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PROBLEMS, PERSPECTIVES AND NUTRITION IN LACTATING MOTHER'S

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Abstract
This comprehensive review investigates the multifaceted challenges confronting lactating mothers, encompassing postpartum depression, apprehensions regarding lactation adequacy, and the pervasive use of potentially deleterious home remedies. With a steadfast focus on the pivotal nexus between maternal nutrition and breastfeeding efficacy, this paper delineates the intricate interplay between dietary components and the qualitative attributes of breast milk. Strategies to augment lactation, complications attendant to breastfeeding, and hurdles faced by employed mothers are rigorously scrutinized. Moreover, advocacy for workplace amenities such as lactation rooms and the imperative of milk banks are staunchly advocated. Through a scholarly exposition of the criticality of maternal nourishment in fostering optimal breastfeeding outcomes and infant well-being, this review seeks to empower lactating mothers and healthcare practitioners alike with empirically grounded insights and guidance.
Keyword: Exclusive Breastfeeding, Nutrition In Lactation, Milkbank, Galactogouges, Storage,Breast Feeding Devices

INTRODUCTION

New mothers are most likely to have postpartum depression and a persistent concern of not having enough milk [1]. These are the two most prevalent complaints. Every member of the family in Indian households is accustomed to using any and all home medicines, even if they are potentially harmful to their health [2]. It is very crucial for the health and immunity of the newborn to have a healthy pregnancy and the first few months following birth [3]. In light of this, it is essential to ensure that one is receiving adequate nutrition during nursing. A diet that is sufficient and consists of a wide variety of whole foods. It is possible to offer all of the nutrients that are required for breastfeeding in calories [4]. The quantity of a mother's milk can be affected by inadequate maternal nutrition, but not the quality of the milk [5]. The composition of milk is determined by a number of factors, including the length of time from conception to delivery, the stage of lactation, the food of the mother, the length of time she feeds, and the time of day [6].

Milk that is consumed immediately after giving birth is shown to have a high protein content and a low fat component. In the last stages of the feeding process, the percentage of fat continues to rise [7-8]. In addition, the increased fat component is caused by the short intervals between breastfeedings [9]. Even in the event of a famine, breast milk is extremely beneficial for infants. Rarely, when moms have been suffering from significant nutritional deficiencies for an extended period of time, does the breast milk become affected [10].

This review aims to delve into the multifaceted aspects of problems encountered by lactating mothers, offering perspectives on how cultural practices and nutritional choices influence maternal and infant health. Emphasizing the importance of a balanced diet comprising diverse whole foods, the review explores the intricate relationship between maternal nutrition and breast milk composition. Understanding the dynamic interplay of factors such as gestational duration, lactation stage, maternal dietary habits, feeding frequency, and temporal variations is essential in elucidating the nutritional dynamics of breast milk.

Furthermore, this review sheds light on the evolving composition of breast milk throughout the lactation process, elucidating the fluctuations in protein and fat content, particularly in response to feeding intervals. Despite adverse circumstances such as famine, breast milk remains a vital source of nourishment for infants, highlighting its resilience in providing essential nutrients even under challenging conditions. However, prolonged maternal nutritional deficiencies may impact the composition of breast milk, albeit rarely.

By synthesizing existing research findings and insights, this review aims to contribute to a deeper understanding of the nutritional intricacies and challenges faced by lactating mothers. Ultimately, it underscores the critical role of adequate maternal nutrition in promoting optimal breastfeeding outcomes and infant health.

NUTRITION AND BREASTFEEDING;

For infants who have just been born, breastfeeding is the most recommended way of nutrition [11]. It is suggested for the first year from beginning to end, or for a longer period of time if the mother so desires. It is also encouraged by the World Health Organisation (WHO) throughout the second year of life [12].

The newborn is protected from a variety of infectious diseases, including diarrhoea, infant botutism, bacterial meningitis, bacterial meningitis, urinary tract infections, and respiratory tract infections. The occurrence and severity of these infections are reduced [13].

It is also associated with a reduction in the prevalence of various disorders, including as asthma, celiac disease, chronic diseases, food allergies, and Hodgins disease. Furthermore, there has been a decrease in the prevalence of overweight and obesity, as well as sudden infant death syndrome and types 1 and 2 diabetes [13-14].

Breastfeeding not only enhances analgesia in newborns during painful procedures, but it also leads to higher cognitive development in infants and increase the bonding that occurs between mothers and their children [15].

