RESEARCH PAPER — FOOD SCIENCE RESEARCH JOURNAL

e ISSN-2230-9403 ■ Visit us : *www.researchjournal.co.in*
Volume 8 | Issue 1 | April, 2017 | 29-34
DOI : 10.15740/HAS/FSRJ/8.1/29-34

An appraisement of the knowledge of rural Kashmiri women regarding consumption of foods and nutritional supplements during pregnancy

IFFAT GHANI AND RAJINI DHINGRA

In prenatal nutrition, intake of adequate and balanced diet and also nutritional supplements are required for successful pregnancy outcomes. The aim of this study was to determine the knowledge of Kashmiri rural women, comprising of beneficiaries of ICDS centres belonging to district Budgam of Kashmir region. Nursing mothers (NM), Pregnant women (PW) and Mother of children beneficiaries (MCB age 6 months-3years) were included to assess and compare their awareness levels. A total of 600 women beneficiaries were randomly selected from four blocks of district Budgam (150 from each block).It was observed that majority of Kashmiri sample women were not fully aware about the importance of nutritional supplements during pregnancy. It was also found that a moderate percentage of sample women were well aware about importance of diet during pregnancy, but still some of the respondents perceived that normal diet with organ meat is a good choice during pregnancy. Further it was observed that the Kashmiri sample women believe in consuming foods like – dates (dry), almonds and apricots boiled with milk and also diluted milk to help in increasing the hemoglobin (Hb) level of anemic women. However, the sample women perceived that sour foods and dry fruits (as such), non-vegetarian (particularly beef) should be avoided during pregnancy. The findings indicate that an effective implementation of nutritional educational programmes for women of childbearing age to educate pregnant women and proper explanation of instructions by doctor/health workers is needed tohelp improve the knowledge regarding dietary habits of rural women by providing proper and effective interventions in rural areas. To further increase compliance of pregnant women with iron supplementation, health workers/AWWs should establish a good health provider- patient relationship that can help in motivating the respondents.

Key Words : Pregnancy, Supplements, Knowledge, Diet

How to cite this article : Ghani, Iffat and Dhingra, Rajini (2017). An appraisement of the knowledge of rural Kashmiri women regarding consumption of foods and nutritional supplements during pregnancy. *Food Sci. Res. J.*, **8**(1): 29-34, **DOI : 10.15740/HAS/FSRJ/8.1/29-34**.

INTRODUCTION

Nutrition plays a major role in maternal and child health. Poor maternal nutritional status has been related to adverse birth outcomes; however, the association between maternal nutrition and birth outcome is complex and is influenced by many biologic, socio-economic, and demographic factors, which vary widely in different populations. Pregnancy is associated with increased nutritional needs due to the physiologic changes of the woman and the metabolic demands of the embryo/fetus. Proper maternal nutrition during pregnancy is thus imperative for the health of both the woman and the offspring. Maternal malnutrition during pregnancy has

MEMBERS OF RESEARCH FORUM

Author for correspondence :
IFFAT GHANI, Krishi Vigyan Kendra (SKUAST-K), PULWAMA (J&K) INDIA

