NUTRIENT INTAKE OF LACTATING WOMEN IN KASHMIR

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Abstract: The present study was aimed to study the nutrient intake of lactating women in Kashmir. To gather information from 413 lactating women, Questionnaire was used. Respondents were selected purposively & randomly from all the 10 districts of Kashmir valley. Data collection was done in the various district hospitals of Kashmir. It was found that dietary intake of calories, proteins, fats, iron and folic acid was lower than the ICMR recommendations for majority of the studied sample.

Keywords: nutrient, deficiency, intake, needs,food.

INTRODUCTION

Maternal nutrition is very important for the course and outcome of pregnancy. Successful pregnancy and lactation require adjustments in maternal body composition, metabolism and function of various physiological systems. A diet that meets maternal nutritional needs is required for these adjustments, so that maternal well-being is safeguarded with birth of a healthy infant. During pregnancy, the nutritional requirements of women increase to support optimum foetal growth and development. Poor maternal nutrition during pregnancy usually results in low birth weight.

There is also an increased requirement for thiamin, riboflavin, folate and vitamins A, C and D, as well as energy and protein during lactation. Thus improving the nutrition and health of girls and younger women and of mothers during pregnancy and lactation will derive benefits in terms of improved health of their children throughout their lives. The main recommendation is to follow a healthy, balanced diet. In particular, pregnant women should try to consume plenty of iron- and folate-rich foods (Udipi, 2000).

During pregnancy and lactation, nutritional requirements increase to support fetal and infant growth and development as well as maternal metabolism and tissue development specific to reproduction. Pregnancy and lactation are anabolic states that are orchestrated via hormones to produce a redirection of nutrients to highly specialized maternal tissues characteristic of reproduction (i.e., placenta and mammary gland) and their transfer to the developing fetus or infant (Frances, 2003).

Low birth weight (LBW), defined as a birth weight <2500gm, remains a significant public health problem in many parts of world. The anthropometry of the mother and her nutritional intake are known causes of LBW, especially in developing countries. The prevalence of low birth weight (LBW) is higher in Asia than elsewhere, predominantly because of undernutrition of the mother prior to and during pregnancy (Sumithra, 2009).

Optimal weight gain during pregnancy, food supplementation and balanced diet during pregnancy is important to prevent complications. Staying physically active is also important, to promote general health and well-being, and also to help prevent excess maternal weight gain. It is recommended that pregnant women should continue with their usual physical activity for as long as feels comfortable, and try to keep active on a daily basis, e.g. by walking. Swimming is a particularly suitable form of exercise, although it is advisable to avoid strenuous or vigorous physical activity during pregnancy (Claire, 2006).

REVIEW OF LITERATURE

King (2000) reported that lactation consists of a series of small, continuous physiologic adjustments that affect the metabolism of all nutrients. The adjustments undoubtedly vary widely from woman to woman depending on her pre pregnancy and post pregnancy nutrition, genetic determinants of fetal size, and maternal lifestyle behavior. The energy requirement of basal metabolism is influenced by maternal pre pregnant nutrition and by fetal size. If maternal energy reserves are low at conception, the basal metabolic rate is down-regulated to conserve energy. Also, women having larger babies tend to have greater increases in their basal metabolic rate and lower rates of maternal energy storage.

Jackson & Robinson (2001) stated that for a successful pregnancy maternal health is maintained, a healthy baby is delivered and the mother is able to nurture her newborn adequately. Recent epidemiological evidence of an association between poor fetal growth and adult disease highlights the need to reconsider the influences which act on the fetus, and the role maternal nutrition may play. Nutrient needs are increased in pregnancy. For the mother to be solely dependent upon her dietary intake to meet these demands, would represent a very high risk strategy. Hence adequate reserves are important for a successful outcome.

Frances (2003) studied that requirements for energy-yielding macronutrients increase modestly compared with several micronutrients that are unevenly distributed among foods. There are only limited data from well-controlled intervention studies with dietary supplements and with few exceptions (iron during pregnancy and folate during the periconceptional period); the evidence is not strong that nutrient supplements confer measurable benefit.

Berthold et al., (2007) reported that pregnant and lactating women should aim to achieve an average dietary intake of at least 200 mg DHA (docosahexaenoic acid) /d; intakes of up to 1 g/d DHA (docosahexaenoic acid) or 2.7 g/d n-3 long-chain Poly Unsaturated Fatty Acids (PUFA) have been used in randomized clinical trials without significant adverse effects; women of childbearing age should aim to consume one to two portions of sea fish per week, including oily fish; intake of fish or other sources of long-chain n-3 fatty acids results in a slightly longer pregnancy duration; dietary inadequacies should be screened for during pregnancy and individual counseling be offered if needed.

Mallikharjuna et al., (2010) revealed inadequate dietary intake, especially micronutrient deficiency during pregnancy and lactation. The prevalence of goiter was relatively higher (4.9%) among tribal women compared to their rural counterparts (0.8%). Tribal women were particularly vulnerable to under nutrition compared to women in rural areas. The prevalence of chronic energy deficiency was higher (56%) among tribal Non Pregnant Non Lactating women compared to rural women (36%).