NUTRITIONAL REQUIREMENTS DURING BREASTFEEDING:

In order to produce 100 millilitres of milk, an expenditure of 85 calories (approximate 75 calories) is required [16].

Since the frequency, length, and intensity of suckling have a significant impact on the amount of milk that is produced, infants who are able to feed themselves effectively are more likely to produce a greater quantity of milk. between the first six months of breastfeeding [17], the daily calorie requirement is 330 kcal, and between the sixth to twelveth months of lactation, the requirement is 400 kcal higher than what is required for women who are not pregnant [18].

When the total number of calories consumed is below the ideal level (less than 1500 calories per day), there is a reduction in the amount of milk that is produced [18-19].

It is not possible for women who are well-nourished to see a reduction in their milk production even if they lose one pound per week [20].

136 moms participated in a study, and the results showed that all of these women who breastfed their infants exclusively saw greater weight loss without impacting the growth of their child, which was judged to be normal according to the World Health Organization's growth chart [21].

Protein:

On the basis of the recommended daily allowance (RDA) of 1.1 grammes per kilogramme per day, it is recommended that nursing women consume an additional 25 grammes of protein per day, which is equivalent to 71 grammes of protein per day [22].

It is necessary for patients who had inadequate pre-pregnancy nutrition or who had surgical delivery to consume a greater quantity of protein [23].

During the early stages of breastfeeding, the ratio of whey to casein in breast milk is 90:10; however, as the baby becomes older, the ratio drops to 80:20 [24-25].

Carbohydrates:

Be able to supply sufficient calories in the diet for an acceptable volume of milk and to maintain an adequate energy level in the mother, as demonstrated by the Recommended Dietary Allowance (RDA) for carbohydrates [26]. This is based on the amount of breastfeeding and the amount of physical activity that moms engage in.

However, there is no indication that the amount of carbohydrates consumed by the mother has any effect on the amount of lactose that is present in her milk [27]. Lactose is the primary carbohydrate found in human milk[6].

Lipids:

Dietary choices have no impact whatsoever on the total quantity of fat that is included in milk [28]. The amount of total lipids that should be consumed during lactation is not a suggestion because it is highly variable and relies on the amount of energy that is necessary [29]. The requirements for omega-6 and omega-3 long chain polyunsaturated fatty acids during nursing are not significantly different from those during pregnancy; yet, these fatty acids are essential for the development of the brains of both the foetus and the child [30]. This need can be satisfied by consuming one to two servings of fish per week (herring, canned light tuna, and salmon).A low level of trans fat should be maintained.

The range of cholesterol levels seen in human milk is between 10 and 20 mg/al, which is a significant amount for an infant's diet.

Vitamins and Minerals:

Vitamin D:- The amount of vitamin D that is found in breast milk is determined by the amount of vitamin D that the mother consumes, in addition to other factors such as the amount of sunshine exposure, skin colour, and body mass index [31]. In order to keep the levels of vitamin D in the maternal circulation as well as the milk supply high, it is safe to consume a enough amount of vitamin D on a daily basis, which is 6400 10 milligrammes, and milk that is generated will have an adequate amount [32].

Calcium: The calcium content of breast milk and there is no compelling evidence that change in BMD of mother is altered by calcium consumption upto 1600mg / day [33].

Iodine: Iodine levels that are adequate are essential for the development of the nervous system in infants. It is necessary to consume twice as much as the value of the pregnancy stage [34]. Iodine should be consumed on a regular basis by nursing women, according to the American Academy of Paediatrics' recommendation [35].

Zinc: The level of zinc that is required during lactation is higher than that required during pregnancy [36].

Vit B12: Taking a vitamin B12 supplement is highly suggested for nursing women who do not consume any animal products or foods on a daily basis. An insufficient amount of vitamin B12 might result in stunted growth as well as irreversible harm to the brain system [37].

Sodium: If a mother is breastfeeding, there is no specific guideline or restriction on the amount of salt that she should consume [38].

Fluids: Although nursing women should drink to push, they should not feel the need to force themselves to drink fluids, as this is not only not useful but may also create discomfort [39].

Caffeine: This substance is only acceptable in small doses (less than 300 milligrammes per day). Caffeine use should be limited when it comes to feeding premature infants [40].

Alcohol: Alcohol use during lactation should be kept to a minimum, with the recommended limit being 0.5 grammes per kilogramme of maternal body weight [41].