Associate Authors' :
RAJINI DHINGRA, University of Jammu, JAMMU (J&K) INDIA

been associated with adverse outcomes, including increased risk of maternal and infant mortality, as well as low birth weight newborns (<2,500 g) - a measure that accounts for preterm birth and intrauterine growth restriction of the fetus (Victoria and Andrew, 2011). Understanding the relation between maternal nutrition and birth outcomes may provide a basis for developing nutritional interventions that will improve birth outcomes and long-term quality of life and reduce mortality, morbidity, and health-care costs (Abu-Saad and Drora, 2010). Pregnancy is a crucial period of every woman's life. Inadequate nutrition during pregnancy may have unfavorable effects on fetus . It is also seen that the diet during pregnancy is related to the disease pattern of the resulting child in adult life. Inadequate nutrition may lead to problems like premature delivery, low birth weight babies, anemia, cardiovascular diseases, hypertension, diabetes, obesity to mother and child (Ajantha *et al.*, 2015). For well-nourished women, only a small amount of additional energy is required because the body adapts to the increased energy requirements and becomes more energy efficient through reduced physical activity and a lowered metabolic rate. Although the average-sized, well-nourished woman requires 2000 kcal/d during the last trimester of pregnancy, many women in developing countries restrict their food intake during pregnancy to have smaller infants, on the premise that smaller infants will carry a lower risk of delivery complications. Recent evidence suggests, however, that infants who are small or disproportionate at birth have increased health risks later in life. Requirements for many, but not all, micronutrients increase during pregnancy. Deficiencies can exist because of losses or malabsorption associated with disease or inadequate intakes, lack of knowledge about adequate prenatal nutrition, or dietary taboos associated with pregnancy, with potential adverse consequences for both mothers and newborn infants. It has been also found by Rush that anemia in pregnancy and pregnancy-inducedhypertension are common and thought to contribute significantly to maternal mortality and morbidity in developing countries.In another study by Maine (Oladapo, 2000), however, shows there is little evidence that nutrition plays a role in pregnancy-induced hypertension.In an another study it was found that deficiency of nutrients during gestation may cause the fetus to receive suboptimal micro and macro nutrients, causing inadequate intrauterine growth and development, inherited malformations, preterm deliveries, and pregnancy complications (Redmer *et al.*, 2004). Thus, attention to appropriate dietary behaviour and proper nutrient intake will supply adequate nourishment to achieve optimum health for both mother and child (Wen *et al.*, 2010; Verbeke and De Bourdeaudhuij, 2007). Studies have also shown that nutritional knowledge affects the quality of food intake and also healthy choices of purchased food (O'Brien and Davies, 2007 and Verbeke, 2008). Advancement of individual nutrition knowledge provides new information, which may stimulate changing of attitude, and subsequently result in enhancement of dietary practices (De Vriendt *et al.*, 2009). One study showed that health advice encouraged expectant mothers to improve their food intake (Anderson *et al.*, 1993); however another study indicated that higher knowledge of pregnant women was not an indicator to cause them to change their nutritional habits (Verbeke and De Bourdeaudhuij, 2007).

Objectives :

The present research was undertaken with following objectives.

– To study the extent of knowledge among Kashmiri rural women belonging to district Budgam regarding consumption of foods and nutritional supplements during pregnancy.

– Compare the knowledge level related to consumption of foods and nutritional supplements during pregnancy across the sample groups (Pregnant woman, Lactating mothers and mothers of child beneficiaries).

METHODOLOGY

Kashmir region has been selected for the study with the view that, Kashmir has been affected by armed conflict since 1990 and constant tension in the territory has its direct manifestation on the most vulnerable group of population *i.e.*, women and children. District Budgam from Kashmir has been selected for the study which has eight blocks and 593 villages. The total population of the district is 7.35 lacs with sex ratio of 830/1000 and literacy rate 57.98 per cent (2011 census). Out of eight blocks, sample was selected from four blocks (Budgam, Nagam, Chadoora and B.K. Pora) in a representative manner. For sampling, a list of Anganwadicentres (AWCs) was obtained from the office of Project officer of ICDS of each block. After obtaining the lists of AWCs, the centres

from each block were selected by random sampling technique using lottery method.The maximum number of child beneficiaries in the age group 6 months-3years registered in an AWC is 25, which can vary depending upon the population covered under the centre. Out of 25, only 5 mothers of child beneficiaries were purposively selected from the each AWC from the attendance register maintained for this group of beneficiaries. Similarly the maximum number of nursing mothers and pregnant women registered in an AWC is 06, but the number of both the groups of beneficiaries is not always equal. For the present study a total of 5 women beneficiaries from both the groups were purposively selected from the attendance register maintained by the AWW. Beneficiaries having children in the age group (0- 6 months) fall in the category of nursing mothers, while as beneficiaries having children in the age group (6 months-3 years) were considered as mothers of child beneficiaries. For collection of data a self-devised Interview Schedule was prepared which was pretested on 12 women beneficiaries belonging to all the three groups and after some necessary modifications the interview schedule was finalized.

OBSERVATIONS AND ASSESSMENT

Multiple micronutrient supplementations in pregnant women may be a promising strategy for reducing adverse pregnancy outcomes through maternal nutritional immune status.The sample Kashmiri women were asked about the supplements during pregnancy.

Table 1 reveals that majority (49.6%) of the Kashmiri rural women were aware about consuming nutritional supplements (Folic acid, Iron and Calcium) during pregnancy whereas, 24.8 per cent of Kashmiri women believed that taking supplements during pregnancy is not necessary, they perceived that taking diet is sufficient and there is no need of supplements during pregnancy. No significant difference in knowledge among the groups was statistically found ($p>0.05$). In context to the knowledge regarding extra diet during pregnancy, it is clear from the data given in the table that majority (39.5%) Kashmiri women under study were fully aware about the type of diet to be consumed during pregnancy when a good proportion (33.8%) of these Kashmiri women beneficiaries believed that traditional foods like organ meat soup (liver, lungs, heart), trotters gravy, gravy of head section are more nutritious and suggested foods by their elders in the family, as these foods are supposed to give also a soothing and cooling effect during pregnancy.

