	0.0
Increase	5	6.9	6	8.6
New reports	5	6.9	6	8.6
Unspecified <sup>+</sup>	1	1.4	0	0.0
Headaches				
Never reported	26	36.1	26	37.1
No change	11	15.3	8	11.4
Decrease	7	9.7	8	11.4
Increase	27	37.5	28	40.0
New reports	19	26.4	25	35.7
Unspecified <sup>+</sup>	1	1.4	0	0.0
Dizziness				
Never reported	41	56.9	42	60.0
No change	9	12.5	2	2.9
Decrease	6	8.3	4	5.7
Increase	15	20.8	22	31.4
New reports	14	19.4	20	28.6
Unspecified <sup>+</sup>	1	1.4	0	0.0

(cont.)

Table VI (cont.)

## Changes in Severity of Complaints Since Admission

Changes in Complaints	Loestrin (N=72)		Lo-Femenal (N=70)	
	No.	%	No.	%
Vaginal discharge				
Never reported	14	19.4	18	25.7
No change	18	25.0	18	25.7
Decrease	20	27.8	14	20.0
Increase	19	26.4	20	28.6
New reports	16	22.2	15	21.4
Unspecified <sup>+</sup>	1	1.4	0	0.0
Breast discomfort				
Never reported	38	52.8	44	62.9
No change	7	9.7	7	10.0
Decrease	3	4.2	4	5.7
Increase	23	31.9	15	21.4
New reports	21	29.2	12	17.4
Unspecified <sup>+</sup>	1	1.4	0	0.0

N represents the number of women ever followed up.

<sup>+</sup>Information not available.

New reports are complaints reported during the follow-up period by women who did not report the complaint at admission

N.B. Since the time periods for reporting a complaint since admission (e.g. 7 months from the 4 to 11 months follow-up visit) were longer than the time period to report a complaint at admission (1 month prior to admission), there is a bias toward an increased reporting of complaints since admission.

<sup>1</sup>Reports of complaints were ranked by severity, with the most severe complaint ever reported throughout the study being given priority. For example, if a woman reported experiencing breast discomfort "sometimes" at admission, "often" at her first follow-up, "none" at her second follow-up, and "sometimes" at her last follow-up, then the most severe report (here, "often") would be recorded. As represented in this table, the report would be an increase in severity of complaint since admission. A decrease would only be reported if a complaint at admission was the most severe report of that complaint throughout the study.

Table VII

## Mean Lipid Values for Loestrin and Lo-Femenal Subgroups

Lipid Value	Loestrin (N=21) Mean $\pm$ S.E.	Lo-Femenal (N=20) Mean $\pm$ S.E.
Cholesterol (mg/dl)		
Admission	163.2 $\pm$ 4.6	169.6 $\pm$ 5.8
3 months	163.9 $\pm$ 5.5	170.1 $\pm$ 8.0
7 months	180.1 $\pm$ 7.7	176.8 $\pm$ 11.6
Triglycerides (mg/dl)		
Admission	92.1 $\pm$ 7.1	102.2 $\pm$ 8.8
3 months	98.9 $\pm$ 5.9	107.2 $\pm$ 6.6
7 months	107.9 $\pm$ 11.2	95.6 $\pm$ 9.9
HDL (mg/dl)		
Admission	51.7 $\pm$ 1.9	46.5 $\pm$ 3.1
3 months	49.4 $\pm$ 1.9	46.6 $\pm$ 2.3
7 months	49.6 $\pm$ 2.9	47.1 $\pm$ 5.0
LDL (mg/dl)		
Admission	94.0 $\pm$ 4.8	102.0 $\pm$ 4.4
3 months	99.9 $\pm$ 6.4	105.6 $\pm$ 8.1
7 months	116.9 $\pm$ 8.0	111.6 $\pm$ 9.6
LDL:HDL ratio		
Admission	1.8	2.2
3 months	2.0	2.3
7 months	2.4	2.4

Table VIII  
Reasons for Discontinuation

Complaint	Loestrin (N=72)		Lo-Femenal (N=70)	
	No.	%	No.	%
Accidental pregnancy				
Method failure	1	1.4	0	0.0
Menstrual problems				
Bleeding	1	1.4	1	1.4
Amenorrhea	2	2.8	0	0.0
Side effects				
Nausea	0	0.0	1	1.4
Headaches	1	1.4	1	1.4
Chloasma	1	1.4	1	1.4
Combination of nausea, vomiting	1	1.4	0	0.0
Combination of shivering, headaches and sleepiness	0	0.0	1	1.4
Other medical reasons				
Fibrocystic breasts	2	2.8	0	0.0
Leg pain	1	1.4	0	0.0
Varicose veins	1	1.4	0	0.0
Broken arm	0	0.0	1	1.4
Planning pregnancy	4	5.6	6	8.6
Other personal				
Forgetfulness	1	1.4	2	2.9
Mood changes	1	1.4	0	0.0
Desires change	4	5.6	2	2.9
Method not needed	2	2.8	1	1.4
Method unrelated				
Moving/travel	4	5.6	0	0.0
No supply	0	0.0	1	1.4
Disinterest in study	1	1.4	1	1.4
Hospitalization	0	0.0	1	1.4
Total discontinuations	28	38.9	20	28.6

N represents number of women ever followed up.

