

## Proportion of Fat in Milk through Pregnancy

### 1. Proportion of fat varied with the individual.

That is to say, everything else being equal, some mothers will always and at all points in lactation have a higher percentage of fat than others.

They tend on the whole to fall into two groups, - a higher and a lower.

Group A	Group B
H. 0.6% - 2.43% Primip.	M. 2.51% - 5.12% Primiparae
F. 0.95% - 3.35% Primip.	B. 2.57% - 5.34% Multiparae
	<b>As an extreme sample</b>
	P. 4.22% - 6.36%

### 2. There appears to be no correlation with quantity of food

The range of 3-4% average with a dripped milk showing 2.24% - 2.92% although she had been seriously underfed before coming into hospital. Milk in hospital abundant.

**Or with diet** since diet of all early mother observed was same, but there were great variations in fat noted.

### 3. There is no correlation with standard amount

All quantities under 10cc.

P	2.	6.17		F.	1.	.74
	3.	4.22			2.	1.45
	4.	4.5	Compare with		3.	3.0
	7.	6.36			7.	2.44
	8.	5.82				
	9.	5.2				

These figures are averages of samples taken throughout the day.

### 4. But if the standard amount should suddenly vary than fat is affected according to usual law.

F. 2.73 with 2 – 5 cc  
 3.55 with 2. – 5cc  
 1.72 with 21 cc

P. A before vol. under 10cc  
 2.98 with 38 cc

J. has risen to 4.92 when every hot day and small quantity in breast produces 5.03  
 Next day much fluid drunk – 10<sup>th</sup> day – and falls to 3.8

**Points common to all women**

**5. Proportion tends to rise between 1<sup>st</sup> and 14<sup>th</sup> day.**

J.	2.	1.4	H.	6.	0.44
	3.	1.9		7.	3.1
	4.	2.57		8.	3.35
	5.	2.82		9.	3.8
	9.	4.5		10.	4.6
P.	5.	3.26	Pd.	2.	2.92
	6.	4.2		5.	3.4
	7.	3.73		6.	3.42
	8.	3.49		8.	3.88
	9.	4.15		9.	4.15
	10.	5.43		13.	4.58
				14.	4.95
				15.	4.7

6. In the very early milks of Primaparae type contrary to the usual law. Fat in the first part of the sample higher than in the last.

Raises interesting Physiological queries regarding the condition of the gland at the beginning of lactation.

**Percentage of Fat During process of a Feed**

F.	(Primap.)	1 <sup>st</sup> day	R	Before	0.95	
				After	0.53	
		2 <sup>nd</sup> day	L	Before	1.66	
				After	1.26	
		3 <sup>rd</sup> day	R	Before	2.73	
				After	3.35	
P.	(Primap.)	2 <sup>nd</sup> day	R & L	Before	3.13	H
				After	2.72	H
		4 <sup>th</sup> day	L	Before	3.04	P
				After	4.56	P
		5 <sup>th</sup> day	R	Before	1.92	P
				After	4.16	P
		6 <sup>th</sup> day	L	Before	1.90	P
				After	2.93	P

		R	Before	2.76	P
			After	6.15	P
	14 <sup>th</sup> day		1 <sup>st</sup>	3.55	P
			2 <sup>nd</sup>	5.89	P
Pd.					
Small Quantities	2 <sup>nd</sup> day	R	Before	7.14	
			After	5.02	
		L	Before	6.92	
			After	5.74	
	6 <sup>th</sup> day	R	Before	5.4	
			After	5.6	
		L	Before	9.98	
			After	8.66	
	7 <sup>th</sup> day	R	Before	4.36	
			After	6.10	
		L	Before	3.64	
			After	9.02	
J. (Multip)	3 <sup>rd</sup> day		1 <sup>st</sup>	1.57	
			2 <sup>nd</sup>	2.12	
	4 <sup>th</sup> day		Before	2.57	
			After	3.09	

### Point 7

Having settled all these factors, the actual percentage of fat in the individual woman within her own range is settled by the conditions of extraction.

### Influence of Methods of Taking as a whole

Total quantities when taken by pump average less far than when taken by hand.

J.	2 <sup>nd</sup> – 5 <sup>th</sup> day	P	1.4 – 3.7	
	6 <sup>th</sup> – 9 <sup>th</sup> day	H	4.9 – 5.1	
G.	Whole	P	2.18	
	Hole	P & H	3.38	(next day)
F.	Up to 3 <sup>rd</sup> day	H	Rises to 3.35	
	4 <sup>th</sup> day	P	Before 1.52	
			After 2.86	
	Whole	P	8.90	

## **Point 8.**

### **Relation of fat to the Method of Extraction**

In the action of a baby, two factors are at work:

1. Pressure upon the alveolar
2. Suction

These two can be separated into

Pressure alone  
Digital expression  
Suction alone  
Gentle use of the breast pump

### **Investigation of these two methods**

The investigation of the reaction of this factor is complicated by the changing quality of the milk within the breast, consequent upon its extraction. As has been showed above, the total quantity of fat in the complete emptying of the breast is less if taken by pump than if taken by hand, and that whatever the method, if continued throughout the whole milking, the percentage of fat rises at the end. It remains to investigate the relationship of these factors to each other.

## **Summary**

### **Two permanent factors:**

1. The Individual Woman
2. Whereabouts in lactation (this applies to early days only)

### **Three variable factors**

1. Quantity of milk in breasts, - either by extra drinking or extra loss of moisture
2. Method of extraction
3. Time in the feed.