As far as knowledge about importance of extra nutrition during pregnancy is concerned, it was also observed by the investigator that, almost all of Kashmiri beneficiaries were aware about importance of extra diet during pregnancy, some Kashmiri women because of the low socio-economic status, large family size or strictness in family were not able to get extra or nutritious diet during pregnancy. There was no significant difference in knowledge among the groups statistically observed ($p>0.05$)

Table 1 : Knowledge related to consumption of food and supplements during pregnancy

Variable	Pregnant (PW) (n= 150)		Nursing (NM) (n=150)		Mothers of child beneficiaries (MCB) (n=300)		All beneficiaries (n=600)		χ^2 analysis
	f	%	f	%	f	%	f	%	
Knowledge of nutritional supplements to be taken during pregnancy									
Folic acid, iron and calcium	80	53.3	79	52.6	139	46.3	298	49.6	6.386
Iron and calcium	1	0.6	1	0.6	--	--	2	0.3	
Folic acid only	38	25.3	37	24.6	76	25.3	151	25.1	
No supplementation required	31	20.6	33	22.0	85	28.3	149	24.8	
Total	150	100.0	150	100.0	300	100.0	600	100.0	
Extra diet required during pregnancy									
Fruit and vegetables	39	26.0	28	18.6	63	21.0	130	21.67	2.816
Milk and milk product	7	4.6	7	4.6	16	5.3	30	5.0	
All above	55	36.6	61	40.6	121	40.3	237	39.5	
Organ meat and normal diet	49	32.6	54	36.0	100	33.3	203	33.8	
Total	150	100.00	150	100.0	300	100.0	600	100.0	

Column percentage df is in subscripts of χ^2 values *denotes significant at $0\leq05$, **denotes significant at $0\leq01$

Knowledge regarding consumption of foods by anemic women during pregnancy :

The World Health Organization (WHO) defines anemia in pregnancy as a hemoglobin concentration of <11g/dl. Low Hb levels during pregnancy can be risky for both, the mother as well as child.

With reference to this aspect of pregnancy, it is clear from the Fig. 1 that majority (45.1%) of the Kashmiri rural women under study believed that consuming more of fruits and vegetables, milk mixed with water and dry fruits (milk boiled along with dry fruits dates, raisins (kishmish), apricot, almonds left overnight and consuming early morning as first food) is suitable for an anemic pregnant woman and helps in increasing the Hb level.A good percentage (41.6%) of women beneficiaries also perceived that foods like half roasted liver, spleen, dates,green leafy vegetables (GLV) are also good sources of iron and good for anemic women.No significant difference in knowledge among the groups was statistically found (p>0.05).

Knowledge related to foods avoided during pregnancy :