When it is at all possible, breastfeeding should be avoided for a period of one to two hours after consuming alcohol.

Global DRI (Dietary reference intake value)

	WHO	India
Calories	460-675	520-600
Protein	(base) +12.5 – 19 g	(base) +13-19 g
Fat (G)	6-11% kcal	30
Carbohydrate	55	
Vit A	850	950
Vit D	5	-
Vit B12	2.8 mch	1.5 mcg
Calcium	1000 mg	1200 mg
Iron (mg)	10-30	21
Iodine (mcg)	250	
Zinc (mg)	4.3-19	

MEDICAL PROBLEMS RELATED TO BREASTFEEDING [42-43]:

1)Nipple dryness and sore nipples.
2)Retracted nipples
3)Breast abscess.

4)Inverted nipples.

PROBLEMS FACED BY WORKING WOMEN [44]:
1)Engorged breast.
2)Low milk supply.
3)Breast abscess and mastitis.
4)Poor weught gain of newborn.
5)Newborn is prone to infections
6)Depression in mother
7)Attachment problems between mother and baby.
Women who are employed have a tendency to give up breastfeeding for a variety of reasons, including the abundant availability of breastmilk substitutes and feeding devices, the absence of adequate support and guidance, the pressures of work and the length of working hours, the separation of mother and baby, and the absence of facilities at their place of employment [45].

Breastfeeding rooms should be offered at workplaces, as recommended by the United Nations Children's Fund (UNICEF) (UNICEF BREASTFEEDING ROOM GUIDE) [46]. These rooms should be clean, comfortable, and safe, and they should be located away from lavatories [47]. Additionally, it should be severely banned for corporations that manufacture, distribute, or market breast milk replacements to engage in either direct or indirect advertising that promotes their products.

BREASTFEEDING DEVICES AND ACCESSORIES:
Breastfeeding devices and accessories, such as nipple shields and breast pumps, should only be utilised when absolutely necessary, following a thorough assessment of the necessity of such devices and accessories by a trained professional.
Use should be transitory until the requirement is no longer there, and it should be sterilised in the appropriate manner [48].
MILKBANKS: In instances where it is not possible for the biological mother to breastfeed, the World Health Organisation (WHO) and the United Nations Children's Fund (UNICEF) have issued a joint statement stating that the first alternative, if it is available, should be the use of breastmilk from another healthy mother, and human breastmilk should be provided in conditions that are acceptable. There are currently eighty milkbanks in the country of India. Depending on the amount of health facilities that are provided, breast milk banks in India are referred to as Comprehensive Lactation Management Centres (CLMC) or Lactation Management Units (LMU) [49].
WHO CAN DONATE ? Any lactating mother cann volunteer (no incentives) to donate milk to CLMC after signing an informed consent form and going medical check fulfilling the eligibility criteria ans serological tests(HIV,HBsAG,VDRL) [50]. After the milk has been donated, it is branded and placed in a deep freezer. After that, the milk is pooled, and then it is pasteurised. After the milk has been pasteurised, it is tested and if the results for the test are positive, the milk is thrown away. The milk is placed in a deep freezer if the test results are negative [51].
WHO IS TO RECEIVE ? Donor milk is only administered to infants on a priority basis and only with a doctor's prescription.the most vulnerable group of neonates that are hospitalised to the neonatal intensive care unit (NICU) due to issues at delivery, such as prematurity, low birth weight, or sepsis, is the group that receives the highest priority [52].

ENHANCING MILK SUPPLY/ GALACTOGOUGES:
HERBAL GALACTOGOGUES- Alfa Alfa, black seed, coriander seed, drumstick fenugreek seed, milk thistle, marshmellow root, Shatavari, fennel seeds.
PHARMACOLOGICAL AGENTS- Dopamine agonist (domperidone), Metoclopramide [53].

Conclusion: A mother who is breastfeeding should consume a wide variety of foods, with a particular emphasis on nutrient-dense options such as grains, vegetables, fruits, eggs, and dairy products. A daily calorie intake of no less than 1800 kcal should be maintained in order to maintain an adequate energy intake.Before breast feeding has been established to a satisfactory level (about two months), it is not advisable to engage in involuntary weight reduction. Counselling should be provided to mothers regarding the numerous challenges associated with breastfeeding and the solutions to these challenges. An incentive should be provided to nursing moms so that they will contribute milk to milk banks. Each and every working woman should receive psychological support, and necessary actions should be made to assist them in maintaining a healthy digestive system.

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