授乳 및 産後無月經의 相關에 對한 硏究

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家族計劃硏究院

A Study on the Interrelationships between Lactation and Postpartum Amenorrhea

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머 릿 말

우리나라 家族計劃事業의 지속적인 發展을 爲하여 專門分野別로 광범한 硏究가 進行되고 있음은 多幸한 일이라 하겠읍니다.

이와같은 努力의 하나로서 本 硏究院은 1972年에 "家族計劃 實施者와 非實施者의 母子保健에 關한 實態"를 調査하였읍니다. 이는 母性保健에 基礎를 둔 家族計劃事業의 重要性을 認識하고, 次後 事業 進行에 도움을 주고자 하는 本 硏究院의 試圖라 하겠으며, 本 硏究를 遂行하는 중에 最近 크게 問題되고 있는 産後 授乳 및 無月經의 相關, 産後 姙娠率, 産褥期 婦人의 避姙態度 等을 分析할 目的으로 授乳 및 産後 無月經에 關한 몇가지 設問을 追加하였읍니다.

이 報告書에서는 特히 "授乳 및 産後無月經의 相關"에 대한 特殊分析 結果를 發表하고 있으며, 同 結果가 産褥期 母性保健에 基礎를 둔 家族計劃事業에 도움을 줄것을 믿는 바입니다.

同 分析을 맡아주신 서울大學校 保健大學院 姜吉遠, 洪在雄 兩敎授와, 本 硏究院의 趙敬植 第三硏究室長 및 內容審査 및 檢討를 하여 주신 本硏究院 硏究部長 金泰龍 博士님의 勞苦에 심심한 謝意를 表하는 바입니다.

1 9 7 3年 1 0月

家族計劃硏究院長

車 潤 根

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Ⅰ. 緖　　論

家族計劃을 採擇하는 婦人의 大部分은 一定數의 子女를 가진 뒤에 姙娠을 防止할 目的으로 避姙이나 流産을 實施하는데 급급할뿐, 結婚 初期부터 姙娠回數의 調節, 避姙技術의 習得, 母子健康의 向上을 爲한 努力이 미약하다고 하겠다.

家族計劃事業의 實効를 높이기 爲해서는 家族計劃이 土着化 또는 生活化되어야 한다는 事實이 强調되고 있는바, 醫學分野에서는 母性保健에 基礎를 둔 家族計劃事業의 重要性이 漸增되어 왔음은 주지하는 바이다.

特히 産褥期 및 分娩管理를 中心으로 하는 家族計劃事業은 出産能力이 큰 姙産婦에게 事業을 集中할 수 있고, 産痛을 잊기 前부터 集中的인 教育을 實施하여 早期避姙 및 터울調節을 위한 避姙實施率을 높일 수 있으며, 分娩 및 育兒에 必要한 知識과 指導를 하여 母性保健의 發展에 크게 도움을 주게 되는 것이다.

美國人口協會는 1966年부터 母子保健에 基礎를 둔 家族計劃事業을 지원하여 좋은 成果를 보이고 있으며, 우리나라에서도 病院家族計劃事業을 强調 擴大시키고 있다.

出産力의 크기를 決定하는 수 많은 因子中에서 最近에 産後 授乳 및 無月經期間의 相關에 대한 硏究가 進行되고 있다.

우리나라의 경우 一般的으로 婦人들은 그들이 授乳하고 있는 동안은, 또는 月經回復 前에는 生理的인 不姙期로 姙娠되지 않는다고 믿고 있어, 避姙實施를 拒否하는 경향이 있다고 보겠다.

더구나 産後에 月經이 回復되었는데도 避姙實施를 늦추고 있어, 計劃出産의 意圖와는 상치되며, 이에 대한 教育 및 啓蒙이 時急하다고 하겠다.

世界的으로 많은 學者들은 産後 授乳期間, 月經回復 및 避姙實施의 相關, 産後姙娠率, 産褥期 婦人의 避姙態度, 産褥期 家族計劃事業의 必要性에 대한 成績을 發表하고 있다.

우리나라에서도 權[1], 趙[2] 等이 서울을 對象으로 授乳, 産後無月經 및 避姙實施의 相關에 대한 硏究를 實施한 바 있다.

授乳 및 産後無月經의 相關은 다음과 같은 內容으로 重要하다고 하겠다. 産後無月經 中에도 姙娠이 可能하며, 産後 月經이 回復된 뒤에 避姙을 實施하지 않는限 月經回復後 6個月內 姙娠率이 60%를 上廻하고 있다. 分娩後 授乳를 繼續하는 중에 月經이 回復되는 婦人이 相當하며, 授乳가 月經回復을 多少 지연은 시키지만, 月經이 回復되면 授乳中에도 얼마든지 姙娠할 수 있다고 하겠다. 우리나라의 人工姙娠中絶率이 높아지고 있는데 이들의 産後 無月經 期間은 2個月 內外에 不過하여

早期避姙을 實施하지 않는限 願하지 않는 姙娠을 반복할 위험성은 현저히 높다고 보겠다.

이러한 立場에서 授乳狀態 및 産後月經回復의 聯關性에 대한 硏究를 實施할 必要性이 있어, 本硏究院은 서울, 中都市 및 농촌지역을 對象으로 硏究를 實施하였든바, 本 硏究가 이 分野의 發展에 多少라도 도움이 된다면 多幸으로 생각한다.

Ⅱ. 研究對象 및 方法

1. 研究對象의 選定

우리나라의 家族計劃 實施者와 非實施者의 母子保健에 關한 實態를 分析할 目的으로 有意抽出 方法에 依해서 大都市로서 서울을, 中都市로서 忠北 영동읍을, 農村으로서 京畿 용인군 남사면을 選定하였다.

各 調査地域內 經濟的 및 地理的 與件을 考慮하여 中產所得層과 低所得層으로 兩分하여 對象婦人을 選出하였든바, 對象婦人은 15~49歲의 有配偶 可姙婦人을 擇하였다.

抽出된 對象婦人數는 3,650名이었으나, 實際로 面接이 可能했던 數는 3,405名으로서 應答率은 93%이었다.

한편 授乳期間 및 產後無月經의 相關을 分析하고자 하였는바, 面接婦人의 84%에 該當하는 2,844名이 本 研究의 分析對象이 되었다.

2,844名의 居住地別 分布를 보면 서울이 33.6%, 中都市 및 農村이 各各 33.2%였으며, 中產層은 55.9%, 低所得層은 44.1%였다(Table 1—a 參照).

Table 1-a. Number of Women Sampled, Surveyed and Analyzed

Study area	Socio-economic class	Number of women sampled	Number of women surveyed	Number of women analyzed
Seoul		1,250	1,139	955
	Middle class	600	512	442
	Slum	650	627	513
Medium city		1,200	1,146	944
	Middle class	800	800	666
	Slum	400	346	278
Rural		1,200	1,120	945
	Middle class	600	562	483
	Slum	600	558	462
Total		3,650	3,405	2,844
	Middle class	2,000	1,874	1,591
	Slum	1,650	1,531	1,253

2. 研究方法

訓練된 調査員이 選定된 地域內 對象婦人을 直接 家族訪問하고 準備된 "家族計

劃 實施者와 非實施者의 母子保健에 關한 實態調査票"에 따라 調査를 實施하였다.

本 調査를 爲하여 本硏究部 職員이 現地踏査 및 豫備調査를 實施하였으며, 豫備調査中 提起된 問題點에 따라 調査內容을 修正 標準化하였다.

調査期間은 1972年 9月 25日부터 10月 24日 까지 1個月이었으며, 同 期間동안 3名의 指導員이 現地에 파견되어 訓練된 28名의 調査員을 指導하였다.

調査票는 31面으로 되어 있는 册型으로 設計 되었으며 이에 112個의 設問을 담았다. 本 授乳期間 및 産後無月經의 相關에 對한 硏究에서는 112個의 設問中 30個의 質問을 選定하여 集中的으로 分析하였다.

3. 硏究對象者의 特性

本 硏究對象者의 年齡, 敎育, 姙娠 및 出生經驗, 分娩場所 및 介助者 等의 分布는 다음과 같다.

1) 一般的 特性

對象婦人의 一般的인 特性은 Table 1-b 에서와 같다.

(1) 年 齡

對象婦人의 面接當時 年齡別 分布는 35~39歲群이 24%로 제일 많았고, 다음은 30~34歲群이 23%였으며, 平均年齡은 35.7歲이었다.

對象地域別 年齡分布를 보면 서울에서는 30代가 47%로 가장 많았고, 다음은 40代가 27%였으며, 中都市에서도 30代(46%), 40代(29%)의, 農村에서도 30代(48%), 40代(33%)의 順序를 보였다.

平均年齡은 서울은 34.7歲, 中都市는 35.0歲, 農村은 36.1歲로 大同小異하였다.

한편 避姙實施經驗群別 年齡分布에서는 相當한 差異를 나타내고 있다.

過去에 全혀 避姙을 實施해 본 經驗이 없는 婦人의 年齡은 25~29歲群이 首位였고, 다음은 30~34歲群였음에 反하여, 避姙實施 經驗群에서는 35~39歲群이 首位였고, 다음은 30~34歲群이었다. 平均年齡은 避姙實施經驗 婦人에서 35.9歲로 非經驗群의 34.4歲와는 큰 差異를 볼 수 없었다.

(2) 마지막 姙娠의 歸結時 年齡

面接 以前에 經驗한 마지막 姙娠의 歸結時 年齡은 30~34歲群이 33%로 제일 많았고, 다음은 25~29歲群이 25% 였으며, 平均年齡은 31.8歲로 面接當時의 年齡보다 4歲 程度 낮았다.

對象地域別 年齡分布를 보면 30~34歲群이 約 1/3程度로 제일 많았고, 다음은 서울에서는 25~29歲群이(28%), 中都市에서는 25~29歲群이(25%), 農村에서는 35~39歲群이(27%) 차지하였다. 地域別 平均年齡은 서울은 31.0歲, 中都市는 31.5歲, 農村은 32.8歲로 큰 差異가 없었다.

한편 避姙實施群別 마지막 姙娠의 歸結時 年齡分布는 避姙實施 非經驗群에서는

Table 1-b. General Characteristics of Respondents

General characteristics	Study area			FP practice		Total
	Seoul	Medium city	Rural	Never practiced	Ever practiced	
Age at interview						
15~19	0.3	0.5	0.2	0.6	0.1	0.3
20~24	6.5	7.0	4.3	10.3	2.2	6.0
25~29	20.1	17.4	14.2	23.4	11.9	17.2
30~34	23.6	23.5	22.2	19.1	26.6	23.1
35~39	22.9	22.5	26.2	15.1	31.3	23.8
40~44	15.3	17.7	20.1	15.3	19.8	17.7
45~49	11.3	11.4	12.8	16.2	8.1	11.9
Age at last termination of pregnancy						
15~19	0.6	0.9	0.3	1.1	0.3	0.6
20~24	11.7	10.7	6.7	15.8	4.4	9.7
25~29	28.1	24.7	21.0	29.1	20.8	24.6
30~34	32.3	33.1	32.6	25.3	38.9	32.7
35~39	21.0	21.8	27.4	18.6	27.5	23.4
40~44	5.6	8.2	11.2	9.2	7.5	8.3
45~49	0.7	0.6	0.8	0.9	0.6	0.7
Education						
Illiterate	5.6	6.6	13.8	11.5	6.1	8.6
Conread Korean	6.3	7.2	15.8	12.5	7.4	9.8
Primary school	40.4	58.0	61.4	52.0	54.3	53.2
Middle school	18.5	17.7	7.6	14.3	14.9	14.6
High school	18.1	9.3	1.4	7.2	1.8	9.6
College or university	11.1	1.2	0.1	2.5	5.5	4.2
Birth order						
1st	14.1	12.6	7.8	20.0	4.2	11.5
2nd	19.6	13.4	8.6	17.8	10.5	13.9
3rd	23.4	17.6	13.7	16.4	19.9	18.3
4th	19.6	18.6	19.4	14.5	23.2	19.2
5th	11.4	15.8	16.2	9.7	18.5	14.4
6th or more	11.9	22.0	34.3	21.6	23.7	22.7
Total	100.0	100.0	100.0	100.0	100.0	100.0
Base	953	944	945	1,311	1,531	2,842

25～29歲群이 29%로 首位였고, 다음은 30～34歲群이 25%였음에 比하여, 避姙實施 經驗群에서는 30～34歲群이 39%로 首位였고, 35～39歲群이 28%로 次位였다. 平均年齡은 避姙實施 非經驗群이 32.7歲로서 經驗群의 30.8歲보다 相當히 낮았다.

(3) 教育程度

全對象婦人의 過半 以上數인 53%는 國民學校 學歷을 가지고 있었으며, 다음은 中學校 學歷群(14.6%), 國文解讀群(9.8%), 高等學校 學歷群(9.6%)의 順序였다. 即 國民學校 學歷 以下의 低教育群이 71.6%나 되었다.

對象地域別 教育分布를 보면 國民學校 學歷群이 絕對多數를 차지하고 있었으나, 都市婦人의 教育水準이 높아서 國民學校 學歷 以下인 婦人은(中學校學歷 以上) 서울은 52%(48%), 中都市에서는 72%(28%), 農村에서는 91%(9%)로 현저히 增加되었다.

한편 避姙實施 經驗群別로 살펴보면 國民學校 學歷 以下의 低教育群은 非經驗群에서 76%, 經驗群에서는 68%로 經驗群의 教育水準이 多少 높았다고 볼 수 있겠다.

(4) 出生順位

對象婦人의 出生數는 4名이 제일 많았고, 다음은 3名, 5名의 順位였다. 3名 以內는 44%였고, 反面에 4名 以上이 56%나 되었다.

이를 對象地域別로 區分하여 살펴보면 3名 以內의 出生은 서울은 57%, 中都市는 44%, 農村은 30%로, 面接當時 年齡分布가 類似했음을 고려해 볼때, 農村은 都市에 比하여 多出生의 經驗을 하고 있다고 추측할 수 있겠다.

한편 避姙實施 經驗群別 出生數를 보면, 3名 以內의 出生婦人은 避姙實施 非經驗群에서 54%로, 經驗婦人의 34%보다 훨씬 높았다.

2) 出產歷 및 分娩環境

對象婦人의 出產歷 및 分娩環境은 Table 1-c 에서와 같다.

(1) 姙娠 및 出生歷

對象婦人의 姙娠回數는 7回 以上이 27%로 제일 많았고, 다음은 3～4回, 5～6回의 順序로 平均 5回의 姙娠을 經驗하였다. 이에 比하여 出生數는 3～4名이 37%로 제일 많았고, 다음은 1～2名, 5～6名의 順序였으며 平均出生數는 4名이었다

(2) 最終姙娠의 歸結

最終姙娠이 正常出生으로 끝난 婦人은 73% 였고, 22%의 婦人은 人工姙娠中絕을, 4%의 婦人은 自然流產을 그리고 0.6%의 婦人은 死產을 經驗하였다고 應答하였다.

(3) 分娩場所 및 介助者

마지막 出生을 經驗한 婦人의 分娩場所는 家庭이 86%로 大多數를 占有하였으며 醫療機關 分娩은 病院分娩이 12%, 一般病院 및 助產院 分娩이 各各 1%를 차지하

Table 1-c. Summary of Pregnancy and Live-Birth History of Respondents

Pregnancy and live-birth history	Number	Per cent
Frequency of pregnancy		
1 ~ 2	571	20.1
3 ~ 4	766	26.9
5 ~ 6	742	26.1
7 or more	765	26.9
Frequency of live-birth		
1 ~ 2	722	25.4
3 ~ 4	1,065	37.4
5 ~ 6	711	25.0
7 or more	346	12.2
Outcome of last pregnancy		
Live-birth	2,085	73.3
Induced abortion	640	22.5
Spontaneous abortion	102	3.6
Stil-birth	17	0.6
Place of delivery		
Live-birth	2,085	73.3(100.0)
Ob.-Gyn. clinic	256	(12.2)
Local clinic	16	(0.8)
Midwife's house	16	(0.8)
Home	1,797	(86.2)
Fetal deaths	759	26.7
Delivery assistant		
Live-birth	2,085	73.3(100.0)
Ob.-Gyn.	270	(13.0)
Local doctor	71	(3.4)
Midwife	211	(10.1)
Unqualified personnel	1,318	(63.2)
By themselves	214	(10.3)
Fetal deaths	759	26.7
Total	2,844	100.0

고 있었다.

한편 分娩介助者를 보면 家庭에서 친정어머니·시어머니·이웃·친지 等의 도움으로 分娩한 婦人은 63.2%, 家庭에서의 單獨分娩은 10.3%로 전체의 3/4에 가까

운 婦人은 家庭에서 非醫療人의 介助로 分娩하였거나, 單獨分娩을 하였으며, 1/4에 該當하는 婦人만이 醫療機關에서 分娩하였거나 家庭에서 醫療人의 介助를 받았음을 알 수 있었다.

即 産科 專門醫의 介助는 13%, 一般醫師의 介助는 3.2%, 助産員의 介助는 10%였다. 家庭에서의 介助醫療人으로서는 助産員이 큰 役割을 담당하고 있다고 하겠다.

3) 觀察期間

對象婦人의 最終姙娠의 歸結로 부터 面接까지의 期間別 分布는 Table 1-d 에서와 같다.

最終姙娠의 歸結日로 부터 面接까지의 期間을 보면 12個月 以內가 32%, 13個月 以上이 68%였다. 이를 좀더 細分하면 姙娠歸結後 19個月 以上이 56%, 25個月 以上이 42%, 37個月 以上이 33%였다.

一般的으로 授乳期間, 産後月經回復狀況 等을 分析하기 爲해서는 觀察期間이 可能限한 2年 以上이 되어야 하며 最少限 一年은 넘어야 한다고 指摘되고 있다. 그러나 最終姙娠부터 面接까지의 期間이 길게 되면 記憶의 不確實때문에 1年末 또는 2年末 等 어떠한 時期를 中心으로 應答이 集中되는 傾向을 보이게 된다고 한다.

本 對象에서 보면 17%의 婦人에서는 觀察期間이 짧았으며, 26%의 婦人에서는 觀察期間이 49個月 以上으로 記憶이 不確實할 可能性이 있다고 볼 수 있겠다.

對象婦人의 平均觀察期間은 25.4個月로 算定되었다.