Table IX

## Lost To Follow-up And Total Discontinuation Percentages

Event	Loestrin (N=74)	Lo-Femenal (N=74)
Lost to follow-up percentage <sup>1</sup>		
1 month	5.4	6.8
4 month	6.8	9.5
8 month	8.1	12.2
11 month	17.6	20.3
Total discontinuation percentage <sup>2</sup>		
1 month	9.5	9.5
4 month	18.9	16.2
8 month	36.5	36.5
11 month	54.1	47.3
Woman months		
1 month	72.0	71.0
4 month	264.5	262.0
8 month	480.5	479.5
11 month	593.5	601.5

<sup>1</sup>Percentage of women lost to follow-up among the total number who entered the study.

<sup>2</sup>Percentage of women not returning to the clinic among the total number who entered the study (including lost to follow-up).

Table X

## Gross Cumulative Life Table Discontinuation Rates

Event	Loestrin (N=74)		Lo-Femenal (N=74)	
	At Risk	Rate $\pm$ S.E.	At Risk	Rate $\pm$ S.E.
Accidental pregnancy				
1 month	70.5	0.0 $\pm$ 0.0	70.0	0.0 $\pm$ 0.0
4 month	60.5	0.0 $\pm$ 0.0	61.5	0.0 $\pm$ 0.0
8 month	47.0	1.7 $\pm$ 1.7	47.0	0.0 $\pm$ 0.0
11 month	28.5	1.7 $\pm$ 1.7	30.0	0.0 $\pm$ 0.0
Menstrual problems				
1 month	70.5	0.0 $\pm$ 0.0	70.0	0.0 $\pm$ 0.0
4 month	60.5	3.0 $\pm$ 2.1	61.5	0.0 $\pm$ 1.9
8 month	47.5	5.0 $\pm$ 2.9	47.0	2.0 $\pm$ 1.9
11 month	28.5	5.0 $\pm$ 2.9	30.0	2.0 $\pm$ 1.9
Side effects				
1 month	71.0	1.4 $\pm$ 1.4	70.0	0.0 $\pm$ 0.0
4 month	60.5	1.4 $\pm$ 1.4	61.5	4.5 $\pm$ 2.6
8 month	47.5	5.1 $\pm$ 2.9	47.0	4.5 $\pm$ 2.6
11 month	28.5	5.1 $\pm$ 2.9	30.0	6.6 $\pm$ 3.2
Other medical reasons				
1 month	70.5	0.0 $\pm$ 0.0	70.0	0.0 $\pm$ 0.0
4 month	60.5	1.6 $\pm$ 1.6	61.5	0.0 $\pm$ 0.0
8 month	47.0	5.2 $\pm$ 2.9	47.0	2.0 $\pm$ 1.9
11 month	28.5	7.4 $\pm$ 3.6	30.0	2.0 $\pm$ 1.9
Planning pregnancy				
1 month	70.5	0.0 $\pm$ 0.0	70.0	0.0 $\pm$ 0.0
4 month	60.5	0.0 $\pm$ 0.0	61.5	0.0 $\pm$ 0.0
8 month	47.0	1.8 $\pm$ 1.8	47.0	10.2 $\pm$ 3.9
11 month	29.0	9.6 $\pm$ 4.7	30.0	10.2 $\pm$ 3.9
Other personal reasons				
1 month	71.5	2.8 $\pm$ 2.0	70.5	1.4 $\pm$ 1.4
4 month	60.5	5.8 $\pm$ 2.8	61.5	1.4 $\pm$ 1.4
8 month	47.5	12.8 $\pm$ 4.3	47.0	6.9 $\pm$ 3.4
11 month	28.5	12.8 $\pm$ 4.3	30.5	10.0 $\pm$ 4.4

(cont.)

Table X (cont.)

## Gross Cumulative Life Table Discontinuation Rates

Event	Loestrin (N=74)		Lo-Femenal (N=74)	
	At Risk	Rate $\pm$ S.E.	At Risk	Rate $\pm$ S.E.
Method unrelated reasons				
1 month	70.5	0.0 $\pm$ 0.0	70.5	1.4 $\pm$ 1.4
4 month	60.5	1.6 $\pm$ 1.6	62.0	3.0 $\pm$ 2.1
8 month	47.0	5.2 $\pm$ 2.9	47.0	4.9 $\pm$ 2.8
11 month	28.5	9.9 $\pm$ 4.3	30.0	4.9 $\pm$ 2.8
Method related reasons				
1 month	71.5	1.4 $\pm$ 1.4	71.0	0.0 $\pm$ 0.0
4 month	60.5	4.4 $\pm$ 2.5	62.0	4.6 $\pm$ 2.6
8 month	47.5	9.9 $\pm$ 3.9	47.0	6.4 $\pm$ 3.1
11 month	28.5	9.9 $\pm$ 3.9	30.5	8.4 $\pm$ 3.6

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