

Dietary Analysis of Lactating Women in Rural Areas of Punjab

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Abstract

Lactation period and breastfeeding makes a wonderful bond between the mother and infant. It provides all the nutrition to the infant and builds up a psychological bonding, which develops an attachment between mother and baby. Breast milk facilitates the development of the infant's own immune system to mature faster. The nutritional status of the mother is valuable throughout the period of breastfeeding. This study was conducted to assess the diet of 31 lactating women residing in the rural area of Punjab. The average height of the subject was calculated as 159.6 ± 4.2 cm and the average weight of the subject was found to be 61.8 ± 6.8 kg. As per results of the study, 46.6% of the subjects fell under the category of Obese, 7% of subjects were found to be under Normal category and 2% of the subjects observed to be in Underweight BMI category. The calories and carbohydrate intake of all the subjects was found to be below the Recommendary Dietary Allowances (RDA). The protein intake of the subjects was fulfilled as per the RDA. The requirement of fat was met but the intake of fat was very high, which may be the main cause of obesity. It was concluded from the study that Long-term acquired nutrition knowledge can hold good when the knowledge is translated in practice. Healthy life style and dietary practices can lead to positive health benefits.

Keywords: Lactation, Women, Breastfeeding, Nutrition Knowledge.

Introduction

Nutrition and lifestyle before and during lactation have been shown to cause long-term effects on later health of the child, including the risk of common non-communicable diseases such as obesity, diabetes and cardiovascular diseases. This phenomenon is referred to as "Early metabolic programming of long-term health and disease" or "Developmental origins of adult health and disease". Breastfeeding makes a wonderful bond between the mother and the infant. It provides all the nutrition to the infant and builds up a psychological bonding which develops an attachment between the mother and the baby. Breastfeeding mother should take healthy diet which directly effects the health of the infant. As the American Academy of Pediatrics (AAP) approves that the human milk is uniquely superior for infant feeding. Breast milk contains complex proteins, lipids, carbohydrates and other biological components. The composition changes over a single feed as well as over the period of lactation. Breast milk also facilitates the development of the infant's own immune system to mature faster. As a result, breast-fed babies have less problems of ear infections, diarrhea, rashes, allergies and other medical problems than bottle-fed babies. Research has shown that breastfeeding has remarkable health benefits for mothers. The process of producing milk burns calories, which helps the mother to lose excess weight gained during pregnancy. Breastfeeding is also related to a lower risk of breast cancer and ovarian cancer. For every year of life spent breastfeeding, a woman's risk of developing breast cancer drops by 4.3 percent. Mothers who breastfeed regularly, recover quickly from childbirth related problems. The hormone oxytocin, released during breastfeeding, helps to return the uterus to its normal size more quickly and can reduce postpartum bleeding. In fact, it prevents diseases and has protective factors resulting in healthier babies and decreased healthcare costs. The nutritional status of the mother is valuable throughout the period of breastfeeding. The mother's daily caloric intake must increase significantly in order to freshen the mother's nutrients and energy stores. Women residing in rural areas possess less knowledge on the health benefits of the breastfeeding and the lactation. In order to see the health of the lactating

women, the study is carried out to examine the Nutritional status of the lactating women residing in rural area of Punjab.

Methodology

The lactating women residing in the village: Hathur, Jagraon, Patiala districts of Punjab were taken as the subjects for the present study. Thirty-one lactating women of age between 20-35 years participated in the study. Data on Anthropometric measurement, dietary intake, dietary practices was collected to assess the nutritional status of lactating women using Interview cum questionnaire method. Dietary practices were assessed using 24-hour dietary recall method. Heights and weights were also recorded and Body Mass Index (BMI) calculated.

Statistical Analysis

Data coding, entry and validation was done. Frequency and percentage were also calculated. The data was analyzed through comparison between Dietary Intake to the Recommended Dietary Allowances (RDA) recommended by National Institute of Nutrition (NIN). Nutrient Adequacy and Nutrient Adequacy Ratio were calculated. Since the adequacy of the diet is a function of the extent to which its contribution of particular nutrients meets our best estimate of the need for those nutrients, it is helpful to calculate a Nutrient Adequacy Ratio (NAR) for each nutrient.

NAR= Amount of nutrient in diet / RDA for that nutrient. [8]

Result and Discussion

The average height of the subjects was calculated as 159.6 ±4.2cm and the average weight of the subject was found to be 61.8 ±6.8 kg. Table 2 indicates the Body Mass Index (BMI) values of the subjects. As per BMI criteria, 46.6% of the subjects fell under the category of Obese, 7% of subjects were found to be under Normal category and 2% of the subjects were observed to be in Underweight category.