Table 1-d. Distribution of Mothers by Number of Months Between the Termination of Last Pregnancy and Interview Date

Number of months	Number	Per cent	Cumulative per cent	
6 months or less	490	17.2	17.2	100.0
7~12 months	430	15.1	32.3	82.8
13~18 months	328	11.5	43.8	67.7
19~24 months	405	14.3	58.1	56.2
25~30 months	136	4.8	62.9	41.9
31~36 months	119	4.2	67.1	37.1
37~42 months	95	3.3	70.4	32.9
43~48 months	94	3.3	73.7	29.6
49~60 months	747	26.3	100.0	26.3
Total	2,844	100.0	–	–

Average months between termination of last pregnancy and interview date: 25.4 months ±17.5 months

Ⅲ. 硏究成績 및 考按

1. 授乳 및 產後無月經 期間의 狀況

1) 授乳狀況 및 授乳期間

觀察對象이 된 마지막 出生兒에게 出生後 授乳를 全혀 하지 않았다는 婦人은 3.6%로 Taiwan을 對象으로한 Jain[3] (6.4%)의 成績보다 相當히 낮았다. 우리나라 大都市를 對象으로한 權 (5.7%), 趙[2] (8%)의成績과 比較하면 亦是 낮았다. 美國 New England에서의 Robertson[15] (84%)이나, 獨逸 Baden地方을 對象으로한 Knodel의[19] (1902—5, 21%) 發表와는 커다란 差異를 보여 주었다.

96%의 婦人은 出生後 一定期間 授乳를 經驗하였는데, 最終面接日 以前에 48%의 婦人은 離乳를 完了하였고, 49%의 婦人은 面接當時까지 繼續 授乳하고 있다고 應答하였다.

한편 最終觀察 以前에 離乳한 婦人의 平均授乳期間은 22.8個月로서, 亦是 全國

Table 2-a. Average Periods of Lactation and Postpartum Amenorrhea for Mothers Classified by Outcome of Last Pregnancy and Type of Lactation

Classificatory group	Lactation		Postpartum Amenorrhea*	
	Women Number	Mean (±S.D.) Months	Women Number	Mean (±S.D.) Months
Last pregnancy as live-birth				
Breastfed				
No	76	0.0(—)	65	7.9(7.8)
Yes				
Not weand	1,019	11.6(8.2)**	437	9.2(6.3)***
Weaned	989	22.8(11.6)	938	13.5(8.8)
Last pregnancy was terminated as I.A., or S.A., or S.B.	759	0.0(—)	709	6.1(8.3)

* For women whose menstrual cycles had resumed by interview date.

** Group mean underestimated because women are still lactating.

*** Group mean underestimated because it was based on only for women whose menstrual cycles had resumed among women who were still lactating

을 對象으로 한 高[6]의 24個月과는 大同小異하였다.

本 成績은 Jain[3,4] (India, rural, 1971)의 21個月, Jain[3]의 (Taiwan, rural, 1970)의 15個月보다도 오히려 길어 우리나라의 授乳依存率 및 依存期間이 相對的으로 크게 높았음을 暗示하는 것이라 할 수 있겠다. 1940年代 美國에서 發表된 資料에 依하면 授乳를 經驗했던 婦人들의 平均 授乳期間은 6~8個月에 不過하였는데, 最近에는 그 期間이 더욱 짧아지고 있다고 한다. Salber[5]等에 依하면 美國에서는授乳를 하는 경우에도 補充食을 일찍부터 供給하므로 嬰兒營養을 授乳에만 依存하는 期間 아주 짧다고 하였다(Table 2—a 參照).

2) 産後無月經 期間

授乳狀況에 따른 産後無月經期間을 보면 다음과 같다. 即 授乳를 全혀 하지 않은 婦人中 月經이 回復된 婦人의 平均無月經 期間은 7.9個月이었으며, 中央値는 4.5個月, 第1分位値는 1.4個月, 第3分位値는 11.8個月이었다.

非授乳婦人의 平均無月經期間은 權[1]은 7.1個月로, 趙[2]는 3.5個月로, Jain[3]은 (Taiwan) 3.5個月로, Salber[5]는 (Boston) 55日로 報告하였다. 本 成績은 이들 結果에 比하여 늦었으나, 中央値와 比較하면 큰 差異라고는 할 수 없겠다.

最終觀察 以前에 離乳한 婦人中 月經이 回復된 婦人의 平均無月經 期間은 13.5個月로서, 平均授乳期間과는 約 9個月의 差異를 보여, 相當數의 婦人에 있어서는 月經回復이 授乳中斷 以前에 發生되고 있음을 밝혀주고 있었다. 이들 婦人의 中央値는 11.1個月로 算出되었다.

한편 最終姙娠이 人工流産·自然流産·死産으로 끝난 婦人의 姙娠歸結後 平均無月經期間이 6.1個月, 中央値가 0.8個月로 算出되었다. 實際로 大部分의 婦人은 3個月 以前에 月經을 回復하고 있었다.

非授乳婦人과 離乳婦人의 平均無月經 期間의 差異는 5.6個月(中央値로서 比較하면 6.6個月)로서 授乳가 月經回復을 5~6個月 程度 延長시키는 것으로 推定 할 수 있겠다.

Table 2—b. Number of Months Between Termination of Last Pregnancy and Resuming of Menstruation for Mothers by Outcome of Last Pregnancy and Type of Lactation

Measurese	Women of live-birth			Women of	Total
	Breastfed	Did not breastfeed	Sub-total	I.A., S.A.&S.B.	
Mean	13.5	7.9	13.2	6.1	10.2
Median	11.1	4.5	11.7	0.8	9.8
1st Quartile	6.4	1.4	5.3	0.4	0.8
3rd Quartile	15.9	11.8	15.7	11.1	13.9

離乳婦人의 平均無月經期間 13.5個月은, 15~24個月 授乳를 하는 아세아 地域의 平均無月經期間 10~15個月과는 비슷하였으나, 6~8個月 程度 授乳하는 先進國의 平均無月經期間 5~6個月과는 현저한 差異를 提示하고 있었다.

授乳 및 産後無月經의 長短에 對해서는 特히 姙産婦의 營養狀態, 社會文化的 제 要因의 影響이 多角的으로 分析되어져야 할 것이다(Tables 2-a & b 參照).

2. 地域別 授乳 및 産後無月經期間의 狀況

對象地域別 離乳婦人의 平均授乳期間은 다음과 같다.

서울은 17.6個月로, 權[1](Seoul, 1972)의 18.6個月, Tietze[20](India, urban, 1961)의 17個月과는 類似하였다.

中都市에서는 22.1個月, 農村地域에서는 27.7個月로, 서울地域에 比하여 農村地

Table 3. Average Periods of Lactation and Postpartum Amenorrhea for Mothers Classified by Outcome of Last Pregnancy and Type of Lactation, by Study Area

Classificatory group			Woman whose pregnancy was terminated as L-B			Woman whose pregnancy was terminated as I.A., S.A. or S.B.
			Breastfed			
			No	Yes		
				Not weaned	Weaned	
Study area						
Lactation	Seoul	Number, women	33	280	317	323
		Mean, months (±S.D.)	0.0(−)	9.7(±6.8)**	17.6(±11.1)	0.0(−)
	Medium city	Number, women	30	389	297	245
		Mean, months (±S.D.)	0.0(−)	11.8(±7.9)**	22.1(±10.3)	0.0(−)
	Rural	Number, women	30	350	375	190
		Mean, months (±S.D.)	0.0(−)	12.8(±9.1)**	27.7(±11.0)	0.0(−)
Postpartum *Amenorrhea	Seoul	Number, women	26	108	299	294
		Mean, months (±S.D.)	5.2(±5.5)	7.7(±5.7)***	11.7(±8.5)	3.2(±6.1)
	Medium city	Number, women	11	161	270	233
		Mean, months (±S.D.)	6.4(±6.5)	10.1(±6.2)***	13.3(±8.0)	4.9(±6.9)
	Rural	Number, women	28	168	369	182
		Mean, months (±S.D.)	11.1(±8.9)	9.3(±6.7)***	15.3(±9.2)	12.1(±9.6)

* For women whose menstrual cycles had resumed by interview date.

** Group mean underestimated because women are still lactating.

*** Group mean underestimated because it was based on only for women whose menstrual cycles had resumed among women who were still lactating.

域은 平均授乳期間이 10個月 程度나 延長되고 있어, 農村地域 住民의 授乳 依存率을 暗示한다고 보겠다.

出生後 3~5個月째 부터 補充食을 始作하여 生後 1年內에 離乳를 完了하는 것이 좋다는 點을 감안할때, 우리나라의 授乳期間은 一般的으로 相當히 길어 適切한 補充食의 供給없는 授乳期間의 延長이 嬰幼兒의 成長에 끼치는 危害를 우리는 充分히 고려하여야 될 것이다.

우리나라 農村地域의 平均授乳期間 27.7個月은 India의 農村地域의(Jain[3,4], 1971) 21個月이나, Taiwan의 農村地域의(Jain[3], 1971) 15個月에 比하여 相當히 延長되고 있다고 하겠다. 우리나라의 授乳 依存率이 높은 것을 推測할 수 있는바, 授乳期間의 短縮 및 補充食의 供給에 대한 教育과 啓蒙이 絕實하다고 하겠다.

한편 出生後 母乳를 全혀 먹이지 않는 率은 地域間에 別差가 없었다. 出生後 授乳하는 比率은 地域에 따라 差異가 없었으나, 授乳期間은 地域에 따라 相當한 差가 있었다고 하겠다(Table 3 參照).

産後無月經期間은 서울에서는 11.7個月로 權[1](Seoul, 1972)의 11.9個月과는 類似하였다. 中都市에서는 13.3個月로 서울보다는 1.6個月이 延長되었고, 農村地域은 15.3個月로 서울보다 3.6個月이 延長되었다. 地域間 授乳期間의 差에 比하여 地域間 産後無月經期間의 差異는 적었다고 보겠다.

여기서 우리는 다음과 같은 內容을 살펴볼 수 있겠다.

첫째 授乳의 繼續이 月經回復을 無限定 延長시키지는 못하며 一定한 期間이 지나면 即 15~18個月 程度에서는 授乳와 關係없이 月經이 回復되는 것을 推測할 수 있겠다. 둘째 授乳가 一般的으로 月經을 5~9個月 程度 延長시키며, 셋째 授乳를 繼續하던 婦人이 授乳를 中斷하면 中斷後 3~6個月內에 大部分의 婦人에서 月經이 回復된다고 할 수 있겠다.

農村地域의 平均無月經期間 15.3個月은, India 農村(Tietze, 1961)의 13~14個月보다는 多少 길었고, Taiwan 農村(Jain, 1971)의 10個月보다는 相當히 延長되고 있다 할 수 있겠다(Table 3 參照).

3. 避妊實施 經驗別 授乳 및 産後無月經 期間의 狀況

避妊實施 經驗에 따른 授乳期間과 産後無月經期間을 보면 Table 4에서와 같다.

平均授乳期間은 避妊實施經驗群이 21.4個月로 避妊實施 非經驗群의 24.4個月보다 約 3個月 短縮되었으며, 平均無月經期間은 避妊實施經驗群이 12.8個月로 非經驗群의 14.4個月보다 亦是 짧았다.

4. 月別 離乳率 및 月經回復率

生命表 方法에 依하여 Conditional Monthly Probabilities를 推定해 보았다.

月別 離乳率은 11個月까지는 1% 未滿이다가, 그 以後에는 5%前後에서 變化되

Table 4. Average Periods of Lactation and Postpartum Amenorrhea for Mothers Classified by Outcome of Last Pregnancy and Type of Lactation, by Experience of Family Planning Practice

Classificatory group			Woman whose pregnancy was terminated as L-B			Woman whose pregnancy was terminated as I.A., S.A. or S.B.
			Breastfed			
			No	Yes		
				Not weaned	Weaned	
Family planning practice						
Lactation	Never practiced	Number, women	34	656	460	161
		Mean, months (±S.D.)	0.0(—)	10.5(±7.5)**	24.4(±12.2)	0.0(—)
	Ever practiced	Number, women	42	363	529	597
		Mean, months (±S.D.)	0.0(—)	13.6(±8.9)**	21.4(±10.9)	0.0(—)
Postpartum *Amenorrhea	Never practiced	Number, women	25	236	425	147
		Mean, months (±S.D.)	5.8(±4.9)	9.3(±6.7)***	14.4 (±9.5)	6.6(±9.2)
	Ever practiced	Number, women	40	201	513	562
		Mean, months (±S.D.)	9.3(±8.9)	9.0(±5.9)***	12.8 (±8.1)	6.0(±8.0)

* For women whose menstrual cycles had resumed by interview date.

** Group mean underestimated because women are still lactatcirng.

*** Group mean underestimated because it was based on only for women whose menstrual cycles had resumed among women who were still lactating.

고 있으나, 特히 6個月 間隔을 가지고 即 6, 12, 18, 24個月에는 月別 離乳率이 현저히 增加되었다. 그 理由는 應答하는 婦人들이 記憶의 不確實로 離乳를 1年만에 또는 2年만에 했다고 대답하고 있기 때문이다. 그렇기 때문에 正確한 調査를 爲해서는 추적조사(prospective study)가 바람직하나 추적조사 自體는 豫算소비가 많아지고 研究期間이 長期化되는 短點이 있다고 하겠다.

月別 月經回復率은 月別 離乳率보다는 훨씬 높았다. 月別 離乳率에서와 같이 6, 12, 18, 24個月 等 6個月째 마다 月經回復率이 急增하는 것을 除外하고는 一般的으로 月別 月經回復率이 2~8% 線에서 不規則한 分布를 보여 주었다.

月別 離乳率과 月經回復率間에는 다음과 같은 몇가지 特徵이 있었다.

첫째, 月別 離乳率 및 月經回復率은 不規則한 變化를 보였지만, 어느 한쪽이 높아지면 다른 쪽도 높아지고 있었다. 둘째, 月別 月經回復率은 離乳率에 比하여 훨씬 높았다. 셋째, 授乳를 끝내기 前에도 月經을 回復하는 婦人이 相當히 많았다.

이와같은 樣相은 權[1], Jain[3,4]의 研究에서도 提示한바 있다.

Table 5. Conditional Monthly Probabilities of Terminating Lactation and Resuming Menstruation by Months Since Last Live-Birth

Period (months)	L^a	M^b	Period (months)	L^a	M^b
1	.020	.076	19	.002	.015
2	.005	.028	20	.027	.067
3	.007	.055	21	.006	.025
4	.002	.034	22	.009	.018
5	.001	.034	23	.011	.015
6	.002	.028	24	.508	.698
7	.004	.035	25	.065	.320
8	.005	.019	26	.029	.126
9	.003	.028	27	.031	.069
10	.005	.057	28	.036	.048
11	.004	.053	29	.007	.063
12	.091	.226	30	.066	.034
13	.058	.250	31	.003	.046
14	.015	.076	32	.008	.000
15	.029	.125	33	.012	.025
16	.008	.040	34	.012	.000
17	.005	.048	35	.016	.000
18	.019	.080	36	.918	.987

a: Excludes women who did not breastfeed their last child.
b: Women exposed at beginning of first month

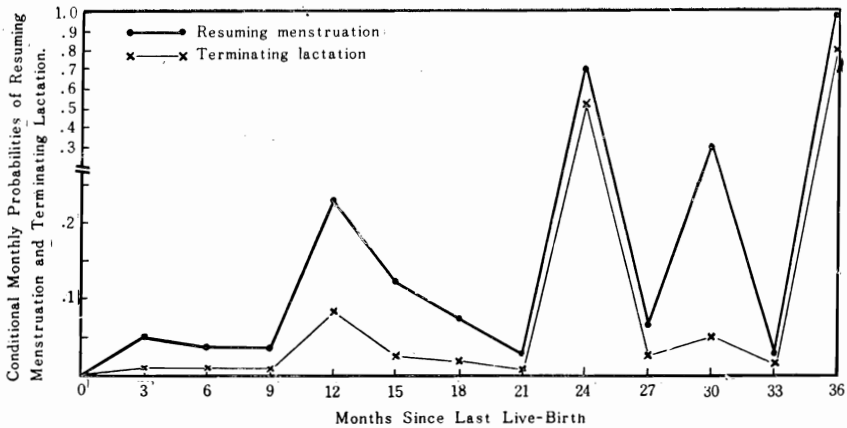

Figure 1. Conditional Monthly Probabilities of Resuming Menstruation and Terminating Lactation by Months Since Last Live-Birth

5. 觀察期間別 累積離乳率 및 月經回復率

觀察期間別 累積離乳率은(마지막 出生後 授乳를 全혀 하지 않은 婦人은 除外), 6個月末에 3.9%, 12個月末에 14.7%, 18個月末에 25.8%, 24個月末에 65.6%를 나타내고 있다.

即 100名의 婦人中 15名의 婦人만이 12個月 以前에, 그리고 66名만이 24個月 以前에 젖을 完全히 떼었으며, 34名의 婦人은 2年 以上 젖을 먹이고 있다고 볼 수 있겠다.

累積離乳率은 India 農村地域의 경우보다는 多少 높았지만, Taiwan 農村地域보다는 相當히 낮아, 우리나라 母乳依存率이 相對的으로 높다는 것을 意味한다고 보겠다.

한편 觀察期間別 月經回復率을 보면 6個月末에 23.2%, 12個月末에 51.3%, 18個月末에 75.3%, 24個月末에 93.5%로서, 過半數인 51名의 婦人은 1年內에, 大多數인 94名의 婦人은 2年內에 月經을 回復하고 있음을 알 수 있겠다. 本 成績은 Taiwan의 全國을 對象으로 한 累積月經回復率 6個月末 34%, 12個月末 61%, 24個月末 97%와는, 累積離乳率이 本 成績에서 相當히 낮았음에도, 類似한 結果를

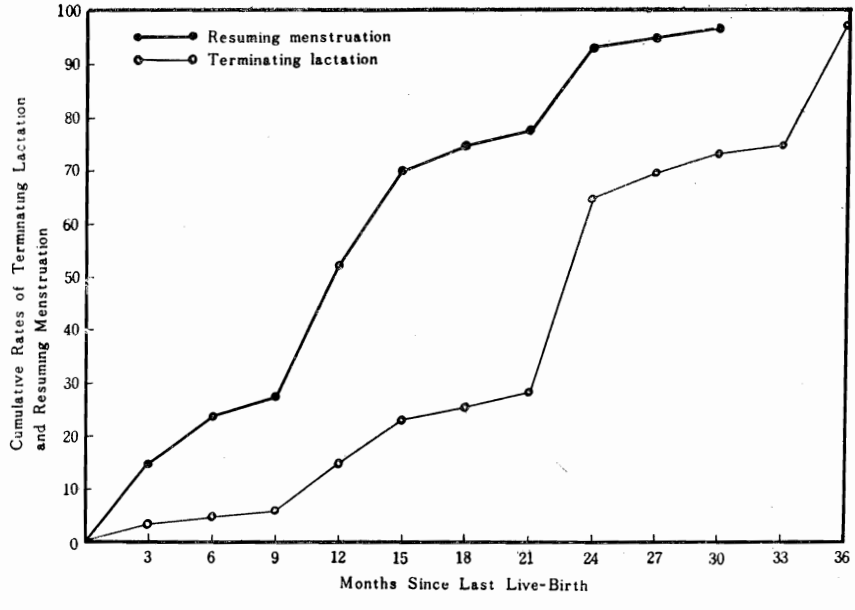

Figure 2. Cumulative Rates of Terminating Lactation and Resuming Menstruation at the End of Successive Months

보여주고 있다고 하겠다.