Every expectant mother knows there are certain

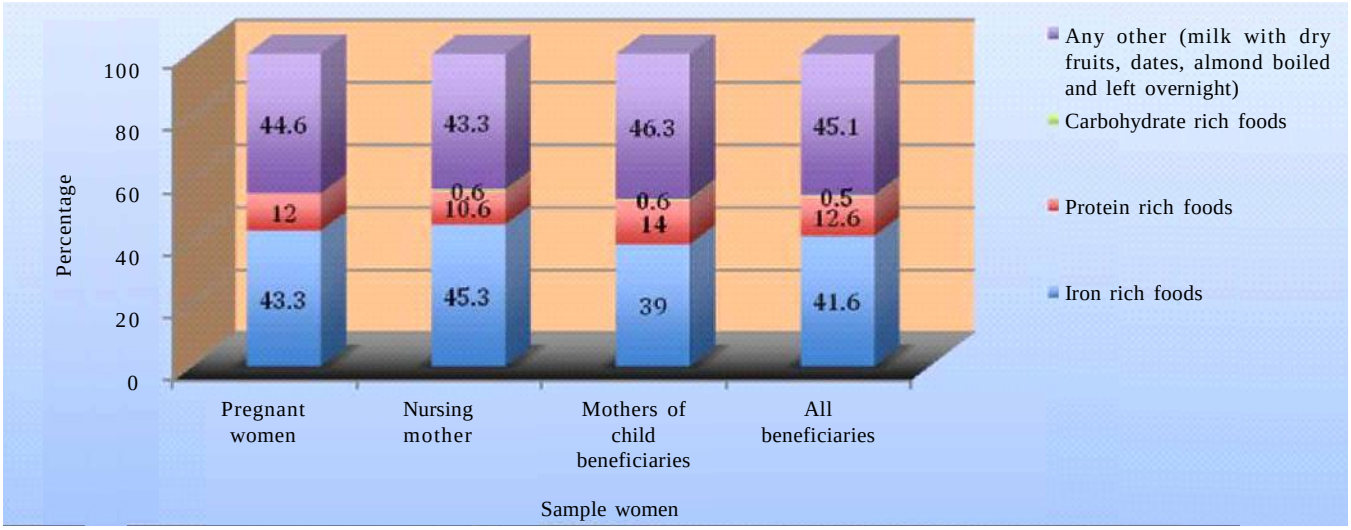

Fig. 1 : Foods consumed by an anemic women during pregnancy

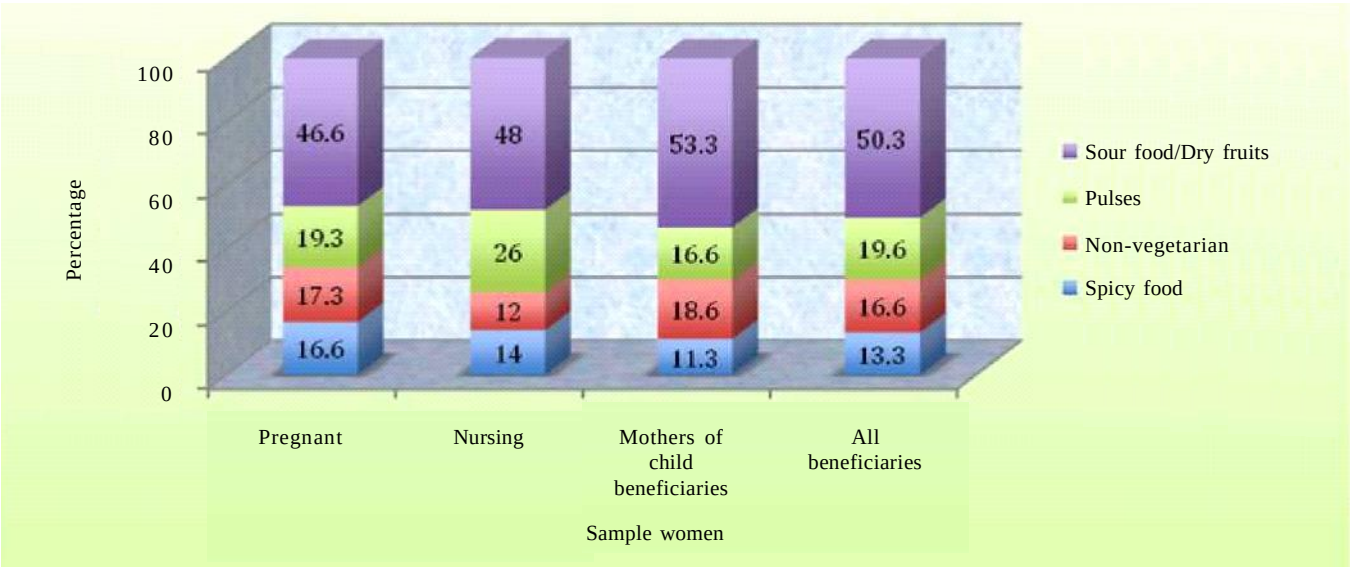

Fig. 2 : Foods avoided during pregnancy

Table 2 : Comparison between previous and present study

Name, Year and Place	Previous Studies	Present Study
El-mani, S.F, 2013, University of Wollogong, Australia	52.7% were aware that folic acid is needed during pregnancy	49.6% aware about consumption of nutritional supplements
	29.3% had no idea about consumption of folic acid during pregnancy	24.8% having no idea about the importance of consuming nutritional supplements
Baby,A, Venugopalan J, D'SilvaRenita, Chacko S, Vineesha, P V, Kumary,VT, 2014, Manglore, Karnataka	99.6% aware about anemia	45.1% believed in consuming more fruits, vegetables, milk mixed with water and milk with dry fruits left overnight and consuming early morning helps in prevention of anemia
	78.5% indicated eating adequate amounts of foods, iron supplements, and blood transfusion helps to prevent anemia	41.6% perceived that consumption of foods like half roasted liver, spleen, dates and green leafy vegetables helps to prevent anemia

foods that should be avoided during pregnancy to protect the health of their unborn baby. The list, however, has become so long and so controversial that it's difficult to know which foods/drinks actually pose a health risk and which ones are actually safe for consumption.

When it comes to pregnancy, there are certain foods that should most definitely be avoided. Foods that are too high in mercury or Vitamin A can pose a health risk to your baby, as can foods that are known to cause foodborne illness such as Listeriosis and Salmonella poisoning.

