Summary

Breastfeeding is no doubt the best possible start in life for infant, since it provides nutritional, immunological and physiological benefits to breastfed infants. These benefits extended to childhood and further beyond the adult life. Different means of mother infant separation, either due to maternal employment or hospitalized infants, may act as an obstacle for breastfeeding continuation. In these conditions, expression and storage of breast milk could be a convenient means of maintaining and continuing breastfeeding whilst providing the ideal milk substitute for the infant.

This work aimed to study the effect of storage of breast milk on it its different chemical constituent, namely total fat, total protein, and trace element iron, zinc, calcium, and vitamin D. The goal was to encourage and promote breastfeeding in the community, by removing one of the main obstacles that may hinder its initiation and maintenance.

In our study, breast milk samples were collected from thirty healthy lactating mothers were studied for the effect of storage of their samples on its total fat, protein, zinc, calcium as well as iron.

Ten healthy lactating mothers were studied for the effect of storage of their milk mother on it is vitamin D concentrations.

The collected breast milk samples from each mother were divided into 3 different sterile hard plastic containers and were analyzed as a follows:

- The first sample was analyzed immediately without storage.
- The second sample: was analyzed after storage for one week in the first shelf of refrigerator (4ºC)
- The third sample was analyzed after storage for one month in freezer (-4 to -8 ºC).

Our results revealed that storage of EBM for one week in the first shelf of refrigerator (4ºC) and for one month in freezer (-4 to -8ºC) caused a statistically

significant decline in all of the studied nutrients except for protein and fats. Despite this decline after storage, the composition of the stored breast milk was still within the range of the international reference of mature breast milk composition.

It is concluded that fresh expressed breast milk is the ideal substitute for feeding babies away from their mothers. However stored EBM in the refrigerator is safe and nutritionally adequate to meet the needs of growing infants.

We recommend that all working mothers should be taught the technique of expressing and storing breast milk as the most ideal substitute for feeding infants who are separated from their mother for varying periods of time. We

Also recommend that mothers should be taught to offer their babies EBM that is exposed to the least storage time i.e. to avoid storing breast milk for long periods in order to optimize their nutritional value. Expressed breast milk remains the ultimate and most optimal substitute to breastfeeding in any condition where mothers and babies are separated from one another.