觀察期間別로 累積離乳率과 累積月經回復率과의 關係를 考察하면 다음과 같다. 첫째, 觀察期間에 關係없이 月經回復率이 離乳率보다 높았다. 둘째, 觀察期間이 짧을수록 즉 9個月까지는 月經回復의 速度가 離乳의 4~5倍에 가까워 9個月末 離乳率 5.2%에 比하여, 月經回復率은 29.4%에 達하였는데, 그 比率이 次次 減少하여 12個月末에는 約 3.5倍, 18個月末에는 約 3倍, 24個月末에는 1.4倍 程度를 보여주고 있다. 셋째, 많은 數의 婦人들은 離乳를 하기 전부터 즉 母乳를 먹이고 있는 중에 産後 첫 月經이 回復되고 있었다. 넷째, 産後 12個月 以內의 月經回復이 過半數에 達하였다. 다섯째, 授乳가 姙娠을 防止할 수 있다는 槪念은 그릇된 것으로 이의 올바른 理解가 時急하다 하겠다(Table 6-a, Figure 2).

6. 地域別 累積離乳率 및 月經回復率

地域別 累積離乳率을 보면 Table 6-a 와 같다. 서울의 경우 累積離乳率은 6個月末에 8.7%, 12個月末에 30%, 18個月末에 47%, 24個月末에 83%로서, 權[1](Seoul, 1972)의 12個月末 21%, 24個月末 80%와 大同小異하였다. 서울에서는 80% 以上이 24個月 以前에 젖을 떼고 있다고 하겠다.

中都市에서는 累積離乳率이 6個月末에 2.4%, 12個月末에 11%, 18個月末에 23%, 24個月末에 77%였다.

農村地域에서는 累積離乳率이 6個月末에 1.4%, 12個月末에 7%, 18個月末에 14%, 24個月末에 46%로서, India[3]의 農村地域 離乳率 6個月末 2%, 12個月末 21%, 24個月末 59%보다도 多少 낮았으며, Taiwan[3]의 農村地域 累積離乳率 6個月末 4%, 12個月末 21%, 24個月末 84%와는 커다란 差異를 나타내고 있었다.

무엇보다도 嬰·幼兒의 成長 및 發育을 爲해서 授乳期間을 短縮시키고, 生後 6個月 以前부터 適切한 補充食을 併行하도록 指導하여야 될 것이다.

地域別 累積離乳率은 12個月末에 서울은 30%, 中都市는 11%, 農村地域은 7%였으며, 24個月末에 서울은 83%, 中都市는 77%, 農村地域은 46%로서 地域間에 커다란 差異가 있음을 볼 수 있겠다. 特히 農村地域은 都市에 比하여 出生後 젖을 떼는 時期가 늦어지고 있다고 하겠다. 實際로 相當數의 婦人들은 다음 姙娠이 된 後에야 젖을 떼고 있음을 감안할때, 授乳를 目的으로 한다기 보다는 慣習的으로 젖을 물리고 있는 形便이라고 할 수 있겠다. 이와같은 習慣이 離乳는 물론 補充食의 供給時期를 늦추는 原因이 된다고 하겠다.

한편 地域別 觀察期間別 累積月經回復率은 Table 6-a 와 같다.

서울의 경우 累積月經回復率은 6個月末 31%, 12個月末 62%, 24個月末 97%로, 權[1](Seoul, 1972)의 成績보다도 多少 높은 率을 보였다.

中都市에서는 6個月末 19%, 12個月末 43%, 24個月末 93%였고, 農村地域에서는 6個月末 21%, 12個月末 50%, 24個月末 89%였다. 農村地域의 成績은 Taiwan[3]

Table 6-a. Cumulative Rates of Terminating Lactation and Resuming Menstruation by Area at the End of Successive Months (by Life Table Method)

Period (months)	Seoul		Medium City		Rural		Total	
	*Terminating lactation	Resuming menstruation	*Terminating lactation	Resuming menstruation	*Terminating lactation	Resuming menstruation	*Teaminating lactation	Resuming menstruation
1	3.8	9.7	1.5	6.2	1.1	7.1	2.0	7.6
3	6.7	20.0	2.4	12.5	1.2	13.6	3.2	15.2
6	8.7	31.0	2.4	18.7	1.4	21.0	3.9	23.2
9	11.7	37.1	3.3	26.7	1.7	25.9	5.2	29.4
12	30.3	62.4	11.0	43.4	6.7	49.8	14.7	51.3
15	43.1	76.2	20.7	72.7	11.5	65.6	23.3	70.5
18	46.6	80.2	22.6	76.0	13.9	71.9	25.8	75.3
21	51.1	82.7	24.1	78.3	16.3	74.7	28.5	77.9
24	83.4	96.5	77.4	93.3	46.2	88.7	65.6	93.5
27	85.3	—	80.8	—	52.6	93.5	69.7	96.4
30	86.5	—	82.9	—	58.0	—	73.0	97.7
33	—	—	—	—	59.3	—	73.6	—
36	—	—	—	—	93.8	—	97.9	—
Base	597	611	686	670	725	749	2,008	2,030

* Excludes women who did not breastfeed their last child.

農村의 6個月末 27%, 12個月末 51%와, India[3] 農村은 6個月末 26%, 12個月末 57%와 類似하였다. 離乳率에는 큰 差異가 있었음에도 不拘하고 月經回復率에는 別差가 없었음을 알 수 있는데, 이와같은 現況은 우리나라의 地域間 成績에서도 同一하였다.

地域間 累積月經回復率을 보면 12個月末에 서울은 62%, 中都市는 43%, 農村은 50%였고, 18個月末에는 서울은 80%, 中都市는 76%, 農村은 72%로 授乳率은 地域間에 큰 差異가 있었으며 月經回復率間에는 그 差異가 아주 적었다고 하겠다.

地域間 累積離乳率과 月經回復率間의 相關은 다음과 같았다.

12個月末 累積離乳率 및 累積月經回復率은 서울에서 30% 및 62%, 中都市에서 11% 및 43%, 農村地域에서 7% 및 50%로, 農村에서는 都市에 比하여 현저한 差異를 보였다. 또한 農村에서는 離乳 以前의 月經回復率이 높다는 것을 쉽게 추측할 수 있겠다.

7. 避姙實施 經驗別 累積離乳率 및 月經回復率

觀察期間別 累積離乳率은 6個月末에 避姙實施 非經驗群에서 3%, 經驗群에서 7%, 12個月末에 各各 12%와 17%, 18個月末에 21%와 31%, 24個月末에 59%와

Table 6-b. Cumulative Rates of Terminating Lactation and Resuming Menstruation by Experience of Contraceptive Practice at the End of Successive Months (by Life Table Method)

Period (months)	Contraception never practiced		Contraception ever practiced		Total	
	*Terminating lactation	Resuming menstruation	*Terminating lactation	Resuming menstruation	*Terminating lactation	Resuming menstruation
1	1.6	8.2	2.5	6.9	2.0	7.6
3	2.5	14.7	4.1	15.9	3.2	15.2
6	2.9	20.8	5.0	25.8	3.9	23.2
9	3.9	26.5	6.6	32.6	5.2	29.4
12	12.4	45.6	17.2	57.3	14.7	51.3
15	18.8	62.4	27.8	78.4	23.3	70.5
18	20.8	67.3	30.8	82.8	25.8	75.3
21	22.0	70.4	34.7	84.9	28.5	77.9
24	59.0	92.8	71.6	94.6	65.6	93.5
27	63.7	—	75.2	—	69.7	96.4
30	65.5	—	79.6	—	73.0	97.7
33	66.2	—	80.1	—	73.6	—
36	98.0	—	97.7	—	97.9	—
Base	1,116	1,114	892	916	2,008	2,030

* Excludes women who did not breastfeed their last child.

72%로서, 避姙實施 經驗群이 非經驗群에 比하여 離乳를 일찍 하고 있다고 보겠다

한편 觀察期間別 累積月經回復率은 6個月末에 避姙實施 非經驗群에서 21%, 經驗群에서 26%였고, 12個月末에는 各各 46%와 57%, 18個月末에는 各各 67%와 83%, 24個月末에는 各各 93%와 95%로서 出産初期에는 避姙實施 經驗群에서 月經回復이 相當히 빠르지만 次次 그 差異가 적어지고 있었다.

累積離乳率과 累積月經回復率을 보면 觀察期間에 關係없이 月經回復이 훨씬 빨랐는데, 兩者間의 差異는 出生 初期에 더욱 뚜렷하였다(Table 6-b 參照).

8. 授乳期間別 月經回復率

授乳期間別 月經回復率은 Table 7-a 와 Figure 3과 같다.

첫째, 마지막 아이에게 젖을 먹이지 않았던 婦人의 月經回復은, 最終觀察 以前에 離乳한 婦人이나, 繼續 授乳中인 婦人보다 훨씬 빨랐다. 非授乳婦人의 月經回復率은 6個月末에 57%, 12個月末에 76%로서 他集團의 月經回復보다 훨씬 빨랐다 (Columns (1), (2)', (8)比較).

둘째, 最終觀察時 繼續 授乳中이었던 婦人과 離乳한 婦人의 月經回復率間에는

別差異가 없었다(Columns (2), (8) 比較).

셋째, 最終觀察 以前에 젖을 멘 婦人을 授乳期間別로 區分하여 月經回復率을 比較한 바, 授乳期間이 짧을수록 月經回復率이 높았다(Columns (3), (4), (5), (6), (7) (8) 比較).

6個月末 月經回復率은 授乳期間이 1~6個月이었던 婦人이 65%로 제일 높았고, 다음은 7~12個月群(27%), 13~18個月群(25%), 25個月 以上群(20%), 19~24個月群(18%)의 順序였으며, 12個月末 月經回復率 亦是 授乳期間이 1~6個月이었던 婦人에서 84%로 제일 높았고, 다음은 7~12個月群(74%), 13~18個月群(57%), 19~24個月群(45%)의 順序였다.

넷째, 授乳期間이 月經回復에 영향을 미치고 있는 것은 事實이나 限界가 있으며

Table 7-a. Cumulative Rates of Resuming Menstruation by Duration of Lactation at the End of Successive Months (by Life Table Method)

Ordinal month	Women whose last pregnancies were terminated as live-births									**	Grand total
	Did not breast-feed	Breastfed last Chid							Sub total	Women of I.A., S.A. & S.B.	
		Had not weaned	Had weaned, by months of lactation								
			1~6	7~12	13~18	19~24	25~	sub-total			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	18.1	5.3	28.1	10.2	8.3	5.8	8.4	9.2	7.6	80.0	23.1
3	43.5	11.3	50.7	20.9	13.5	11.6	14.9	17.1	15.2	83.4	30.5
6	56.6*	19.6	65.4*	26.5	24.6	17.7	20.3	24.4	23.2	84.9	36.9
9	62.5*	28.9	70.6-	31.3	32.8	20.1	23.7	28.5	29.4	86.2	42.1
12	75.6*	44.2	84.0-	74.0	56.7	45.4	45.8	54.1	51.3	90.6	60.2
15	88.6-	64.7		87.0*	83.0*	67.6	63.2	72.7	70.5	94.0	75.7
18		74.0		90.0-	86.6-	72.6	65.8	76.3	75.3	94.8	79.4
21		78.6*		90.8-	87.8-	76.3	68.0	78.4	77.9	95.5	81.7
24		89.9*		96.9-		98.6	86.0	94.5	93.5	98.0	94.1
27						*	90.4*	96.9	96.4	*	96.6
30								*	97.7		97.7
33									*		97.9
36											*
Number exposed at O month	73	1,007	73	144	137	299	297	950	2,030	742	2,772

** Women whose last pregnancies were terminated as induced abortions, spontaneous abortions or still-births.

* Based on less than 50 women

\- Based on less than 25 women

離乳 以前에 月經이 再開되는 婦人이 相當함을 알 수 있었다.

젖을 떼기 以前에 7~12個月間 授乳했다는 婦人에서 6個月 以前에 月經이 돌아온 婦人이 27%나 되었으며, 13~18個月間 授乳한 婦人中 57%의 婦人이 12個月 以前에 出生後 첫 月經을 經驗하였다. 19~24個月間 授乳한 婦人中 72%가 18個月 以前에, 25個月 以上 授乳했던 婦人의 86%가 24個月 以前에 月經을 回復하였음을 알 수 있었다.

다섯째, 人工姙娠中絕·自然流産·死産으로 끝난 婦人의 月經回復率은 出生을 經驗한 婦人에 比하여 현저히 높았다.

1個月末 月經回復率은 80%, 6個月 85%, 12末個月末 91%의 높은 數値였다.

여섯째, 授乳期間을 生理的인 不姙期間으로 생각하여 早期避姙을 기피하는 부인은 願하지 않는 姙娠을 할 可能性이 크기 때문에, 早期避姙을 권장하고 또 必要性을 教育시켜야 되겠다. 最少限 月經回復 即後에는 避姙을 始作하여야 되겠다.

일곱째, 人工姙娠中絕을 經驗한 婦人의 80% 以上이 手術後 2個月 以內에 月經을 回復하고 있는바, 特히 手術받은 婦人이 術後 2個月 以內에 月經回復 即後부터 避姙을 實施하지 않는限 姙娠을 반복할 危險性이 크다고 하겠다.

여덟째, 教育水準이 比較的 높은 都市에서 出生後 授乳를 全혀 하지 않는 率이

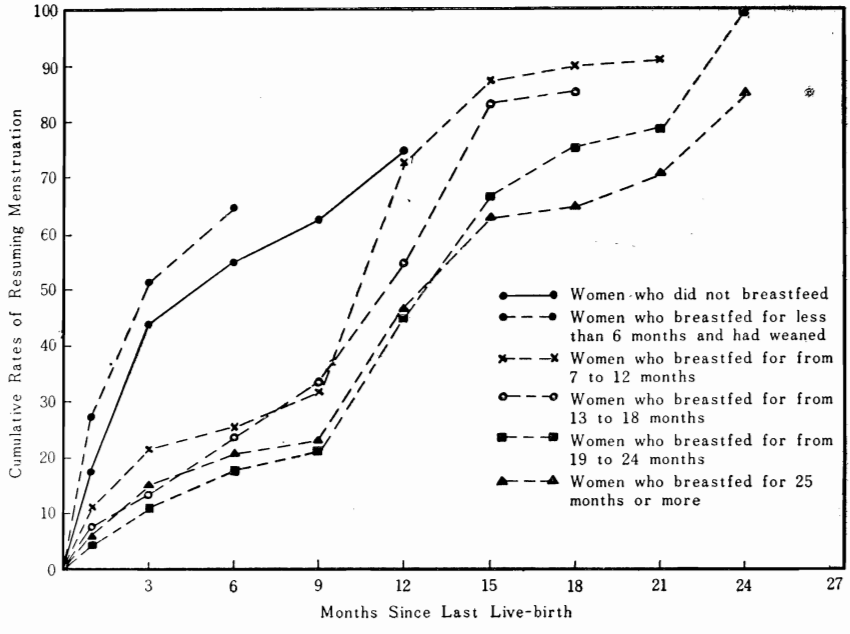

Figure 3. Cumulative Rates of Resuming Menstruation by Duration of Lactation

多少 높아지고 있으며, 人工姙娠中絕率이 높은 것을 고려할때 早期避姙의 重要性은 急增한다고 하겠다.

9. 地域別 授乳期間別 月經回復率

첫째, 서울地域의 月經回復率은 中都市 및 農村地域보다 相當히 높았다. 前述한 바와 같이 12個月末 累積月經回復率은 서울은 62.4%, 中都市는 43.4%, 農村地域은 49.8%를 나타내고 있었다.

둘째, 地域에 關係없이 出生後 授乳를 全혀 하지 않은 婦人은, 一定期間 授乳한 婦人보다 월경회복이 훨씬 빨랐다.

셋째, 離乳한 婦人의 月經回復은 離乳할때 까지의 授乳期間이 짧을수록 月經回復이 빨랐는데, 同一한 授乳期間에 對해서 볼때 月經回復이 서울은 中都市 및 農

Table 7-b. Cumulative Rates of Resuming Menstruation by Duration of Lactation at the End of Successive Months in Seoul

Ordinal month	Women whose last pregnancies were terminated as live-births									Women** of I.A., S.A. & S.B.	Grand total
	Did not breast-feed	Breastfed last Child							Sub-total		
		Had not wea-ned	Had weaned, by months of lactation								
			1~6	7~12	13~18	19~24	25~	sub-total			
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	21.8*	0.5	26.5*	12.2	9.3	4.1	17.7*	9.2	9.7	75.0	36.2
3	58.1⁻	12.7	55.7*	24.1	16.6*	8.2	23.9*	17.1	20.0	98.0	45.5
6	70.8⁻	24.1	74.7⁻	29.2	29.3*	13.7	34.2*	24.4	31.0		53.2
9	74.0⁻	35.6		34.3	34.7*	15.0	34.2*	28.5	37.1		57.4
12	78.0⁻	44.4		84.2*	60.8*	56.0*	53.3*	54.1	62.4		74.6
15		62.0*		91.0⁻	80.4⁻	75.9⁻	61.5⁻	72.7	76.2		83.4
18								76.3	80.2		86.1
21								78.4	82.7		88.2
24								94.5	96.5*		96.1
27								96.9	97.4⁻		96.8*
30								98.0*			
33											
36											
Number exposed at O month	31	276	47	78	56	74	49	304	611	312	932

** Women whose last pregnancies were terminated as induced abortions, spontaneous abortions and still-births.

* Based on less than 50 women.