Fig. 2 also shows that the sample Kashmiri women under study also believed that some foods should be avoided during pregnancy, among them majority (50.3%) said that avoiding foods (dry fruits and sour foods) during pregnancy is good for health, because it can otherwise cause UTI (urinary tract infection), whereas some Kashmiri beneficiaries believed that spicy foods, beef, and pulses are not good for a pregnant women,as it can cause indigestion. No significant difference among the groups in knowledge was statistically observed ($p>0.05$).It is clear from the results obtained regarding the various aspects of pregnancy that the Kashmiri sample beneficiaries under study are partially aware and their knowledge can be improved through intervention.

Conclusion :

It was found that respondents were not having adequate awareness about consumption of nutritional supplements during pregnancy. They believed that it was better to take certain traditional foods instead of nutritional supplements. The reason for non-consumption of nutritional supplements was mainly due to lack of awareness about the benefits of diet supplementation during pregnancy. It was further seen that majority of sample women from Kashmir perceived that normal diet, organ meat, trotters gravy is best suited during pregnancy. They were also of the notion that sour foods and dry fruits should be avoided.In order to improve the knowledge of women beneficiaries,the Nutrition and Health Education (NHED) component involving providing awareness to women beneficiaries under ICDS programme needs to be monitored and evaluated vigorously so that the knowledge and practices related to nutrition and care during pregnancy can be improved to achieve the objectives of ICDS Scheme. And also NHED component needs to be evolved at the local levels using context based approaches and based on the needs of the beneficiaries so as to have maximum impact.

Table 2 presents the comparison between previous studies and the present studies in this area and the present research conducted on rural women.

LITERATURE CITED

Abu-Saad, and Fraser, Drora (2010). Maternal nutrition and birth outcomes. *Oxford J. Med. & Health*, **32**(1) : 5-25.

Ajantha,Singh, A.K., Malhotra, B., Surapaneni, K.A. and Joshi, A. (2015). Evaluation of dietary choices, prefrences, knowledge and related practices among pregnant women living in Indian setting. *J. Clinical & Diagnostic Res.*, **9** (8) : 04 -10.

Anderson, A.S., Campbell, D. and Shepherd, R. (1993). Nutrition knowledge, attitude to healthier eating and dietary intake in pregnant compared to non-pregnant women. *J. Human Nutri. & Dietetics*, **6** (4) : 335–353.

Baby, A., Venugopal, J., D'Silva, R., Chacko, S., Vineesha, P.V. and Kumary, T.V. (2014). Knowledge on management of anemia during pregnancy. A descriptive study. *Arch. Med. Health Sci.*, **2** (2) : 140-144

De Vriendt, T., Matthys, C., Verbeke, W., Pynaert, I. and DeHenauw, S. (2009). Determinants of nutrition knowledge in young and middle-aged belgian women and

the association with their dietary behavior. *Appetite,* **52** (3) : 788–792.

El mani, S.F. (2013). Knowledge, behavior and practices of pregnant women in Wollogong regarding folic acid and iodine nutrition after the introduction of mandatory fortification programme. Ph.D. Thesis at University of Wollongong.

O'Brien, G. and Davies, M. (2007). Nutrition knowledge and body mass index. *Health Edu. Res.,* **22** (4): 571–575.

Oladapo, A.L. (2000). Nutrition in pregnancy: Minerals and vitamin supplement. *American J. Clinical Nutri.,* **72**(1) 280-290.

Redmer, D.A., Wallace, J.M. and Reynolds, L.P. (2004). Effect of nutrient intake during pregnancy on fetal and placental growth and vascular development. *Domestic Anim. Endocrinol.,* **27** (3): 199–217.

Verbeke, W. and De Bourdeaudhuij, I. (2007). Dietary behaviourof pregnant versus non-pregnant women. *Appetite,* **48** (1): 78–86.

Verbeke, W. (2008). Impact of communication on consumers' food choices. *Proceed. Nutr. Soc.*, **67**: 281–288.

Victoria, J.D.and Andrew, E.C. (2011). Micronutrient needs during pregnancy and lactation.Article from *Bayer Consumer Care AG,* Basal, Switzerland. Oregon State University

Wen, L.M., Flood, V.M., Simpson, J.M., Rissel, C. and Baur, L.A. (2010). Dietary behaviours during pregnancy: Findings from first-time mothers in Southwest Sydney, Australia. *Internat. J. Behavior. Nutr. & Physical Activ.*, **7** : 13.

Received : *07.01.2017;* **Revised:** *16.02.2017;* **Accepted :** *25.02.2017*