Raghuram et al., (2012) studied that in a rural area in the Dakshina Kannada district of Karnataka showed an overall prevalence of anaemia to be 34.83%. Prevalence was found to be more in the age group of 41-45 years, among women with parity index more than 4 and among women with birth interval less than 2 years between two births. Study revealed significant association between parity index and prevalence of anaemia as found in the present study calls for measures to limit the number of births by improving the family planning services in rural areas.

METHODOLOGY:

The study was undertaken to assess the dietary pattern of lactating women in kashmir. 413 lactating women of any age group were selected purposively and randomly for the present study. The sampling was conducted in OPD of various district hospitals. During the study, a structured questionnaire cum interview schedule was used to collect information from the lactating women. The purpose is to gather information from them. It is a quick and efficient way to gather information from target no. of people. After the required information was gathered, the data was carefully analyzed and interpreted.

RESULTS:

Table no 1.1 Calories (kcal) intake among the respondents

Districts	N	Range	Minimum	Maximum	Mean	Std Deviation	RDA	Deviations
Anantnag	65	742	1749	2492	2095.95	200.677	2500	-404.05
Bandipora	20	731	1703	2434	2054.40	190.211	2500	-445.6
Baramulla	55	744	1747	2492	2099.68	190.845	2500	-400.32
Budgam	16	534	1734	2268	1984.46	166.760	2500	-515.54
Ganderbal	10	588	1790	2378	2023.66	204.309	2500	-4776.34
Kulgam	20	715	1756	2472	2026.97	199.150	2500	-473.03
Kupwara	45	556	1824	2380	2045.00	147.393	2500	-463.38
Pulwama	22	620	1768	2389	2036.62	181.536	2500	-463.38
Shopian	10	473	1894	2367	2123.10	149.555	2500	-376.9
Srinagar	150	822	1766	2588	2115.67	199.162	2500	-384.33
Over all	413	885	1702	2588	2084.13	191.57	2500	-415.87

Note: Mean intake has been compared with RDA of ICMR.
Source: Gopalan, C; Rama & Balasubramanium, SC (1994), "Nutritive Value of Indian Foods". National Institute of Nutrition, Hyderabad.

Table 1.1 The result shows that the mean intake of calories (kcal) in all districts was deviating negatively from RDA's of ICMR standards. The highest negative deviation (-515.54kcal) was seen in district Budgam whereas lowest of negative deviation (-376.9kcal) was seen in district Shopian . Overall mean intake of calories taken by the respondents were 2084.13kcal. The intake was negatively (-415.87kcal) deviating from the RDA. Range and standard deviation can also be seen in the table.

Table no 1.2 Protein (gms) intake among the respondents

Districts	N	Range	Minimum	Maximum	Mean	Std Deviation	RDA	Deviations
Anantnag	65	20	47	67	58.88	5.170	74	-15.12
Bandipora	20	15	48	63	55.75	5.140	74	-18.25
Baramulla	55	17	49	66	58.61	4.742	74	-15.39
Budgam	16	19	46	65	57.51	5.113	74	-16.49
Ganderbal	10	15	49	64	58.39	5.136	74	-15.61
Kulgam	20	26	39	65	55.93	7.469	74	-18.07
Kupwara	45	18	49	67	59.15	4.337	74	-14.85
Pulwama	22	44	39	83	59.03	8.369	74	-14.97
Shopian	10	29	49	78	58.61	9.756	74	-15.39
Srinagar	150	29	39	68	57.40	5.541	74	-16.6
Overall	413	43	39	82	58.57	5.444	74	-15.43

Note: Mean intake has been compared with RDA of ICMR.
Source: Gopalan, C; Rama & Balasubramanium, SC (1994), "Nutritive Value of Indian Foods". National Institute of Nutrition, Hyderabad.

Table 1.2 The results showed that the mean intake of proteins in all districts was deviating negatively from RDA's of ICMR. The highest negative deviation (-18.25gms) was seen in district Bandipora and lowest negative deviation (-14.85) was found in Kupwara district.Further, overall mean intake of proteins taking by the respondents from all the districts was 58.57gms deviating negatively (-15.43gms) from the RDA. Range and standard deviation can also be seen in the table.