⁻ Based on less than 25 women.

村地域에 比하여 相當히 빨랐으나, 中都市와 農村間에는 큰 差異를 볼 수 없었다.

例를 들면 13~18個月間 授乳한 婦人의 月經回復率은 6個月末에 서울은 29.3%, 中都市는 19.5%, 農村地域은 24.4%였고, 12個月末에는 서울은 60.8%, 中都市는 48.2%, 農村地域은 54.6%였으며, 19~24個月間 授乳한 婦人의 月經回復率은 12個月末에 서울은 56%, 中都市는 34.7%, 農村地域은 50%의 數値를 보여 주었다.

넷째, 모든 地域에서 離乳婦人의 月經回復率은 授乳期間이 짧을수록 높았다고 하겠다.

12個月末 累積月經回復率은 서울에 있어서 7~12個月間 授乳한 婦人에서는 84%, 13~18個月 授乳群에서 61%, 19~24個月 授乳群에서 56%, 25個月 以上 授乳群에서 53%였다.

中都市에서는 그 率이 各各 68.4%, 48.2%, 34.7%, 47.7%였으며, 農村地域에

Table 7-c. Cumulative Rates of Resuming Menstruation by Duration of Lactation at the End of Successive Months in Medium City

Ordinal month	Women whose last pregnancies were terminated as live-births									Women** of I.A., S.A. & S.B.	Grand total
	Did not breast-feed	Breastfed last child							Sub-total		
		Had not weaned	Had weaned, by months of lactation								
			1~6	7~12	13~18	19~24	25~	sub-total			
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	28.5⁻	4.4	28.5⁻	8.0*	6.5*	7.3	5.0	7.9	6.2	68.4	24.8
3	45.3⁻	8.7	40.9⁻	16.0*	10.9*	14.6	16.9	16.1	12.5	98.5	30.1
6	62.1⁻	14.7	54.1⁻	23.8*	19.5*	19.1	20.2	21.9	18.7	98.6	34.9
9		24.8		29.0*	35.2*	20.0	26.9	27.4	26.7	98.8	41.3
12		39.3		68.4⁻	48.2*	34.7	47.7*	45.4	43.4	99.2*	55.8
15		66.3			89.5⁻	69.0*	75.7⁻	76.6	72.7		78.7
18		71.6*				72.8*		79.0	76.0		81.4
21		75.2⁻				75.0*		80.9	78.3		83.3
24		88.7⁻							98.3		98.5
27									99.6⁻		99.6⁻
30											
33											
36											
Number exposed at O month	12	382	16	39	47	113	61	276	670	241	911

** Women whose last pregnancies were terminated as induced abortions, spontaneous abortions and still-births.

* Based on less than 50 women.

⁻ Based on less than 25 women.

Table 7-d. Cumulative Rates of Resuming Menstruation by Duration of Lactation at the End of Successiue Months in Rural

Ordinal months	Women whose last pregnancies were terminated as live-births									Wo-men** of I.A. S.A. & S.B.	Grand total
	Did not breast-feed	Breastfed last child							Sub-total		
		Had not wea-ned	Had weaned, by months of lactation								
			1~6	7~12	13~18	19~24	25~	Sub total			
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	10.7	6.3	35.9⁻	7.6*	9.2*	5.5	7.2	7.5	7.1	23.6	10.3
3	28.7⁻	13.0	45.2⁻	19.1⁻	12.2*	10.9	12.0	13.0	13.6	33.2	17.4
6	40.3⁻	21.6		22.9⁻	24.4*	19.1	16.9	19.3	21.0	37.4	24.2
9	43.9⁻	28.7			27.3*	23.6	20.1	22.8	25.9	41.6	28.9
12	66.7⁻	48.9			54.6⁻	50.2	43.4	48.7	49.8	57.2	51.1
15		65.2*				63.4*	60.1	64.4	65.6	71.9	66.8
18		78.0⁻				70.3*	63.7	69.5	71.9	75.5	72.4
21		81.9⁻				75.7*	65.8	72.1	74.7	77.5*	75.0
24						94.3⁻	82.5	88.4	88.7	91.1*	89.2
27							88.6*	93.6*	93.5*		94.0
30							94.9⁻		97.0*		96.8*
33											
36											
Namber exposed at 0 month	30	349	10	27	34	112	187	370	749	189	938

** Women whose last pregnancies were terminated as induced abortions, spontaneous abortions and still-births.

* Based on less than 50 women.

⁻ Based on less than 25 women.

서는 13~18個月 授乳婦人에서 54.6%, 19~24個月 授乳群에서 50.2%, 25個月 以上 授乳한 婦人에서 43.4%를 나타내었다.

다섯째, 人工流産·自然流産·死産한 婦人의 月經回復率은 서울의 경우 3個月末에 98%로서 絕對多數의 婦人은 手術後 3個月內에 月經을 回復한다고 보겠다. 中都市에 있어서도 3個月末에 98%로서 서울과 同一하였다.

한편 農村地域에서는 그 率이 多少 낮아 6個月末에 37%, 12個月末에 57%였다.

10. 避姙實施 經驗別 授乳期間別 月經回復率

첫째, 避姙實施 非經驗群의 月經回復率은 經驗婦人보다 多少 늦었다. 6個月末 累積月經回復率은 非經驗群에서 21%, 經驗群에서 26%였으며, 12個月末에는 그 率이 各各 46% 및 57%였다.

둘째, 避姙實施 與否에 關係없이 流産群의 月經回復이 제일 빨랐고, 다음은 出

Table 7-e. Cumulative Rates of Resuming Menstuation of Women Never Experienced Contraceptives by Duration of Lactation at the End of Successive Months

Ordinal month	Women whose last pregnancies were terminated as live-births									Women** of I.A. S.A. & S.B.	Grand total
	Did not breast-feed	Breastfed last child							Sub-total		
		Had not wea-ned	Had weaned, by months of lactation								
			1~6	7~12	13~18	19~24	15~	Sub-total			
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	26.4*	5.2	35.2*	13.7	12.5*	6.2	10.3	11.3	8.2	73.4	14.6
3	51.9-	10.0	63.6-	21.9	16.4*	13.4	15.3	18.8	14.7	78.3	21.2
6	59.6-	17.2	66.5-	30.0*	22.4*	18.0	19.1	23.7	20.8	82.0*	27.4
9		25.5	69.4-	33.2*	32.3*	18.7	22.8	27.1	26.5	83.6*	32.7
12		39.9		70.1*	46.5*	38.2	45.5	49.0	45.6	87.1*	49.9
15		55.8		87.5-	73.2-	60.1	56.0	65.4	62.4	91.6-	65.5
18		65.6*				64.5	58.3	68.6	67.3		69.9
21		70.4*				68.1*	61.3	71.3	70.4		72.6
24		87.8-					83.7	94.1	92.8		92.9
27							87.1*	96.0*	95.4*		95.3
30							92.1-				97.1*
33											
36											
Number exposed at o month	31	647	30	62	51	131	162	436	1,114	157	1,271

** Women whose last pregnancies were terminated as induced abortions, spontaneous abortions and still-births.

* Based on less than 50 women.

\- Based on less than 25 women.

生後 非授乳群, 授乳群의 順序였다.

셋째, 避姙與否에 關係없이 離乳婦人의 月經回復은 授乳期間이 짧을수록 빨랐는데, 同一期間 授乳한 婦人의 月經回復 速度는 避姙實施 經驗群이 非經驗群보다 빨랐다. 12個月末 月經回復率은 避姙實施群에서는 授乳期間이 짧을수록 높았다. 即 7~12個月 授乳群에서 77%, 13~18個月 授乳群에서 64%, 19~24個月群에서 51%, 25個月群에서 46%였으며, 避姙實施非經驗群에서는 그 率이 各各 70%, 46%, 38% 및 45%였다.

넷째, 流產群의 月經回復率 亦是 避姙實施群에서 높아 3個月末에 85%, 6個月末에 86%였으며, 非實施群에서는 3個月末에 78%, 6個月末에 82%로 算出되었다.

Table 7-f. Cumulative Rates of Resuming Menstruation of Women Ever Experienced Contraceptive Practice by Duration of Lactation at the End of Successive Months

Ordinal month	Women whose last pregnancies were terminated as live-births									Women** of I.A. S.A. & S.B.	Grand total
	Did not breast-feed	Breastfed last child							Sub-total		
		Had not weaned	Had weaned, by months of lactation								
			1~6	7~12	13~18	19~24	25~	Sub-total			
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	12.6*	5.5	23.3*	7.5	5.9	5.5	6.1	7.4	6.9	81.8	30.9
3	37.9*	13.6	42.5*	20.2	11.8	10.3	14.4	15.8	15.9	84.9	38.6
6	55.3-	23.6	66.5-	23.9	26.1	17.5	21.9	25.0	25.8	85.9	45.2
9	62.3-	34.4	73.1-	30.0	33.2	21.1	24.9	29.7	32.6	87.0	50.1
12	75.6-	50.7		77.3*	63.7*	51.4	46.2	58.6	57.3	91.6	68.1
15		77.6*		87.2-	88.9-	73.5	72.5*	79.0	78.4	94.7	82.9
18		85.9-				78.9*	75.4*	82.8	82.8	95.5	86.0
21						82.6*	76.7*	84.4	84.9	96.1	87.8
24						96.7-	89.1*	95.0	94.6	98.3*	95.3
27							94.5-	97.8*	97.5*	98.7-	97.6*
30											98.3*
33											
36											
Number exposed at O month	42	360	43	82	86	168	135	514	916	585	1,501

** Women whose last pergnancies were terminated as induced abortions, spontaneous abortions and still-births.

* Based on less than 50 women.

\- Based on less than 25 women.

11. 對象婦人의 特性別 授乳 및 産後無月經의 平均期間

1) 特性別 平均授乳期間

最終觀察 以前에 젖을 멘 婦人의 特性別 平均授乳期間은 Tables 8-a 와 b에서와 같다.

地域別로는 都市가(서울 : 17.6個月, 中都市 : 22.1個月) 農村(27.7個月) 보다 짧았고, 避妊實施婦人이(21.4個月), 非實施婦人(24.4個月)보다 短縮되었다.

面接當時 年齡別 授乳期間은 20~24歲群(12.2個月), 30~34歲群(18.9個月), 40~49歲群의(26個月) 順으로, 最終分娩時 年齡別로는 亦是 25~29歲群(19.3個月), 35~39歲群(25.6個月)의 順으로 年齡이 높아질수록 增加되었다.

Table 8-a. Average Periods, in Months, of Lactation and Postpartum Amenorrhea by Various Characteristics of Women

Characteristics of women	Women whose pregnancy was terminated as live-birth						Amenorrhea of women whose pregnancy was terminated as I.A. S.A. or S.B.	
	Lactation for women who breastfed and had weaned*		Amenorrhea for women who					
			Did not breastfeed		Breastfed and had weaned*			
	Mean of mos. (±S.D.)	Number, women	Mean of mos. (±S.D.)	Number, women	Mean of mos. (±S.D.)	Number, women	Mean of mos. (±S.D.)	Number, women
Study area								
Seoul	17.6(±11.0)	317	5.2 (±5.5)	26	11.7 (±8.5)	299	3.2 (±6.1)	294
Medium city	22.1(±10.3)	297	6.4 (±6.5)	11	13.4 (±8.0)	270	4.9 (±6.9)	233
Rural	27.7(±11.0)	375	11.1 (±8.9)	28	15.2 (±9.2)	369	12.1 (±9.6)	182
Experience of F.P. practice								
Never practiced	24.4(±12.2)	460	5.8 (±4.9)	25	14.4 (±9.5)	425	6.5 (±9.2)	147
Ever practiced	21.4(±10.9)	529	9.3 (±8.9)	40	12.8 (±8.1)	513	6.0 (±8.0)	562
Age at interview								
20 ~ 24	12.2(±10.5)	14	2.0 (±0.0)	1	7.5 (±5.5)	14	2.5 (±2.5)	4
25 ~ 29	14.9 (±8.8)	79	4.0 (±3.3)	14	8.6 (±6.3)	76	4.8 (±7.1)	51
30 ~ 34	18.9(±10.1)	186	7.4 (±7.0)	10	11.3 (±7.3)	182	5.2 (±6.8)	139
35 ~ 39	22.9(±10.4)	269	6.1 (±4.4)	14	12.7 (±8.0)	251	5.3 (±7.7)	222
40 ~ 49	26.0(±12.0)	441	11.5 (±9.6)	26	16.1 (±9.4)	415	7.3 (±9.3)	293
Age at delivery								
15 ~ 24	19.9(±11.4)	83	7.5 (±5.5)	2	10.0 (±7.9)	75	7.6(±10.6)	13
25 ~ 29	19.3(±10.9)	240	4.3 (±3.6)	21	10.9 (±7.7)	232	4.5 (±6.8)	76
30 ~ 34	22.7(±10.9)	361	9.0 (±7.4)	15	14.0 (±8.3)	337	5.1 (±7.1)	234
35 ~ 39	25.6(±12.2)	223	10.7 (±9.6)	23	15.8 (±9.2)	214	6.6 (±8.4)	269
40 ~ 49	28.2(±11.0)	82	7.2 (±7.4)	4	16.3(±10.0)	80	7.8(±10.1)	117
Education								
No formal education	28.0(±11.7)	270	7.8(±11.3)	8	16.6 (±9.7)	252	9.4(±10.1)	108
Primary school	23.3(±10.4)	485	9.0 (±7.6)	30	13.7 (±8.1)	462	6.8 (±8.6)	381
Middle school	19.5 (±9.5)	103	16.0 (±4.7)	4	10.5 (±7.8)	102	4.6 (±6.7)	95
High school or more	12.2 (±9.4)	126	5.1 (±5.3)	23	8.9 (±6.9)	122	2.1 (±3.3)	125
Total	22.8(±11.6)	989	7.9 (±7.8)	65	13.5 (±8.8)	938	6.1 (±8.3)	709

* $P<0.05$

Table 8-b. Average Period, in Months, of Lactation and Postpartum Amenorrhea by Various Characteristics of Women

Characteristics of women	Women whose pregnancy was terminated as live-birth						Amenorrhea of women whose pregnancy was terminated as I.A., S.A. or S.B.	
	Lactation for women who breasfed and had weaned*		Amenorrhea for women who					
			Did not breastfeed		Breastfed and had weaned*			
	Mean of mos. (±S.D.)	Number, women	Mean of mos. (±S.D.)	Number, women	Mean of mos. (±S.D.)	Number, women	Mean of mos. (±S.D.)	Number, women
Birth order								
1st	16.6(±12.0)	77	6.9 (±5.1)	11	8.0 (±7.1)	73	5.3 (±8.0)	30
2nd	17.8 (±9.9)	110	5.2 (±4.1)	13	10.2 (±7.6)	105	4.2 (±6.8)	50
3rd	20.5(±10.8)	158	6.0 (±7.5)	8	10.3 (±7.2)	149	5.1 (±7.4)	158
4th	22.3(±11.2)	188	9.0 (±7.4)	7	14.4 (±8.3)	173	5.7 (±8.5)	167
5th	25.1(±10.8)	175	5.8 (±4.4)	6	15.6 (±9.0)	171	5.7 (±7.8)	117
6th or more	27.3(±10.6)	266	9.2 (±5.2)	18	17.3 (±8.7)	252	6.2 (±7.3)	173
Place of delivery								
Home	24.1(±11.2)	877	8.8 (±8.4)	44	14.2 (±8.9)	830	6.6 (±8.6)	618
Medical organization	12.1 (±8.6)	112	6.0 (±5.9)	21	8.4 (±5.9)	108	2.3 (±3.9)	91
Place of birth of women								
Seoul	15.5(±10.2)	144	5.6 (±6.8)	11	10.0 (±7.8)	136	3.9 (±5.9)	123
City	19.8(±11.1)	118	4.0 (±4.2)	12	12.8 (±8.2)	109	3.9 (±5.2)	102
Rural	24.9(±11.2)	708	9.8 (±8.3)	41	14.4 (±8.8)	675	7.3 (±9.2)	464
Foreign countries	18.4(±10.3)	19	6.0 (±0.0)	1	11.7 (±9.0)	18	1.6 (±2.3)	20
Total	22.8(±11.6)	989	7.9 (±7.8)	65	13.5 (±8.8)	938	6.1 (±8.3)	709

* $P<0.05$

出生順位別 平均授乳期間은 出生順位가 높아질수록 延長되어서, 첫 出生兒에서 16.6個月, 3位 出生兒에서 20.5個月, 5位 出生兒에서 25.1個月로 增加되었다.

教育別 平均授乳期間은 低教育群에서 高等教育群으로 갈수록 短縮되었다. 正規教育을 받지 못한 婦人에서 제일 길어 28個月이었고, 高等學校 學歷 以上에서는 12.2個月로 현저히 단축되었다.

醫療機關에서 分娩한 婦人은(12個月) 家庭分娩 婦人(24個月)의 授乳期間의 半에 不過하였다.

對象婦人의 出生地가 서울인(15.5個月) 婦人은 中都市(19.8個月)나 農村에서(24.9個月) 出生한 婦人보다 平均授乳期間이 짧았음을 알 수 있었다.

이들 對象婦人의 特性이 授乳期間에 미치는 影響의 크기는 多變數 分析에서 살피고자 한다. 以上의 特性別 平均 授乳期間의 差는 統計的으로 有意한 差異였다.

2) 特性別 平均 産後無月經 期間

最終觀察 以前에 離乳한 婦人中 月經이 돌아온 婦人의 平均無月經期間을 婦人의 特性과 聯關지어 살펴보면 Tables 8-a 및 b와 같다.

地域別로는 都市가(서울 : 11.7個月, 中都市 : 13.4個月) 農村(15.2個月)보다 짧았고, 또한 避姙實施婦人이(12.8個月) 非實施婦人(14.4個月)보다 月經回復이 빨랐다.

面接當時 年齡別 平均無月經期間은 20~24歲群이(7.5個月) 제일 빨랐고, 다음은 30~34歲群(11.3個月), 40~49歲群(16.1個月)의 順序로, 最終分娩時 年齡別로도 15~24歲群(10個月), 30~34歲群(14個月), 40~49歲(16.3個月)로 年齡이 높아질수록 延長되었다.

教育別로는 正規教育을 받지 못한 婦人이 16.6個月로 제일 길었고, 教育水準이 높아질수록 短縮되어, 國民學校 學歷群에서 13.7個月, 中學校 學歷群에서 10.5個月, 高等學校 學歷以上群에서 8.9個月을 보였다.