**Table No. 1
Nutrient Adequacy Ratio classification**

NAR VALUE	RESULT
Greater than 1	Requirement is met
Slightly less than 1	Still sufficient (77% requirement is met)
Very less than 1	Needs are not met

Table 2 Body Mass Index (BMI) of the subjects

CLASSIFICATION	BMI	n= 30(%)
Underweight	<18.5	2 (6.6)
Normal	18.5-22.9	7 (23.3)
Overweight	23-24.9	7 (23.3)
Obese	>25	14 (46.6)

Source: WHO, BMI classification.

Values in parentheses indicate percentages

Table 3 Daily Mean Intake of Nutrients by the subjects

Nutrients	RDA** (7)	Consumption of nutrients by subjects
Energy (Kcal)	3330	2624+378
Protein (g)	77.9	88.3 +12
Fat (g)	30	86.6 +15.7
Carbohydrate (g)	425	391.9+ 62.3
Calcium (mg)	1200	1652.5+ 321.9

** RDA- Nutrient requirement and RDA, NIN, 2010.

As per Table 3 and Graph, the calories intake of all the subjects was found to be below RDA. The protein intake of the subjects was fulfilled as per the RDA. The intake of carbohydrates of the subjects was very less than the amount recommended by NIN. Fat intakes of all the subjects were more than the RDA which might have resulted in weight gain of the subjects.

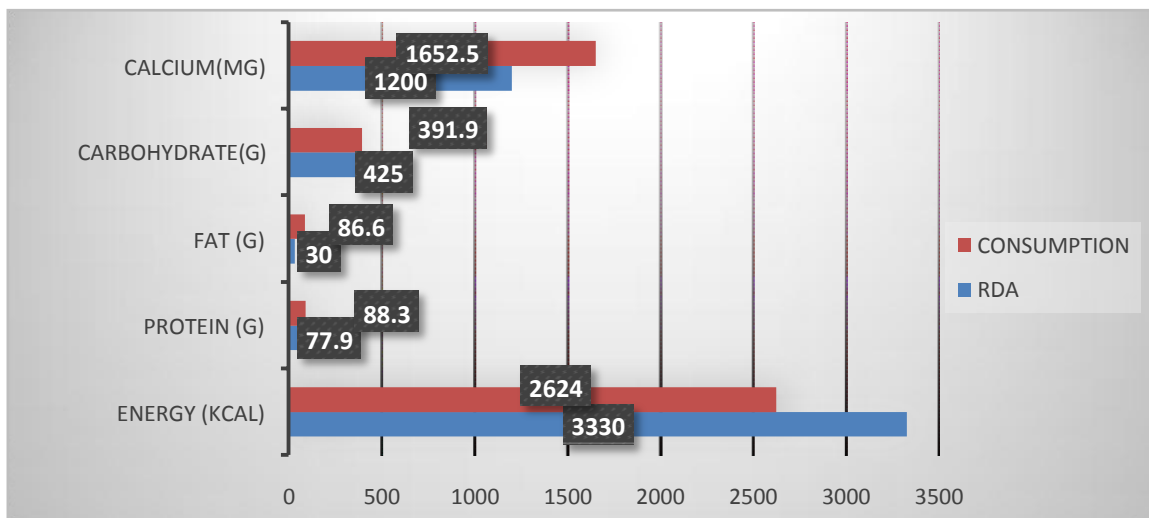


Table 4 Distribution of the subjects on the basis of Nutrient Adequacy Ratio (NAR)

	RDA** (7)	Consumption of nutrients bysubjects	NAR
Energy (Kcal)	3330	2624+378	0.7
Protein (g)	77.9	88.3 +12	1.13
Fat (g)	30	86.6 +15.7	2.88
Carbohydrate (g)	425	391.9+ 62.3	0.9

** RDA- Nutrient requirement and RDA, NIN, 2010.

Table 4 depicts that the Protein and Carbohydrate requirement of the subject was met sufficiently. The Requirement of energy was not met adequately. The requirement of fat was met but the intake of fat was very high.

It was found that the macronutrient requirements were satisfactory fulfilled by the subjects because of the more consumption of cereals and pulses. The calcium requirement is fulfilled because of the high consumption of milk and milk products.

Conclusion

Long-term acquired nutrition knowledge can hold good when the knowledge is translated in practice. Healthy life style and dietary practices can lead to long health benefits. The impact and benefit of role modeling by the health care professional can be an easy way in convincing desired behavior change of the lactating women.

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