Table no 1.3 Fat (gms) intake among the respondents

Districts	N	Range	Minimum	Maximum	Mean	Std Deviation	RDA	Deviations
Anantnag	65	18	47	65	56.93	4.636	30	+26.93
Bandipora	20	20	43	63	53.31	5.880	30	+23.31
Baramulla	55	26	45	71	58.61	4.742	30	+28.61
Budgam	16	17	45	62	53.83	5.555	30	+23.83
Ganderbal	10	20	42	63	54.32	6.792	30	+24.32
Kulgam	20	19	48	67	58.81	5.145	30	+28.81
Kupwara	45	28	39	67	57.24	5.926	30	+27.24
Pulwama	22	14	49	64	58.02	4.231	30	+28.02
Shopian	10	27	49	76	59.28	9.756	30	+29.28
Srinagar	150	29	39	68	57.40	5.541	30	+27.4
Overall	413	36	39	75	57.16	5.700	30	+27.16

Note: Mean intake has been compared with RDA of ICMR.
Source: Gopalan, C; Rama & Balasubramanium, SC (1994), "Nutritive Value of Indian Foods". National Institute of Nutrition, Hyderabad.

Table 1.3 The result indicates that the mean intake of fats (gms) in all districts was deviating positively from ICMR standards. The highest positive deviation (+29.28) was observed in district Shopian whereas lowest positive deviation (+23.31) in district Bandipora . Overall mean intake of fats consumed by the respondents from all the districts was 57.16gms deviating positively (+27.16gms) from the RDA. Range and standard deviation can also be seen in the table.

Table no 1.4 Iron (mg) intake among the respondents

Districts	N	Range	Minimum	Maximum	Mean	Std Deviation	RDA	Deviations
Anantnag	65	8	5	13	8.56	2.147	21	-12.44
Bandipora	20	7	3	10	6.79	2.030	21	-14.21
Baramulla	55	11	4	15	8.83	2.589	21	-12.17
Budgam	16	9	4	13	7.20	2.435	21	-13.8
Ganderbal	10	7	5	12	8.41	2.023	21	-12.59
Kulgam	20	8	4	13	8.00	2.414	21	-13
Kupwara	45	8	4	12	7.65	2.094	21	-13.44
Pulwama	22	16	6	20	8.09	3.565	21	-12.91
Shopian	10	5	5	11	8.14	1.694	21	-12.86
Srinagar	150	9	4	13	8.29	2.199	21	-12.71
Overall	413	16	3	20	8.19	2.35	21	-12.81

Note: Mean intake has been compared with RDA of ICMR.
Source: Gopalan, C; Rama & Balasubramanium, SC (1994), "Nutritive Value of Indian Foods". National Institute of Nutrition, Hyderabad.

The results shows that the mean intake of iron in all districts was deviating negatively from RDA's of ICMR standards. The highest negative deviation (-14.21mg) was seen in district Bandipora and lowest negative deviation (-12.17mg) was found in Baramulla district. Further, overall mean intake of iron taken by the respondents from all the districts was 8.19mg deviating negatively (-12.81mg) from the RDA. Range and standard deviation can also be seen in the table.

Table no 1.5 Free Folic acid (mmg) intake among the respondents

Districts	N	Range	Minimum	Maximum	Mean	Std Deviation	RDA	Deviations
Anantnag	65	66	36	102	60.43	15.906	300	-239.57
Bandipora	20	62	30	91	55.66	17.556	300	-244.34
Baramulla	55	71	34	105	60.52	15.998	300	-239.48
Budgam	16	61	29	90	62.78	18.821	300	-237.22
Ganderbal	10	46	37	83	55.57	15.967	300	-244.43
Kulgam	20	56	37	93	68.20	16.409	300	-231.8
Kupwara	45	69	36	105	72.14	19.308	300	-227.86
Pulwama	22	52	32	84	54.57	14.832	300	-245.43
Shopian	10	57	40	97	67.71	21.327	300	-232.29
Srinagar	150	84	29	113	69.69	16.82	300	-230.31
Overall	413	85	29	113	64.96	17.72	300	-235.04

Note: Mean intake has been compared with RDA of ICMR.
Source: Gopalan, C; Rama & Balasubramanium, SC (1994), "Nutritive Value of Indian Foods". National Institute of Nutrition, Hyderabad.

The results indicates that the mean intake of Free Folic acid in all districts was deviating negatively from RDA's of ICMR. The highest negative deviation (-245.43mmg) was seen in district Pulwama and lowest negative deviation (-227.86mmg) was found in Kupwara district. Further, overall mean intake of Free folic acid taken by the respondents from all the districts was 64.96 mmg deviating negatively (-235.04 mmg) from the RDA. Range and standard deviation can also be seen in the table.

CONCLUSION

Malnourished women are particularly vulnerable to pregnancy and child birth complications which can end in low birth weight or immature baby. From time immemorial, it has been recognized that women, especially pregnant and lactating are from one of the most vulnerable segments of the population from nutritional point of view. Most of the Lactating women in Kashmir face poor health conditions and are highly prone to diseases because of wrong lifestyle, poor hygiene, unhealthy superstitions, faulty dietary habits and other cultural practices.

Health education among the women of child bearing age can improve the knowledge.

It is concluded that among the study group, intake of calories,proteins, fats, iron and folic acid was found to be lower than the ICMR recommendations. Calories,proteins, fats, iron and folic acid intake was deviating negatively from the RDA's of ICMR.

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