出生順位別로 보면 出生順位가 높아질수록 無月經期間이 漸增되었는바, 첫 出生兒에서 8個月, 제 3 出生兒에서 10.3個月, 第5 出生兒에서 15.6個月을 提示하였다.

醫療機關에서 分娩한 婦人의 月經은(8.4個月) 家庭에서 分娩한 婦人보다(14.2個月) 빨리 回復되었다.

對象婦人의 出生地가 서울인(10個月) 婦人은 中都市(12.8個月)나 農村에서(14.4個月) 出生한 婦人보다 平均無月經期間이 짧았다.

以上에서 考察 對象婦人의 諸特性別 平均無月經期間의 分布는 統計的으로 有意한 差異였음이 證明되었다.

出生後 授乳를 全혀 하지 않은 婦人이나, 流産과 死産을 經驗한 婦人의 平均無月經期間을 婦人의 特性別로 살펴보면 以上의 平均 授乳期間이나 無月經期間에서처럼 뚜렷한 分布는 아니었으나, 對象地域이나 婦人의 出生地가 都市일수록, 避姙

實施 經驗群이 그리고 醫療機關 分娩婦人에서 無月經期間이 짧았다.

또한 面接當時 年齡이나 分娩時 年齡이 많을수록, 出生順位가 높을수록, 教育水準이 낮을수록 平均無月經 期間은 延長되었다.

平均授乳期間이나 無月經期間에 影響을 미치는 婦人의 特性은 以上의 內容 以外에도 수없이 많으리라고 생각되며, 特性間의 相互 聯關性도 考慮함이 原則이라고 생각된다.

12. 對象婦人의 特性別 理想的 離乳時期

對象婦人이 應答한 理想的인 離乳時期는 11.3個月로 實際의 授乳期間 22.8個月과는 현저한 差異를 提示하고 있다. 大部分의 婦人들은 1年 以內에 젖을 떠는 것이 좋다고 생각하면서도 平均 2年동안 授乳를 하고 있다고 보겠다. 理想的인 離乳時期를 實質化시킬 수 있는 教育的 努力이 要請된다고 하겠다. 좀더 細分하여 보면 理想的 離乳時期를 9個月 以內로 생각하는 婦人은 過半數에 가까운 46.4%, 9~12個月로 생각하는 率은 31.6%로 78%의 婦人은 1年 以內가 離乳時期로서 理想的이라고 하였는데, 15.1%婦人은 1年 以上 2年 未滿을, 6.9%의 婦人은 2年 以上을 理想的 授乳期間이라고 應答하고 있는 形便이었다.

婦人의 特性別 理想的 離乳時期를 보면 다음과 같다.

地域別로는 서울이(9.5個月), 中都市(12.2個月)나 農村(12.2個月)보다 理想的 離乳時期가 빨랐다. 實際授乳期間과 比較할때 모든 地域에서 理想的 授乳期間은 半減되었다고 보겠다. 即 서울은 實際授乳期間 17.6個月에 比하여 理想的 授乳期間은 9.5個月로, 中都市는 22.1個月에 比하여 12.2個月로, 農村地域에서는 27.7個月에 比하여 12.2個月로 半減되었다.

避姙實施 經驗別로는 差가 없었지만, 實際授乳期間에 比해서는 亦是 半減되었다

面接當時 年齡別로는 15~29歲群(9.1個月), 30~34歲群(10.2個月), 35~39歲群(11.6個月), 40~49歲群(12.7個月) 順으로 延長되었고, 最終分娩時 年齡別로도 年齡이 增加할수록 延長되었다. 即 15~29歲群에서(9.8個月) 40~49歲群(12.7個月)으로 漸增되었다.

教育別 理想的 離乳時期도 實際授乳期間에서와 마찬가지로 教育水準이 向上될수록 理想的 授乳期間은 短縮되었다. 正規教育을 받지 못한 婦人의 13.2個月에서 高等學校 學歷 以上 婦人의 8.0個月로 漸減되었다.

出生順位別 理想的 授乳期間은 出生順位가 높아질수록 延長되었다. 即 첫 出生兒群에서 9.8個月로 제일 짧았고, 7名 以上 出生群에서 12.3個月로 제일 길었다.

마지막 分娩을 病·醫院에서 遂行한 婦人은(8.2個月) 家庭分娩한(11.8個月) 婦人보다 理想的 離乳時期가 빨랐으며, 生活程度別 分布에서는 別差가 없었다.

以上을 綜合하면 特性別 理想的 離乳時期의 分布는 特性別 實際授乳期間이나 産

Table 9. Ideal Time of Weaning by Various Characteristics of Women

Gereral characteristics	Ideal time of weaning							
	4.9 mos or less	5~8.9 mos.	9~ 11.9 mos.	12~ 23.9 mos.	24 mos. or more	Total	Base	Mean±S.D.
Study area*								
Seoul	12.8	47.7	27.8	7.9	3.8	100	793	9.5±5.6
Medium city	7.8	31.8	35.4	15.4	9.6	100	732	12.2±7.2
Rural	10.5	28.0	31.8	22.1	7.6	100	792	12.2±7.0
Family planning practice								
Never practiced	10.3	35.2	31.2	15.9	7.4	100	940	11.5±6.9
Ever practiced	10.5	36.5	31.9	14.7	6.5	100	1,377	11.2±6.6
Age at interview*								
15 ~ 29	14.4	48.3	24.5	11.4	1.5	100	404	9.1±5.0
30 ~ 34	10.1	43.0	31.5	11.6	3.8	100	507	10.2±5.7
35 ~ 39	9.1	33.5	34.2	15.7	7.5	100	503	11.6±6.8
40 ~ 49	9.6	27.1	33.3	18.8	11.2	100	803	12.7±7.6
Age at last delivery*								
15 ~ 29	12.0	44.2	29.0	11.8	3.0	100	703	9.8±5.5
30 ~ 34	7.6	35.4	33.4	15.9	7.7	100	776	11.7±6.8
35 ~ 39	9.8	31.9	33.6	15.4	9.3	100	599	11.9±7.2
40 ~ 49	16.3	23.4	28.5	22.2	9.6	100	239	12.2±7.8
Number of live-birth								
1 ~ 2	14.9	44.6	24.8	11.4	4.3	100	511	9.8±6.1
3 ~ 4	8.8	38.7	32.7	14.4	5.4	100	884	11.0±6.2
5 ~ 6	7.9	30.1	35.5	16.5	10.0	100	611	12.4±7.2
7 or more	12.6	25.4	31.8	20.9	9.3	100	311	12.3±7.5
Education*								
No formal education	7.9	26.0	33.6	20.7	11.8	100	458	13.2±7.6
Primary school	9.4	32.9	34.0	16.6	7.1	100	1,198	11.6±6.7
Middle school	8.5	43.5	30.0	12.6	5.4	100	317	10.7±6.2
High school or more	18.9	52.9	22.1	4.9	1.2	100	344	8.0±4.4
Living standards								
Upper middle or more	12.3	32.7	29.6	16.8	8.6	100	489	11.7±7.3
Middle	9.2	37.6	32.9	14.6	5.7	100	697	11.1±6.3
Lower middle or less	10.3	36.3	31.7	14.8	6.9	100	1,131	11.2±6.7
Delivery place*								
Home	8.7	33.1	33.8	16.7	7.7	100	1,983	11.8±6.8
Medical facilities	20.3	53.0	18.6	6.0	2.1	100	334	8.2±5.0
Total	10.4	36.0	31.6	15.2	6.9	100	2,317	11.3±6.7

* $P<0.05$

後無月經期間의 分布와 同一한 樣相을 보였으나, 理想的 授乳期間은 實際授乳期間의 半에 不過한 크기를 보여 주었다.

婦人의 特性中 地域, 面接 및 最終 分娩時 年齡, 敎育, 出生順位와 分娩場所別 理想的 授乳期間의 分布는 統計的으로 有意한 差異를 나타내고 있었다.

13. 授乳 및 産後無月經期間의 相關에 대한 回歸方程式

對象婦人의 無月經期間(Y)과 授乳期間(X)의 相關을 回歸方程式으로 表示하면 $Y=0.26X+6.68$로 表示되었는데, Jain[3,4](Taiwan, 1970)의 發表에 依하면 Taiwan에서는 $Y=0.397X+4.31$로 算出되었다.

本 回歸關係는 授乳期間이 24個月 以上에서는 直線的 關係가 微弱하였고 24個月內에 特히 18個月 以內에서 直線的인 連關性을 많이 볼 수 있었다.

地域別 回歸方程式은 서울에서 $Y=0.31X+5.53$으로, 中都市는 $Y=0.24X+7.16$으로, 農村은 $Y=0.23X+7.75$로 算定되었다.

本 方程式에 依하면 同一한 授乳期間에 대하여 無月經期間은 서울이 中都市나 農村보다 相當히 짧았으며, 中都市와 農村間은 大同小異하였다. 한편 이와같은 關係는 授乳期間 20個月 以內에서 뚜렷하였다고 볼 수 있겠다(Figure 4-a 參照).

年齡別 回歸方程式을 보기 爲하여 對象婦人의 年齡을 29歲 未滿과 30歲 以上으로 區分하였는바, 低年齡群에서는 $Y=0.31X+3.31$로, 高年齡群에서는 $Y=0.21X+8.61$로 算出되어 同一 授乳期間에 對하여 低年齡群의 無月經期間이 高年齡群에 比하여 相當히 짧았는데, 이와같은 現象은 全授乳期間에 共通되게 나타나는 結

Table 10. Linear Regression Equations of the Duration of Lactation and Postpartum Amenorrhea by Vavious Characteristics

Characteristics	Sample size	Equation
All women	1,438	$y=0.26x+6.68$
Study area		
Seoul	431	$y=0.31x+5.53$
Medium City	440	$y=0.24x+7.16$
Rural	563	$y=0.23x+7.75$
Experience of FP		
Never experienced	684	$y=0.31x+5.90$
Ever experienced	752	$y=0.21x+7.56$
Age of women		
29 years or less	306	$y=0.31x+3.31$
30 years or more	1,130	$y=0.21x+8.61$
Education of women		
Primary school or less	1,069	$y=0.24x+7.67$
Middle school or more	367	$y=0.20x+5.87$

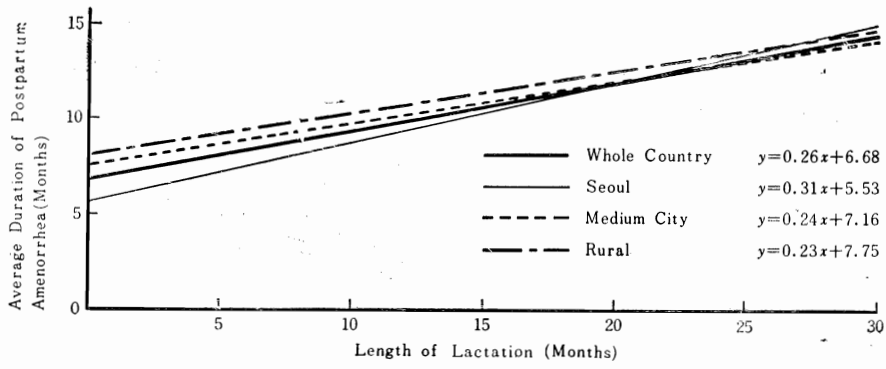

Figure 4-a. Average Period of Postpartum Amenorrhea by Period of Lactation and Study Area

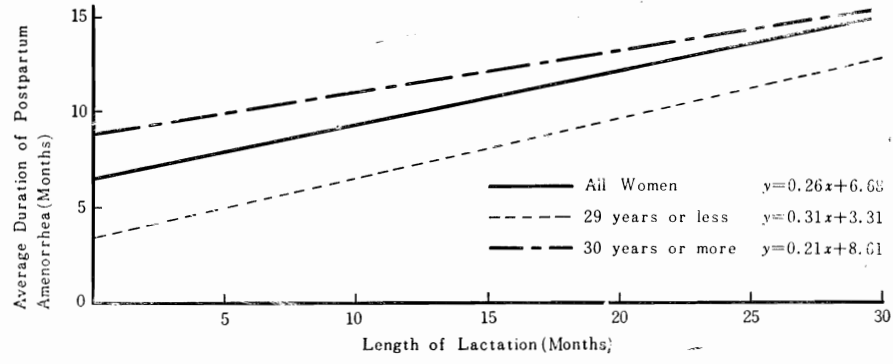

Figure 4-b. Average Period of Postpartum Amenorrhea by Period of Lactation and Age of women

果였다.

Jain[3,4]이나 權[1]의 年齡別 授乳期間別 無月經期間의 回歸方程式에서도 同一한 結果를 指摘하고 있다(Figure 4-b 參照).

한편 教育水準을 低教育群(國民學校 學歷 以下)과 高等教育群(中學校 以上)으로 區分하여 回歸方程式을 算出하였는데, 本 成績에서는 低教育群은 $Y=0.24X+7.67$로, 高等教育群은 $Y=0.20X+6.68$이었다. 本 方程式에 依하면 同一 授乳期間에 대하여 産後無月經期間은 高等教育群이 低教育群에 比하여 항상 짧았음을 알 수 있었다(Figure 4-c 參照).

本 回歸方程式에서도 地域別, 年齡別 및 教育水準別 同一授乳期間에 따른 産後無月經期間의 差異를 提示하고 있다고 보겠다.

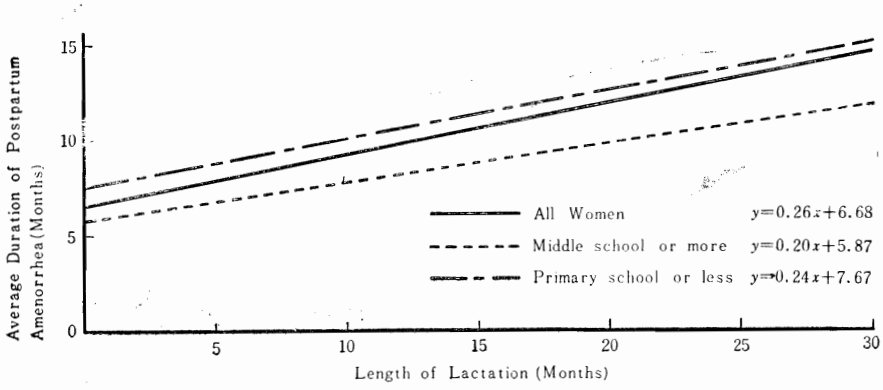

Figure 4-c. Average Period of Postpartum Amenorrhea by Period of Lactation and Education of Women

14. 授乳 및 産後無月經에 影響을 주는 要因分析

Jain[3)4)]이나 Salber[5)] 等은 特히 對象婦人의 教育, 年齡, 出生回數, 社會經濟狀態, 居住地 等이 授乳 및 産後無月經 期間에 미치는 影響을 多變數分析方法에 依하여 研究 究明하고 있다.

이들은 授乳期間과 産後無月經期間은 相互 密接한 關係가 있으며, 婦人의 年齡은 産後無月經에 대하여 直接的으로 또한 授乳에 대한 影響을 通하여 間接的으로 影響을 주고 있다고 하였다. 出産回數도 授乳 및 産後無月經에 커다란 影響을 주고 있으며, 教育과 居住地는 授乳에 대한 文化的인 差異를 通하여 間接的으로 産後無月經에 關係된다고 發表하였다.

醫學的으로는 妊産婦의 營養狀態가 適切히 評價되어져야 한다고 하였다. 分娩後 營養不足狀態에 있는 婦人에서는 産後 月經回復이 相當히 지연된다고 하였다.

從屬變數로서 産後 無月經期間 또는 授乳期間에 대한 獨立變數들 例컨데 年齡, 教育程度, 出生回數, 研究地域, 生活程度 等의 影響을 살피고자 하였다. 이들 獨立變數는 모두들 同時에 考慮했을때 이들이 從屬變數와 어느 程度의 相關關係를 갖게되는 가를 多分類解析 方法을 利用하여 밝히고자 하였다.

獨立變數로서 年齡, 教育程度, 出生回數, 生活程度 等은 dummy variables로서 利用하였다. 低教育群, 低年齡群, 低出生群, 下流層을 各各 0으로, 高等教育群, 高年齡群, 高出生群, 中·上流層을 1로 處理하였다.

Zero order correlation matrix에서 보면(Table 11-a 參照), 社會·人口學的 獨立變數들은 授乳期間 및 産後 無月經 期間에 有意한 影響을 미치고 있다고 說明할 수 있었다. 이와같은 成績은 全 對象婦人에서는 물론이려니와, 離乳婦人群이나 出生後 全혀 授乳를 하지 않은 婦人群에서도 同一하였다.

全 對象婦人에 있어서 보면 授乳期間과 産後 無月經 期間은 相互 有意한 聯關을

Table 11-a. Correlation Coefficient Between Selected Variables for Mothers Classified by Whether or Not They Breastfed the Child

Variables	Variables					
	Lactation	Age	Parity	Education	Living place	Living Standard
All women						
Amenorrhea	.376	.289	.332	−.228	.146	.038
Lactation	.....	.304	.332	−.300	.284	.021
Age	.....	.....	.595	−.218	.111	−.005
Parity	.....	.....	.....	−.339	.261	.005
Education	.....	.....	.....	.....	−.367	−.130
Living place	.....	.....	.....	.....	.....	−.248
Living standard	.....	.....	.....	.....	.....	.....
Breastfed the child						
Amenorrhea	.270	.187	.294	−.249	.172	.026
Lactation	.....	.232	.308	−.351	.377	−.022
Did not breastfeed the child						
Amenorrhea	.....	.286	.230	−.128	.342	−.200

가지고 있으며, 授乳期間이나 産後無月經 期間에 대하여 教育, 年齡, 出生回數, 居住地域 等은 各各 有意한 相關을 가지고 있었다. 年齡 및 出生回數가 높을수록, 教育水準이 낮을수록 그리고 農村地域에 居住하는 婦人일수록 平均授乳期間 및 無月經期間은 各各 延長된다고 할 수 있겠다. 이는 獨立變數 各各이 平均授乳期間 및 無月經期間에 미치는 影響이라고 評價할 수 있겠다.

다음으로 생각할 問題는 여러 獨立變數를 多變數分析方法에 依하여 同時에 고려했을때 어떤 獨立變數가 얼마만큼 從屬變數에 영향을 주는가를 究明할 必要가 있게 되는 것이다(Table 11-b 參照). 多分類解析에서 計算되는 β-coefficient는 zero order correlation의 係數와는 다른, 例컨데 다른 몇개의 變數를 調整한 相關係數로서 變數들의 聯關性의 程度를 指示하는 指數가 될 수 있는 것이다.

全 對象婦人에 있어서 授乳期間·年齡·出生回數·教育·居住地·生活程度는 從屬變數인 産後無月經의 長短點에 대하여 20%程度의 영향을 주고 있다고 보겠다.

한편 從屬變數를 授乳期間으로 擇했을 때 年齡·出生回數·教育·居住地·生活程度 等 獨立變數가 授乳期間에 미치는 影響의 크기는 20%에 達한다 하겠다.

以上의 獨立變數와 從屬變數인 産後無月經 및 授乳와의 關係를 綜合하면 다음과 같다 하겠다(Figure 5 參照).

첫째 授乳期間과 産後 無月經 期間과는 어떤 社會·人口學的 要因보다도 큰 相關을 가지고 있었다.

둘째, 年齡, 教育水準 및 出生回數는 授乳期間 및 無月經期間에 各各 直接的인

Table 11-b. Summary of Multiple Regression Analysis with Postpartum Amenorrhea or Lactation as the Dependent Variable, for Women Classified by Whether or Not They Breastfed the Child

Variable or statistic	All women	Women who	
		Breastfed	Did not breastfeed
Amenorrhea on	Partial regression coefficient, standard form		
Lactation	.2736	.1589	—
Age	.0946	.0454	.2316
Parity	.1626	.1856	.0735
Education	−.0694	−.1191	.2025
Living place	−.0044	.0065	.3511
Living standard	.0216	.0252	−.1103
PCT. VAR. EXPLAINED	20.0	13.7	19.9
Lactation on	Partial regression coefficient, standard form		
Age	.2983	.1246	
parity	.0702	.0996	
Education	−.1112	−.1859	
Living place	.1553	.2537	
Living standard	.0243	.0246	
PCT. VAR. EXPLAINED	20.2	21.2	

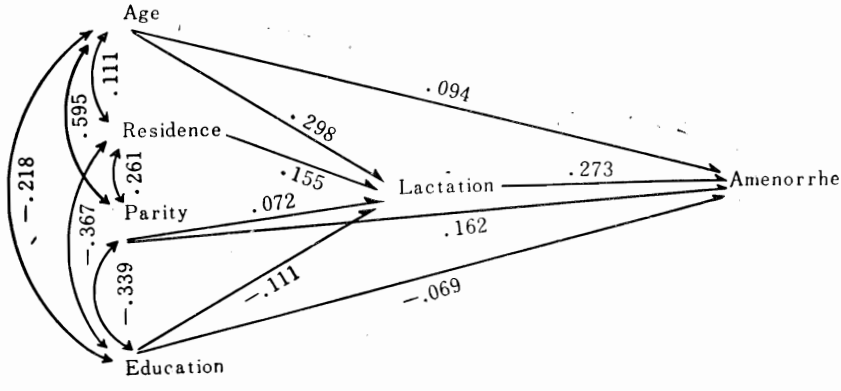

Figure 5. Causal Model for Postpartum Amenorrhea

聯關을 맺고 있었는데, 特히 産後無月經에 대해서는 出生回數, 年齡 그리고 教育程度의 順으로 關聯되어 있었다.

셋째, 授乳期間에 대한 獨立變數의 影響은 年齡이 제일 높았고, 다음은 居住地, 教育, 出生回數의 順位였다.

넷째, 年齡, 教育水準 및 出生回數는 産後 無月經에 대하여 直接的으로 影響을 줄 뿐만아니라, 授乳에 대한 영향을 通하여 間接的으로도 産後 無月經과 聯關된다고 할 수 있겠다.

다섯째, 以上의 內容을 綜合해 볼때 農村에 사는 正規教育을 받지 않은 4名 以上의 出生을 經驗한 30代 以上의 婦人에서 授乳期間과 産後 無月經 期間이 가장 길었으며, 反面에 서울에 居住하는 高等學校 學歷 以上의 婦人으로서 出生을 1~2名 經驗한 30代 未滿 婦人의 授乳期間 및 産後 無月經 期間이 가장 짧았다고 볼 수 있겠다.

年齡 및 出生回數는 生物學的 要因으로서, 居住地 및 教育水準은 近代化指數로서 授乳 및 産後 無月經 期間에 關聯되고 있으나, 이들 要因 外에도 數 많은 變數가 分析되어야 할 것이다. 特히 産後 無月經 期間에 있어서는 妊産婦의 營養狀態가 우선적으로 고려되어져야 할 것이다.

地域別로 各變數의 Simple Correlaation을 살펴보면 Tables 11-c, d a와 e에서와 같다.

變數間의 相關은 年齡과 出生回數에서 0.5 以上으로 높은 聯關을 가졌다고 볼

Table 11-c. Correlation Coefficient Between Selected Variables for Mothers Classified by Whether or Not They Breastfed the Child in Seoul

Variables	Variables				
	Lactation	Age	Parity	Education	Living s'andard
			All women		
Amenorrhea	.414	.282	.351	−.183	.115
Lactation	.....	.244	.271	−.310	.186
Age	.....	.....	.526	−.090	−.005
Parity	.....	.....	.....	−.242	.102
Education	.....	.....	.....	.....	−.287
Living standard	.....	.....	.....	.....	.....
			Breastfed the child		
Amenorrhea	.342	.192	.333	−.238	.166
Lactation	.....	.241	.250	−.361	.211
			Did not breastfeed the child		
Amenorrhea	.....	.212	.034	+.237	−.081

Table 11-d. Correlation Coefficient Betwen Selected Variables for Mothers Classified by Whether or Not They Breastfed the Child in Medium City

Variables	Variables				
	Lactation	Age	Parity	Education	Living standard
			All women		
Amenorrlea	.325	.300	.303	−.234	.032
Lactation	.....	.347	.323	−.233	.100
Age	.....	.....	.621	−.280	.059
Parity	.....	.....	.....	−.321	.078
Education	.....	.....	.....	.....	−.277
Living standard	.....	.....	.....	.....	.....
			Breastfed the child		
Amenorrhea	.151	.219	.261	−.209	−.007
Lactation	.....	.223	.268	−.179	−.087
			Did not breastfeed the child		
Amenonrrhea	.....	.324	.076	−.208	−.092

Table 11-e. Correlation Coefficient Between Selected Variables for Mothers Classified by Whether or Not They Breastfed the Child in Rural Area

Variables	Vaiables				
	Lactation	Age	Parity	Education	Living standard
			All women		
Amenorrhea	.332	.265	.284	−.181	.085
Lactation	.....	.288	.259	−.137	.053
Age	.....	.....	.627	−.246	.015
Parity	.....	.....	.....	−.273	.055
Education	.....	.....	.....	.....	−.211
Living standards	.....	.....	.....	.....	.....
			Breastfed the child		
Amenorrhea	.183	.128	.192	−.171	.059
Lactation	.....	.177	.150	−.130	−.013
			Did not breastfeed the child		
Amenorrhea	.....	.218	.123	.198	−.210

수 있으며, 다음은 授乳期間 및 産後 無月經 期間의 相關이라고 할 수 있겠다. 授乳期間 및 産後無月經期間의 相關은 서울에서 0.41, 中都市에서 0.32, 農村地域에서 0.33으로 모든 地域에서 有意한 相關을 나타내고 있었다.

또한 모든 地域에서 다 함께 年齡水準이 높아질수록, 出生回數가 많아질수록, 教育水準이 낮아질수록 授乳期間과 産後 無月經 期間이 延長되고 있었다.

한편 年齡이 높아질수록 教育水準이 낮아지고, 教育水準이 높아질수록 出生回數는 적어지고 있었다.

多分類分析方法에 依하여 여러가지 獨立變數가 同時에 고려되었을때 從屬變數인 産後無月經 期間 또는 授乳期間에 미치는 影響을 地域別로 區分하여 分析하면 Tables 11-f, g, a와 h와 같다.

첫째 産後無月經期間에 대한 獨立變數 即 授乳期間·年齡·教育·出生回數·生活程度의 總 影響은 서울에서는 24%, 中都市에서는 17%, 農村地域에서는 16.5%로 算出되었다.

둘째, 授乳期間의 長短에 대한 年齡·教育·出生回數·生活程度의 諸 獨立變數의 影響은 서울에서 16%, 中都市에서 17.6%, 農村地域에서 14.9%를 나타내고 있었다.

셋째, 多分類分析에서 나타난 産後無月經期間에 대한 諸 要因의 聯關을 보면 모든 地域에서 授乳期間이 제일 큰 相關을 보였고, 다음은 出生回數, 年齡, 教育水

Table 11-f. Summary of Multiple Regression Analysis with Postpartum Amenorrhea or Lactation as the Dependent Variable for Women Classified by Whether or Not They Breastfed the Child in Seoul

Variable or statistic	All women	Women who	
		Breastfed	Did not breastfeed
Amenorrhea on	Partial regression coefficient, standard form		
Lactation	.3248	.2360	—
Age	.0921	.0298	.2245
Parity	.2083	.2371	.1614
Education	−.0151	−.0680	.3808
Living standard	.0295	.0711	.0003
PCT. VAR. EXPLAINED	24.0	17.1	14.2
Lactation on	Partial regression coefficient, standard form		
Age	.2614	.1443	
Parity	.1110	.0726	
Education	−.1638	−.2987	
Living standards	.0377	.0810	
PCT. VAR. EXPLAINED	16.0	17.0	

Table 11-g. Summary of Multiple Regression Analysis with Postpartum Amenorrhea or Lactation as the Dependent Variable for Women Classified by Whether or Not They Breastfed the Child in Medium City

Variable or statistic	All women	Women who	
		Breastfed	Did not breastfeed
Amenorrhea on	Partial regression coefficient, standard form		
Lactation	.2203	.0582	—
Age	.1152	.1075	.1802
Paity	.1245	.1690	.1352
Education	−.1214	−.1635	.1211
Living standards	−.0402	−.0699	−.0925
PCT. VAR. EXPLAINED	17.0	11.1	11.2
Lactation on	Partial regression coefficient, standard form		
Age	.3571	.1365	
Parity	.0351	.1663	
Education	−.0873	−.0974	
Living standards	.0330	.0574	
PCT. VAR. EXPLAINED	17.6	9.3	

Table 11-h. Summary of Multiple Regression Analysis with Postpartum Amenorrhea or Lactation as the Dependent Variable for Women Classified by Whether or Not They Breastfed the Child in Rural Area

Variable or statitic	All women	Women who	
		Breastfed	Did not breastfeed
Amenorrhea on	Partial regression coefficient, standard form		
Lactation	.2953	.1455	—
Age	.0806	.0142	.1601
Parity	.1430	.1403	.1175
Education	−.0764	−.1116	.1492
Living standards	.0463	.0385	−.1417
PCT. VAR. EXPLAINED	16.5	7.8	10.8
Lactation on	Partial regression coefficient, standard form		
Age	.3189	.1179	
Parity	.0558	.0750	
Education	−.0802	−.1077	
Living standards	.0087	−.0293	
PCT. VAR. EXPLAINED	14.9	4.7	

準의 順序로 影響을 미치고 있었다.

넷째, 授乳期間에 대한 獨立變數의 影響을 보면 모든 地域에서 다 같이 年齡이 제일 큰 關係가 있었고, 다음은 教育, 出生回數의 順序로 相關을 맺고 있었다.

다섯째, 年齡, 出生回數 및 教育水準은 産後無月經 期間과 直接 聯關되어 있을 뿐만아니라, 授乳期間을 通한 影響으로 間接的인 相關을 맺고 있음은 都市나 農村에서 同一한 現況이었다.

Ⅳ. 結　論

本研究院에서는 母性保健에 基礎를 둔 家族計劃事業의 計劃 및 進行에 必要한 成績을 分析할 目的으로 家族計劃實施者와 非實施者의 母子保健實態調査를 1972年 9月부터 10月까지 全國的으로 實施하였다.

同 調査中에 最近 活發히 研究되고 있는 授乳 및 産後無月經의 相關, 授乳 및 産後無月經에 對한 對象婦人의 特性. 産後姙娠率 等을 分析하기 爲하여 몇가지 說問을 追加 質問하였다.

同 設問을 中心으로한 "授乳 및 産後無月經의 相關"에 대한 研究의 分析對象은 15~49歲의 有配偶可姙婦人 總2,844名이었는데, 地域別로는 서울이 955名, 中都市(忠北 영동읍)가 944名, 農村地域(京畿 용인군 남사면) 945名이 選定되었다.

이들 對象에 대한 "授乳 및 産後無月經의 相關"에 대한 主要結論은 다음과 같았다.

1. 研究對象者의 特性

對象婦人의 調査當時年齡은 35~39歲群이, 最終姙娠의 歸結時 年齡은 30~34歲群이 各各 제일 많았고, 平均年齡은 各各 35.7歲 및 31.8歲였다. 對象地域의 最頻年齡群은 30代였으며, 平均年齡은 서울은 34.7歲, 中都市는 35歲, 農村은 36.1歲로 別差없었으며, 避姙實施 經驗別로 보면 避姙經驗群에서는 30~34歲群이, 非經驗群에서는 25~29歲群이 各各 首位를 차지 하였다.

最終姙娠時 平均年齡은 서울이 31歲, 中都市가 31.5歲, 農村이 32.8歲로, 避姙經驗群이 32.7歲, 非經驗群이 30.8歲로 地域別로나, 避姙經驗別로나 大同小異하였다.

對象婦人의 教育水準은 國民學校 學歷群이 過半數인 53%였고, 國民學校 學歷 以下의 低教育婦人이 71.6%를 占有하였다. 한편 國民學校 以下의 低教育率은 서울은 52%, 中都市는 72%, 農村은 91%로서 都市地域이 현저히 높았으나, 避姙經驗群은 68%, 非經驗群은 76%로 經驗群이 多少높았다.

出生順位는 4位 以上이 過半數인 56%였는데, 地域別로 보면 그 率이 서울은 43%, 中都市는 56%, 農村은 70%로 農村이 높았으며, 避姙經驗別로는 避姙經驗群에서 66%, 非經驗群에서 46%로 經驗群에서 높았다.

本 分析의 對象이 된 最終姙娠의 歸結은 正常出生이 73%, 人工流産이 22%였다. 正常出生兒의 分娩場所는 家庭이 86%로 大多數였으며, 分娩介助人은 非專門醫療人(어머니·이웃·친지等)이 63%로 大部分이었고, 産科專門醫 介助가 13%,

助産員介助가 10%였고 單獨分娩도 10%나 되었다.

2. 對象婦人의 觀察期間

對象婦人의 最終姙娠 歸結부터 面接까지의 觀察期間은 13個月 以上이 68%, 18個月 以上이 56%, 25個月 以上이 42%였으며, 平均은 25.3個月로 算出되었다. 한편 觀察期間이 6個月 以內인 率은 17%, 49個月 以上은 26%였다.

3. 授乳 및 離乳狀況

觀察對象이 된 最終出生兒에게 처음부터 젖을 전혀 안먹인 率은 3.6%였고, 面接以前에 離乳를 完了한 婦人은 48%, 面接日 現在 繼續 授乳中인 婦人은 49%였다.

離乳한 婦人의 젖을 뗄때까지의 平均授乳期間은 22.8個月이었다. 이를 地域別로 보면 서울은 17.6個月, 中都市는 22. 1個月, 農村은 27. 7個月로 서울에 比하여 農村은 10個月이나 延長되었다. 한편 避姙實施 經驗別로 보면 避姙實施 經驗群에서 21.4個月로 非經驗群의 24.4個月보다 多少짧았다.

4. 産後無月經 期間

面接當時 授乳狀況에 따른 平均無月經期間을 보면, 처음부터 젖을 전혀 먹이지 않은 婦人中 月經이 回復된 婦人의 平均 産後無月經 期間은 7. 9個月(中央値는 4.5個月), 面接日 以前에 젖을 뗀 婦人中 月經이 돌아온 婦人의 平均 無月經 期間은 13.5個月(中央値는 11.1個月)로서, 非授乳婦人과 授乳經驗 婦人의 無月經期間의 差異는 5.6個月(中央値로 比較하면 6.6個月)으로서 授乳가 月經回復을 5~7個月 程度 延長시키는 것으로 推測된다. 한편 人工流産·自然流産·死産을 經驗한 婦人의 胎兒 死亡後 月經回復까지의 平均期間은 6個月(中央値는 0.8個月)로서, 過半數에 該當하는 婦人들이 流産後 1個月 以內에 月經을 回復하고 있었다.

離乳婦人中 月經을 回復한 婦人의 平均 無月經期間은 서울은 11.7個月, 中都市는 13.3個月, 農村은 15.3個月로 都市가 月經回復이 빨랐지만, 서울과 農村의 差는 3.6個月로서 授乳期間에서 보다 훨씬 적었다. 避姙實施 經驗婦人은 平均 12.8個月만에, 非經驗婦人은 14.4個月만에 月經을 回復하는 것으로 算定되었다.

出生後 전혀 授乳를 하지않은 婦人中 月經을 回復한 婦人의 平均 無月經期間은 서울은 5.2個月, 中都市는 6.4個月, 農村은11.1個月이었는데, 離乳婦人中 月經을 回復한 婦人의 平均 無月經期間과는 5~7個月 程度의 差를 보여 주었다.

避姙經驗婦人에서는 9.3個月, 非經驗婦人에서는 5.8個月로 非經驗群에서 빨랐다.

한편 流産後 月經을 回復할때까지의 平均期間은 서울은 3.2個月, 中都市는 4.9個月, 農村은 12.1個月로 農村을 除外하고는 5個月 以內의 짧은 期間을 提示하였

다. 避姙實施 經驗別로는 經驗婦人이 6個月로 非經驗婦人의 6.6個月보다 多少 빨랐다.

5. 月別 離乳率 및 月經回復率

月別 離乳率은 0~5% 以內에서, 月經回復率은 2~8%線에서 不規則한 分化를 보였지만, 月經回復率이 離乳率보다 높아 授乳中에 月經回復을 하는 婦人이 많다는 것을 알 수 있었으며, 離乳率과 月經回復率은 어느 한쪽이 높아지면 다른 한쪽도 높아지고 있었다.

이들 離乳率과 月經回復率은 6個月마다 急激히 增加되었는데 이는 retrospective study에서 오는 記憶의 편중에 基因하는 것이라 할 수 있겠다.

6. 觀察期間別 累積 離乳率 및 月經回復率

授乳經驗婦人의 累積 離乳率은 6個月末에 3.9%, 12個月末에 14.7%, 18個月末에 25.8%, 24個月末에65.6%이었다. 地域別로 區分하여 살펴보면 서울은 12個月末에 30%, 24個月末에 83%로서, 中都市나(12個月末 : 11%, 24個月末 : 77% 農村地域(12個月末 : 7%, 24個月 : 46%)보다 높은 率을 나타내고 있었다. 서울이나 中都市에서는 大多數가 2年 以內에 젖을 떼는데 反하여, 農村에서는 過半數가 2年以上 젖을 먹이고 있으며, 이中 相當數는 다음 姙娠이 된 後에야 젖을 떼고 있는 形便이었다.

避姙經驗婦人은(12個月末 : 17%, 24個月末 : 72%) 非經驗婦人보다(12個月末 : 12%, 24個月末 : 59%) 離乳를 일찍하고 있다고 보겠다.

累積 月經回復率은 6個月末에 23.2%, 12個月末에 51.3%, 18個月末에 75.3%, 42個月末에 93.5%로 過半數인 51%는 1年內에, 大多數인 94%는 2年 以內에 月經을 回復하였다.

累積 月經回復率은 地域別로 區分할때 서울은 6個月末에 31%, 12個月末에 62%, 24個月末에 97%였으며, 中都市는 各各 19%, 43%, 93%로 農村地域은 各各 21%, 50%, 88%로 農村이 都市보다 늦었으나 그 差異는 離乳率에서 처럼 크지 않았다.

避姙經驗別로 보면 經驗婦人에서는 6個月末 26%, 12個月末 57%, 24個月末 95%였고, 非經驗婦人에서는 各各 21%, 46%, 93%로 經驗群의 月經回復率이 빨랐다.

觀察期間에 關係없이 累積月經回復率이 離乳率보다 높았는데, 그 差異는 1年 以內에서 뚜렷하여 12個月末 累積月經回復率은 離乳率의 3倍 以上이었다.

많은 數의 婦人들은 母乳를 먹이고 있는 중에 産後 첫 月經을 回復하고 있

었다.

7. 授乳期間別 月經回復率

첫째, 出產後 젖을 먹이지 않은 婦人의 月經回復率은 面接當時까지 繼續授乳하는 婦人이나, 離乳婦人보다 훨씬높아 12個月末에 76%나 되었다.

둘째, 最終觀察時 繼續 授乳中이었던 婦人보다 離乳한 婦人의 月經回復이 多少 빨랐다.

셋째, 離乳한 婦人을 授乳期間別로 區分하여 月經回復率을 比較하면, 離乳까지의 授乳期間이 짧을수록 月經回復率이 높았다. 6個月末 月經回復率은 授乳期間이 6個月 以內였던 婦人에서 65%, 授乳期間 7~12個月群에서 27%, 13~18個月群에서 25%, 19~24個月群에서 18%의 順序였고, 12個月末 累積 月經回復率은 授乳期間이 6個月 以內였던 婦人에서 84%, 7~12個月群에서 74%, 13~18個月群에서 57%, 19~24個月群에서 45%였다.

넷째, 7~12個月 授乳한 婦人中 6個月 以前에 月經이 돌아온 婦人은 27%, 13~18個月 授乳婦人中 12個月 以前의 月經回復率은 57%, 19~24個月 젖을 먹였던 婦人에서 18個月 以前에 月經이 回復된 率은 72%, 25個月 以上 授乳한 婦人中 24個月以前에 月經을 回復한 率은 86%로서, 授乳中에 月經을 回復하는 婦人이 相當하였다고 보겠다.

다섯째, 流產이나 死產을 經驗한 婦人의 月經回復은 매우 빨라서, 1個月末에 80%, 6個月末에 85%, 12個月末에 91%나 되었다.

여섯째, 授乳期間을 生理的인 不姙期間으로 생각하는 것은 願하지 않는 姙娠을 할 위험성이 되며, 授乳中이라도 月經이 回復하면 即時 避姙을 實施하여야 될 것이다.

地域別로 보면 서울의 月經回復이 中都市나 農村地域보다 相當히 빨랐고, 中都市나 農村地域은 類似하였다.

授乳를 全혀 하지 않은 婦人의 月經回復이 離乳婦人이나 授乳 繼續 婦人보다 月經이 빨랐던 點, 離乳婦人에서는 離乳까지의 授乳期間이 짧을수록 月經回復이 빨랐던 것은 地域間에 差를 볼 수 없는 現象이었다.

그러나 同一한 期間授乳를 經驗한 婦人에 있어서 月經回復은 서울이 比較的 빨랐다. 即 13~18個月間 授乳한 婦人에서 月經回復率은 6個月末에 29.3%, 12個月末에 60.8%로서 中都市나(6個月末 : 19.5%, 12個月末 : 48.2%), 農村보다(6個月末 : 24.4%, 12個月末 : 54.6%) 높았다.

流產後 月經回復率은 서울과 中都市는 비슷하여 3個月末에 90%를 上廻하였으나, 農村地域은 12個月末에 57%로서 相當히 늦어지고 있었다.

避姙經驗群의 月經回復이 非經驗보다 多少빨랐으며, 同一한 授乳期間에 있어서의 月經回復은 避姙經驗群에서 多少 빨랐다.

8. 對象婦人의 特性別 授乳 및 產後無月經의 平均期間

離乳婦人의 特性別 平均授乳期間은 面接當時 年齡이 높을수록(20~24歲群 : 12 2個月, 40~49歲群 : 26個月), 最終分娩時 年齡이 높을수록(25~29歲群 : 19.3個月, 35~39歲群 : 25.6個月), 出生回數가 많아질수록(1位 出生 : 16.6個月, 5位 出生 : 25.1個月), 教育水準이 낮을수록 (高等教育群 : 12.2個月, 低教育群 : 28個月) 意義있게 延長되고 있었다.

서울에 居住하는 婦人의, 서울에서 出生한 婦人의, 避姙實施經驗婦人의 그리고 病·醫院에서 分娩한 婦人의 平均授乳期間이 짧았다.

離乳한 婦人中 月經이 回復된 婦人의 平均 無月經期間은 平均授乳期間에서와 마찬가지로, 面接當時 年齡이 많을수록, 最終分娩時年齡이 높을수록 出生回數가 많을수록 教育水準이 낮을수록, 避姙을 經驗한 婦人일수록 都市에서 出生했거나 居住하는 婦人일수록 家庭에서 分娩한 婦人일수록 平均 無月經期間은 延長되었다.

流產婦人의 平均無月經 期間이나, 授乳를 全혀 하지 않은 婦人의 無月經期間은 特性別 平均授乳期間에서 처럼 뚜렷한 分布는 아니었으나, 一般的인 內容은 同一하였다.

授乳 및 無月經期間에 關聯된 特性은 以外에도 여러가지 要因이 있으리라고 생각된다.

9. 對象婦人의 特性別 理想的 離乳時期

理想的 授乳期間으로는 9個月 以內가 좋다는 婦人이 46.4%, 9~12個月이라는 婦人은 31.6%로 78%의 婦人이 1年 以內가 離乳時期로 좋다고 應答하였다. 平均授乳期間 22.8個月에 比하여 理想的 離乳期間은 11.3個月로 현저히 단축되었다.

實際授乳期間과 理想的 授乳期間은 서울에서 各各 17.6個月과 9.5個月, 中都市에서 各各 22.1個月과 12.2個月, 農村地域에서 27.7個月과 12.2個月로 比較되었다.

理想的 離乳時期 亦是 年齡과 出生回數가 많을수록, 教育水準이 낮을수록, 避姙實施非經驗婦人이, 家庭分娩한 婦人에서 늦어지고 있었다.

10. 授乳 및 產後無月經 期間의 相關에 대한 回歸方程式

對象婦人의 無月經期間(Y)과 授乳期間(X)의 相關은 $Y=0.26X+6.68$로 表示되고 있는데, 兩個 要因間의 相關은 特히 授乳期間 24個月 以內에서 뚜렷하였다. 同相關에서 보면 授乳期間은 產後 無月經 期間의 長短에 대하여 程度를 說明하고 있었다.

回歸方程式으로 보면 同一한 授乳群의 無月經 期間은 서울이 ($Y=0.31X+6.68$)

中都市(Y=0.24X+7.16)나 農村보다(Y=0.23X+7.75)짧았고, 29歲 以下의 低年齡層이((Y=0.31X+3.31) 30歲以上의 高年齡層에 (Y=0.21X+8.61) 비하여 길었다.

또한 教育別로 보면 國民學校 以下의 低教育群이 (Y=0.24X+7.67) 中學校 以上의 高等教育群 (Y=0.20X+5.87) 보다 同一授乳期間에 對하여 無月經 期間이 길었다.

11. 授乳 및 産後無月經에 影響을주는 要因分析

多分析方法에 依하여 從屬變數인 産後 無月經期間에 대한 獨立變數인 婦人의 授乳期間·年齡·教育·出生回數·居住地·生活程度가 미치는 影響을 그리고 授乳期間을 從屬變數로 했을때 獨立變數로서 婦人의 年齡·教育·出生回數·居住地·生活程度가 從屬變數에 미치는 影響의 크기를 分析하였다.

첫째, Zero order correlation matrix에서 볼때 社會·人口學的 諸 獨立變數들은 授乳期間 및 産後無月經期間과 有意한 聯關을 맺고 있었다.

둘째, 授乳期間과 産後 無月經期間의 相關係數는 0.376이었다.

셋째, 多變數分析方法에 依하여 諸 獨立變數들을 同時에 고려했을때 即 授乳期間·年齡·出生回數·教育·居住地·生活程度는 從屬變數인 産後 無月經期間의 長短에 대하여 20%程度의 影響을 주었다.

넷째, 年齡·教育·出生·回數·居住地·生活程度 等의 獨立變數가 從屬變數인 授乳期間에 미치는 영향의 크기는 20%에 達하였다.

다섯째, 多分類解析에서 보면 授乳와 無月經 期間의 相關은 0.237로 有意한 聯關이었다.

여섯째, 年齡, 教育水準, 出生回數는 授乳 및 無月經期間에 各各 直接的인 影響을 주었는데, 授乳에 대한 獨立變數의 영향은 年齡이 제일 높았고 다음은 居住地, 教育, 出生回數의 順序였고, 産後 無月經期間에 대한 영향은 授乳期間이 제일 높았고, 다음은 出生回數, 年齡, 教育의 順序였다.

일곱째, 年齡, 教育水準, 出生回數는 産後 無月經에 대하여 直接的으로 影響을 줄 뿐만 아니라, 授乳에 대한 영향을 通하여 間接的으로도 産後 無月經과 聯關된다고 할 수 있었다.

A Summary Report in English

A Summary Report in English

A Study on the Interrelationships between Lactation and Postpartum Amenorrhea

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1. Background of the study:

Any public health programs must be based upon sound medical and health data. Ignoring the basic medical facts in public health is the equivalent of treating the superficial symptoms. In developed countries family planning programs were progressed as an integral part of a comprehensive family health programs from the beginning.

Both maternal and child health and family planning are directly concerned with the health of the individual and the quality of family life, both physical and emotional. By combining their efforts, both maternal and child health and family planning may have a better chance of strengthening family life and improving the quality of parental cares.

There is a direct relationship between the outcome of pregnancy and family planning. Only when fetal, infant and childhood mortality are reduced and children survive is it likely that a family will accept family planning. Thus, improvement of health services for mothers and children is a prerequisite for family planning.

The family planning program in Korea has been carried out mainly focused on the population control and economical development without the integration between family planning and family health. During 10 years from 1962, the National Family Planning Program has easily achieved its target. But the coming program must solve those problems successfully such as rapid increase of fecund women, difficulties in reducing an average number of children, low family planning practice rate, high rate of

induced abortion, strong boy preference and so on.

Recently many efforts from the various specialized fields have been observed for the development and improvement of Korean family planning program. In medical field, a famly planning program related to maternity health services is being developing with the rapid speed in the developing countries. Maternity family planning programs have many advantages such as the statistical advantages of the introduction of contraception in the postpartum period, the educational opportunities afforded during pregnancy and the puerperium, essentials in a pregnancy-postpartum program.

In this situation, Korean Institute for Family Planning designed and completed a survey to collect basic data on maternal and child health of family planning acceptors and nonacceptors in Korea in order that these data might be used as program organization indicators for the longterm integration of the family planning program and the maternal and child health program polices of the future.

In order to analyze the relationships between lactation and postipartum amenorrhea, in particular, the institute inserted several questions in the MCH status survey. Because it is needed to study the joint distribution and concomitants of the duration of lactation and the duration of postpartum amenorrhea which are among the factors determining birth rates.

Many scholars analyzed the relationship of lactation and postpartum amenorrhea, the probabilitie of pregnancies by postpartum months and the contraceptive behavior during the first year after the termination of pregnancy.

In order to consider the improvement of Korean family planning program, a special analysis was focused on the relationship of lactation and postpartum amenorrhea in relation to maternity based family planning program in Korea.

2. Specific objectives of the study:

1) To know the average duration of lactation and postpartum amenorrhea.
2) To calculate the monthly and cumulative rates of terminating lactation and resuming menstruation.
3) To know the cumulative rates of resuming menstruation by duration

of lactation.

4) To determine the average periods of lactation, the mean duration of postpartum amenorrhea and the ideal duration of lactation by various characteristics of women.

5) To figure out the linear regression equations in relation to lactation and postpartum amenorrhea.

6) To estimate the inter-relationships between socio-demographic factors, lactation and postpartum amenorrhea by using multiple regression analysis.

3. Subject and method of the study:

This analysis was conducted on 2,844 eligible women ages 15-49 in various areas of the country 955 women from Samchung and Gurodong in Seoul, 944 women from Yongdong Eup in Chungbuk Province (town) and 945 women from Namsa Myun in Kyonggi Province (township). The field studies were conducted during home visits by 28 interviewers trained from 25 September to 24 October, 1972 (Table 1-a).

4. General characteristics of women:

1) Age at interview

Those belonging to 30-34 group rated highest of the total or 24 per cent and the average age was 35.7 years. The average ages by study areas were 34.7 years in Seoul, 35 years in medium city and 36.1 years in rural area respectively (Table 1-b).

2) Age at the termination of last pregnancy

Those belonging to 30-34 group was highest or 33 per cent and the average was 31.8 years. The average ages were as follows: 31 years in Seoul, 31.5 years in medium city, 32.8 years in rural area, 32.7 years in women ever practiced contraceptives, 30.8 years in women never practiced contraceptives (Table 1-b).

3) Educational background

A substantially large proportion or 71.6 per cent had received a primary school education or below. The rates of women who had received a pri-

mary school education or below were 52 per cent in Seoul, 72 per cent in medium city, 91 per cent in rural area, 68 per cent in women ever practiced contraceptives and 76 per cent in women never practiced contraceptives respectively (Table 1-b).

4) Number of live-births

Women more than half or 56 per cent had 4 live-births or more. The rates of women who had 4 live-births or more were as follows by study area or the experience of contraceptive practice 43 per cent in Seoul, 56 per cent in medium city, 70 per cent in rural area, 66 per cent in women experienced contraceptives, 45 per cent in women never practiced contraceptives (Table 1-b).

5) Outcome of last pregnancy

Women as many as 73 per cent terminated their last pregnancies as live-births and 22 per cent of total women terminated as induced abortions (Table 1-c).

6) Place of delivery and delivery attendant

Of all deliveries, 14 per cent of the last born babies were reported to have been made at hospitals or midwives' houses, 13 per cent of the women had experienced supervised domiciliary delivery, and the unsupervised domiciliary delivery including 10 per cent home delivery without any attendants turned out to be 73 per cent or almost three-thirds (Table 1-c).

5. Duration of observation:

In this sample, 68 per cent of the women terminated their last pregnancy, to which the data refer, from 13 months to 48 months before the interview date. The women as many as 32.8 per cent were observed less than 12 months, and 26 perc ent of all women were observed more than 49 months before the interview date. The average duration of observation from the termination of last pregnancy to the interview)date was computed at 25.3 months (Table 1-d).

6. Status of lactation and weaning:

The rate of non-breastfeeding after delivery was 3.6 per cent, 48 per

cent of the women were still lactating at last contact and 49 per cent of the total terminated or weaned their breastfeeding before the interview date.

The average period of breastfeeding for those women weaned their babies was 22.8 months. By study area, the average duration in Seoul was the shortest or 17.6 months and it was postponed to 22.1 months in medium city and to 27.7 months in rural area. There was a difference of 10 months between Seoul and rural area. By the experience of contraceptive practice, the average duration of the women experienced contraceptives (21.4 months) was shorter than that of the women never experienced (24.4 months) (Tables 2-a, 3 and 4).

7. Postpartum amenorrhea:

Average period of postpartum amenorrhea among the women who did not breastfeed their child was 7.6 months (median was 4.5 months), and the period among the women who weaned before the interview date was 13.5 months (median was 11.1 months). There was difference of 5.6 months between two groups. On the other hand among the women who weaned their babies the average duration of lactation (22.8 months) was longer than the period of postpartum amenorrhea (13.5 months) by 9.3 months.

The average duration of postpartum amenorrhea of the women who terminated their last pregnancies as fetal deaths was 6 months (median was 0.8 months). Women more than half turned out to resume menstruation within the first month after fetal deaths.

By study area, the average duration of postpartum amenorrhea among women who weaned their babies was shorter in women residing in Seoul (11.7 months) than the women in medium city (13.3 months) and the women in rural area (15.3 months). Comparing to the difference of 10 months in the duration of lactation, the difference in the durations of postpartum amenorrhea in Seoul and rural area was only 3.6 months.

By the experience of contraceptive practice, the duration of the women experienced contraceptive practice (12.8 months) was somewhat shorter than that of the women never experienced contraception (14.4 months).

Average durations of postpartum amenorrhea among the women who did not breastfeed were turned out by study area and by the experience of contraceptive practice as follows: Seoul (5.2 months), medium city (6.4 months), rural area (11.1 months), women experienced contraception (9.3 months), women never experienced contraception (5.8 months).

On the other hand, the average durations of postpartum amenorrhea of the women who terminated last pregnancies as fetal deaths were 3.2 months of the women residing in Seoul, 4.9 months of ths women who live in medium city and 12.1 months of the rural women respectively (Tables 2-a, b, 3 and 4).

8. Monthly probabilities of termination lactation and resuming mensturation:

By using a life-table technique, the conditional monthly probabilities of terminating lactation and of resuming menstruation for successive postpartum periods were calculated.

The conditional monthly probabilities of terminating lactation showed irregular distribution in 0-4 per cent, that of resuming menstruation showed also irregular distribution in 2-8 per cent. The probabilities were irregular, peaking at multiples of 6 months probably an artifact of the digital preference of mothers reporting the age of the child in months when the events occurred.

In most months the probabilities of resuming menstruation are higher than the probabilities of terminating lactation, it is clear that a substantial number of women will be disappointed if they believe that lactation alone will prevent pregnancy. The probabilities of resuming menstruation and terminating lactation changes in a similar trends. Lactation was given up much more slowly than menstruation was resumed, so as time went on an increasing number of mothers were lactating but not amenorrheic (Table 5 and Figure 1).

9. Cumulative rates of terminating lactation and resuming menstruation:

Cumulative rates of terminating lactation (cumulative rates of breastfe-

eding) the women who had experiences of lactation were 3.9 per cent (96. 1 per cent) at the end of 6th month, 14.7 per cent (85.3 per cent) at the end of 12th month, 25.8 per cent (74.2 per cent) at the end of 12th month and 65.6 per cent (34.4 per cent) at the end of 24th month.

Cumulative rates of terminating lactation among the women who had experiences of lactation were higher in the women residing in Seoul (8.7 per cent at 6th month, 30 per cent at 12th month and 83 per cent at 24th month) that the women of medium city (2.4 per cent at 6 th month, 11 per cent at 12th month and 77 per cent at 24th month) or the rural women (1.4 per cent at 6th month, 7 per cent at 12th month and 46 per cent at 24th month). A large proportion of women who live in Seoul (97 per cent) or medium city (93 per cent) terminated lactation up to the end of 2nd year. But in rural area more than half or 54 per cent of the total women breastfed their children for 25 months or more, and many women breastfed their children more than 25 months answered as the reasons for weaning their babies as "became pregnant during lactation".

By the experience of contraceptive practice, the women experienced contracptive practice (5 per cent at 6th month, 17.2 per cent at 12th month and 71.6 per cent at 24th month) terminated their lactation more earlier than the women never experienced contraceptives (2.9 per cent at 6th month, 17.2 per cent at 12th month and 59 per cent at 24th month) (Tables 6-a and b, Figure 2).

Cumulative rates of resuming menstruation (or cumulative rates of amenorrhea) were 23.2 per cent (or 76.8 per cent) at the end of 6th month, 51.3 per cent (or 48.7 per cent) at the end of 12th month, 75.3 per cent (or 24.7 per cent) at the end of 18th month and 93.5 per cent (or 6.5 per cent) at the end of 24th month respectively. This means that about half of the women have resumed menstruation within 1 year after delivery and more than 90 per cent of the total resumed menstruation within 24 months after deliveries.

By study area, cumulative rates of resuming menstruation were higher in the women residing in Seoul (31 per cent at the end of 6th month, 62 per cent at the end of 12th month and 97 per cent at the end of 24th month), compared with the womon in medium city (19 per cent at the end of 12th month and 93 per cent at the end of 24th month) or rural

women (21 per cent at the end of 6th month, 50 per cent at the end of 12th month and 88 per cent at the end of 24th month).

By the contraceptive experiences, the women experienced contraceptive practice (26 per cent at the end of 6th month, 57 per cent at the end of 12th month and 95 per cent at the end of 24th month) resumed menstruation earlier than the women who had never experienced contraceptive practice (21 per cent at the end of 6th month, 46 per cent at the end of 12th month and 93 per cent at the end of 24th month) (Tables 6-a and b, Figure 2).

In conclusion, the followings could be considered.

* It was observed that cumulative rates of resuming menstruation were much higher than the cumulative rates of terminating lactation, particularly within 12 months after deliveries. The cumulative rate of resuming menstruation was about 3.5 times higher as that of terminating lactation at the of 12th month, and the difference decreased to 1.5 times at the end of 24th month.
* It was proven that there were many women who had resuming menstruation prior to terminating lactation.
* The women residing in Seoul resumed menstruation earlier than the women in medium city or rural area with the some possible reasons such as high rate of non-breastfeeding, earlier termination of lactation, better nutrition in pregnant and postpartum periods, earlier supplementary feeding and less dependent of breast milk.
* There will be high risk of unwanted pregnancy during lactation, while the menstruation was resumed, if we were believing no risk of pregnancy during the period. It is impossible to prevent pregnancy during the period. It is impossible to prevent pregnancy with lactation alone.

10. Cumulative rates of resuming menstruation by duration of lactation:

The earliest resumption of menstruatin was observed among the women who did not breastfeed, compared with the women who were still lactating or the women who terminated the lactation before the last contact. The rates of resming menstruation for those women were 56.6 per cent at the end of 6th month and 75.6 per cent at the end of 12th month.

This means that menstruation returned much earlier for women who did not breastfeed their last child than for those who did, irrespective of the lactation period or the weaning status of those who did breastfeed.

For those who breastfed, the women who weaned resumed menstruation earlier than the women who were still lactating at the last contact. The cumulative rates of resuming menstruation for women who weaned and for women who were still lactating at interview date were 24.4 per cent and 19.6 per cent at the end of 6the month and 54.1 per cent and 44.2 per cent at the end of 12th month.

For women who had weaned the child, the length of the lactation period was clearly related to the length of the period of postpartum amenorrhea. The cumulative rates of resuming menstruation at the end of 6th month by the duration of lactation among women who weaned their last child were 65 per cent among women who had breastfed their child for 7-12 months, 25 per cent for the mothers lactating for 13-18 months and 18 per cent for the mothers lactating for 19-24 months. And the cumulative rates of resuming menstruation at the end of 12th month were highest for the women who had breastfed their child less than 6 months, followed by women lactating for 7-12 months (74 per cent), women lactating for 13-18 months (57 per cent) and women lactating for 19-24 months (45 per cent).

Lactation only delays the resumption of menstruation up to a point for any women, because for a substantial proportion of women menstruating. For example menstruation was resumed before the 6th month for 27 per cent of the mother lactating for 7-12 months, before the 12th month 57 per cent of the women lactating for 13-18 months, before the 18th month for 72 per cent of those lactating for 19-24 months and in less than 2 years for 86 per cent of those lactating for more than 2 years. These results indicate that a substantial percentage of women who might be relying on lactation as a method of birth control —the period of temporary sterility which follows a birth would be disappointed and the risk of conception increases rapidly the period of lactation. At any time at least a substantial minority of the lactating women would be at risk of a pregnancy.

The cumulative rates of resuming of menstruation for the women who terminated their last pregnancy as induced abortion, spontaneous abortion

or still-birth were very high compared with the women who terminated their last pregnancy as live-births. Actually the rates were 80 per cent at the end of 1st month, 83.4 per cent at the end of 3rd month, 85 per cent at the end of 6th month and 91 per cent at the end of 12th month. For the prevention of unwanted pregnancy, it is advised to practice contraception from the immediate postpartum period for the women who terminated their last pregnancy as fetal death.

By study area, women in Seoul resumed menstruation earlier than women of medium city or rural area. There was no difference by study area or experience of family planning practice. Those women who did not breastfeed resumed menstruation earlier than the women who were still lactating or the women who weaned their last child. It was also same trend in three study areas that women who breastfed for short period resumed menstruation earlier than the women lactating for a long period. But the cumulative rates of resuming menstruation for the women lactating for same duration was earlier for the women in Seoul than the women of medium city or rural area. The cumulative rates of resuming menstruation for the women lactating for 13-18 months were 29.3 per cent in Seoul, 19.5 per cent in medium city and 24.4 per cent in rural area at the end of 6th month, and at the end of 12th month those rates were 60.8 per cent for the women residing in Seoul, 48.2 per cent of the women in medium city and 54.6 per cent of rural women.

The cumulative rates of resuming menstruation after fetal deaths were similiar with the women of Seoul (98 per cent at the end of 3rd month respectively), but the rates of rural women were very slow as 33.2 per cent at the end of 3rd month and 57.2 per cent at the end of 12th month.

On the other hand, there were no difference between the women experenced contraceptive practice and the women who have never practiced contraception before (Tables 7-a, b, c, d, e, and f, and Figure 3).

11. Average periods of actual lactation, ideal lactation and postpartum amenorrhea by various characteristics of women :

Average periods of actual lactation by various characteristics of women

were as follows. Average periods of lactation were increased significantly with the upward changes of age at interview of women from 12.2 months of women belonging to the 20-24 group to 26 months of 40-49 age group, with the descending education level from 12.2 months of the women of high education to 28 months of the women of low education, with the increasing change of age at last delivery from 19.3 months of the women of 25-29 age group to 25.6 months of the women belonging to the 35-39 group, with the increasing birth order from 16.6 months at first birth order to 25.1 months at fifth birth order. Also the average duration of lactation was decreased to 17.6 months of the women living in Seoul compared with 22.1 months of the women of medium city or 27.7 months of rural women, and the average period of lactation was shorter as 21.4 months in the women who have experienced contraceptives, while the period of the women who have never experienced was 24.4 months. The duration of lactation of the women who delivered their last child at medical facilities (12.1 months on the average) was half of that period of women of home deliveries (24.1 months).

Average periods of postpartum amenorrhea of the women who had breastfed and weaned before interview date by various characteristics of the women were as follows. Average periods of postpartum amenorrhea were increased significantly with the upward changes of age at interview from 7.5 months of women belonging to the 20-24 group to 16.1 months of 40-49 age group, with the increasing changes of age at last delivery from 10.9 months of the women of 25-29 age group to 15.8 months of the women belonging to the 35-39 group, with the descending education level from 8.9 months of high school education or more to 16.6 months of the women of no formal education, with the increasing birth order from 8.0 months at first birth to 15.6 months at fifth birth order. Also the average duration of postpartum amenorrhea was decreased to 11.7 month of the women living in Seoul compared with 13.4 months of the women of medium city or 15.2 months of rural women, and the average period of postpartum amenorrhea was shorter as 12.8 months in the women who have experienced contraceptives, while the period of the women who have never experienced was 14.4 months. The women who delivered their last child at medical facilities (8.4 months on the average) was less than two-thirds of that period of women of home deliveries (14.2 months).

The average durations of postpartum amenorrhea of the women who did not breastfeed or of the women who have experienced fetal deaths were related to the various characiteristcs of women, as the relationships between average duration of postpartum amenorrhea of the women who have breastfed and weaned and the various characteristics of women. (Tables 8-a, b and c).

We have to consider various characteristics possibly related to the duration of lactation or postpartum amenorrhea as much as possible.

12. Ideal time of weaning by various characteristics of women:

Ideal duration of lactation was less than 9 months in 46.4 per cent of the total women, and 9-12 months in 31.6 per cent. Comparing with the actual duration of lactation (22.8 months), average ideal duration of lactation was turned out only 11.3 months. There was difference of 11.5 months between two groups. The differences between actual duration of lactation and ideal duration of breastfeeding were 8.1 months (actual duration 17.6 months- ideal duration 9.5 months) in Seoul, 9.9 months (actual duration 22.1 months- ideal duration 12.2 months) in medium city and 15.5 months (actual duration 27.7 months- ideal duration 12.2 months) in rural area.

Ideal durations of lactation were related to the various characteristics of the women as follows.

Average ideal duration of lactation was shortened gradually with the downward changes of age at interview from 12.8 months of the women belonging to the 40-49 group to 9.2 months of the women of 15-29 age group, with the decreasing change of age at last delivery from 12.3 months of the women of 40-49 age group to 9.9 months of the women of 15-29 age group, with the rising education level from 13.2 month of the women of no formal education to 8.1 months to the women of high school education or more, with the decreasing birth order from 12.4 months at 7th birth order or more to 9.8 months at fifth birth order. The average ideal duration of lactation of the women who have experienced contraceptive practice (11.2 months) was shorter than the women never experienced

(11.5 months), and the ideal duration of lactation of the women who delivered their last child at medical facilities (8.2 months) was shorter than the women of home delivery (11.8 months) (Table 9).

13. Association between the period of amenorrhea and the length of lactation:

The relationship between the period of amenorrhea in months (Y) and the period of lactation in months (X) for all women can be represented by the linear regression equation: $Y=0.26X+6.68$. In this relationship, lactation explains about 37 per cent of the variation in amenorrhea. The association between the period of amenorrhea and the length of lactation is very weak if the length of lactation is more than 24 months. However, the relationship between two periods is almost linear if the length of lactation is between 6 to 18 months. In general prolonged lactation cannot delay the resumption of menstruation indefinitely. After a certain time, menstruation returns irrespective of whether or not the child is being breastfed. For example, the average period of amenorrhea increase with the length of lactation up to about 24 months of lactation and remains virtually constant thereafter. On the average, the resumption of menstruation is delayed by about one month by prolonging the period of lactation by four months.

Control for age, in terms of broad age group such as younger women (less than 30 years of age at last live birth) and older women (30 or more years of age at last birth), changes a little this relationships for all women, and by the two linear regression equation: $Y=0.31X+3.31$ for younger women, and $Y=0.21X+8.61$ for older women.

Control for study area, the relationships between the average period of amenorrhea by the length of lactation was represented by the linear regression equations as $Y=0.31X+5.53$ for women residing in Seoul, $Y=0.24X+7.16$ for the women of medium city and $Y=0.23X+7.75$ for the rural women.

By the education group the relationships between two periods were represented as $Y=0.20X+5.87$ for high educated women (women of a middle school education or more) and $Y=0.24X+7.67$ for low educated women

(women of a primary school education or less).

By the experience of family planning practice, the relationships were as follows as $Y=0.31X+5.90$ for the women who have never experienced family planning practice and $Y=0.21X+7.56$ for the women who have experienced family planning practice (Table 10, Figures 4-a, b and c).

14. Influence of demographic, social and cultural factors to the average periods of lactation and postpartum amenorrhea:

The association between the breastfeeding and resumption of menstruation is well established for different population. It is also true that prolonged lactation cannot delay the resumption of menstruaton indefinitely, and after a certaini period, menstruation returns whether or not the women breastfeed their child.

The analysis indicates that the duration of lactation is the most important factor for the resumption of menstruation. The demographic, social and cultural factors are considered as the influencing factors to the average duration of amenorrhea and the average length of lactation. Also we have to consider the effects of dietary, emotional and psychological factors to the resumption of menstruation as much as possible.

One objective of this study was to give answer to the following questions.

* Do age and parity have independent effects on lactation and amenorrhea, or is the apparent effect of one the incidental concomitant of the other? Do age and parity affect amenorrhea because of an intermediate effect on lactation, or do they have effects independent of lactation?
* How do social characteristics of the mother affect lactation and amenorrhea? For example, do women who are better educated or live in cities lactate for a shorter period of time? If so, does this affect the duration of their periods of amenorrhea? Is any relationship between the mothers' education and place of residence and the duration of amenorrhea entirely a result of the intervening effect of lactation?
* If mothers who are better educated or live in cities are distinctive with respect to lactation or amenorrhea, does this result from the

fact that they are likely to be younger and of lower parity, or do social characteristics affect lactation and amenorrhea independently of the demographic characteristics.

This study reported the interrelationships between lactation and postpartum for 2,844 married women in Korea. Our study specifically investigates:

1) how the resumption of menstruation following the birth of a child is effected by the duration of lactation.
2) how socio-demographic factors like age, parity, education and place of residence affect the length of lactation.
3) how these socio-demographic factors and the length of lactation affect the period of postpartum amenorrhea.

For the purpose, by using the multiple regression analysis we estimate the overlapping effects between socio-demographic factors and lactation on the period of amenorrhea. We also estimate their net effects and assess their relative importance for the period of postpartum amenorrhea.

In the present analysis, five factors are included for a study of their effects on the period of lactation and amenorrhea. These are, women's age at the birth of the child to which the data refer, parity, education, place of residence and living standards. In obtaining the correlation matrix, dummy variables were used for education, place of residence, living standards, age and parity. Primary graduation or less is assiged the value of zero and middle school education or more is assigned the value of one. Women of 29 years or less is assigned as zero, and women of 30 years or more is assigned the value of one. Women who have one or two live-births as zero, women 3 or 4 live-births as one and women who have more than 5 live-births as two. Living in Seoul is assigned a value of zero, living in medium city as one, and living in rural areas is assigned the value two. Women who did not breastfeed are also included by assigning the value zero for lactation. Women who were amenorrheic at the time of interview are excluded.

The following results were obtained from the analysis by zero order correlation matrix. All of the demographic and social factors are significantly associated with the duration of lactation and the period of amenorrhea. The simple correlation coefficient between the duration of lactation and the average period of amenorrhea was 0.376. Both age and parity are associated with longer duration of lactation and longer period of postpar-

tum amenorrhea. And social factors such as education and living place are associated with short lactation period and shorter of amenorrhea. Those results were no differences by study area and the experience of family planning practice (Tables 11-a, c, d and e).

The multiple regression analysis indicate clearly that the relationship between lactation and amenorrhea is not an artifact of their relations with these other pertinent variables (0.2736). Non of the correlation is as great as that between lactation and amenorrhea. The relation between lactation and amenorrhea is affected relatively little by controlling for the four other variables all together or in some combination.

All the six factors considered explain about 20 per cent of the total variation in the period of postpartum amenorrhea. All the four variables considered explain also obout 20 per cent of the total variation in the average length of breastfeeding. As the intensity of association to post-partum amenorrhea, parity was found to be more importion than age. As the association to the duration of breastfeeding, age was found to be more important than parity.

The social and demographic characteristics are intercorrelated. Those characteristics may have an independent influence on the length of lactation and the average duration of postpartum amenorrhea.

Wife's age has two positive direct relationships to the lactation (.2983) and postpartum amenorrhea (.0946). This means that wife's age affects amenorrhea both directly and through its influence on lactation. Parity has also two positive direct relationships to the lactation (.072) and postpartum amenorrhea (.162). But education has two negative direct relationship to the lactation (−.111) and postpartum amenorrhea (−.069). The place of residence has direct path to lactation (.155) but not to amenorrhea, so that they affect amenorrhea mainly by their effect on the length of lactation. It appears to be that better education or urban residence goes with younger age, low parity and a short period of lactation and that these in turn shorten the paricd of amenorrhea. In this way modernization may act to increase the period of childbearing risk.

Those results were no difference by study area and the experience of contraceptive practice (Tables 11-b, f, g and h, Figure 5).

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