



ISSN (E): 2277- 7695
ISSN (P): 2349-8242
NAAS Rating: 5.23
TPI 2021; SP-10(5): 374-377
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www.thepharmajournal.com
Received: 21-02-2021
Accepted: 05-04-2021

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Nutritional status of farm women in India and Gujarat: An overview

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Abstract

The various domestic and agricultural drudgery activities by farm women require energy and strength to perform the tedious daily activities. The present study aims to understand the nutritional status of farm women in India and Gujarat state. The study is based on the various available secondary sources. The study concluded that the nutritional status of farm women both in India and Gujarat are not found to be satisfactory. It is found that the nutrient intake of farm women do not meet the Recommended Dietary Allowances. The various stakeholders need to educate the women about the importance of balanced diet to improve the work participation for economic growth.

Keywords: Nutritional status, farm women, agriculture, drudgery

Introduction

Women make essential contributions to agriculture and rural economic activities in all developing countries (FAO 2010) [10] including India. Agriculture is a primary unorganized sector in which women farm workers perform the majority of the drudgery prone work (Nag and Nag, 2004) [17]. According to Samanta, 1995, the plight of the Indian farm woman in drudgery is alarming as they work for long hours without leisure, perform multiple roles in family and continue to be constrained by illiteracy, malnutrition and unemployment. Taking care of the domestic livestock, bringing up their children, catering to the needs of the men in the home and other household work, adds to the seemingly endless list of tasks being done by women (CARE India 2016) [4]. The conditions, constraints and choices faced by South Asia's women agricultural workers are increasingly seen as key factors in understanding the causes of under nutrition and in designing effective policy responses (FAO, 2011) [11] and nutrition research has led the recent revival of interest in women agricultural workers (Rao Nitya et.al., 2019) [21].

The various domestic and agricultural drudgery activities by farm women require energy and strength to perform the tedious daily activities. Hence, it is important to understand the nutritional status of farm women in India.

Study Objectives

The objective of this study is to review various literatures related the nutritional status of the farm women working in agricultural sector in India with special reference to Gujarat.

Study Methodology

This research study is descriptive in nature and based on the various secondary sources. The secondary data has been collected from various books, thesis, journals and reports of government and educational institutions of agriculture departments, available online and in the libraries.

Workers in India and Gujarat

As per Census 2011 [5], 65 percent of the total female workers in India are engaged in agriculture. Table 1 shows that out of total female workers, 24.0 percent are cultivators and 55.2 percent are agricultural labourers in India. In Gujarat 17.8 percent are cultivators and 47.1 percent are agricultural labourers.

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Table 1: Sex-Wise Distribution of Workers in India and Gujarat (Census 2011) ^[5]

India/Gujarat	Male Female Total	Total Workers	Percentage to Workers			
			Cultivators	Agricultural Labourers	Household Industry	Other Workers
India	Male	331865930	24.92	18.56	2.95	47.20
	Female	149877381	24.01	55.21	5.71	29.18
	Total	481743311	24.64	29.96	3.81	41.60
Gujarat	Male	18000914	23.58	20.27	1.17	54.98
	Female	6766833	17.78	47.14	1.97	33.11
	Total	24767747	21.99	27.61	1.39	49.00

Nutritional Status and Measurements

Prior to understand the nutritional status of women in India, it is imperative to understand the meaning of nutritional status and how it is measured. According to FAO (2003) ^[9], nutritional status is a physiological state of an individual that results from the relationship between nutrient intake and requirements and the body's ability to digest absorb and use these nutrients. Nutritional status is directly determined by using anthropometric measurements of weight, height, and arm circumference or growth patterns based on these measurements. According to WHO (2005) ^[26], anthropometric indices that are used as criteria for assessing nutritional status for adult include, BMI, Mid Upper Arm Circumference (MUAC), Waist Circumference (WC), Hip Circumference (HC) and Waist-Hip Ratio (WHP). All of these indices are compared with the recommended reference for health populations.

The status of nutrition is identified through Body Mass Index (BMI). BMI is an anthropometric index of weight and height that is defined as body weight in kilograms divided by height in meters squared:

$$\text{BMI} = \text{weight (kg)} / \text{height (m)}^2$$

Leather and Foster (2005) ^[16] define BMI as a measure which identifies the current status of nutritional over time; it acts as an indicator of food situation and nutritional well being of a community. It is considered to be a useful measurement of the amount of body fat. A cut-off point of 18.5 is used to define thinness or acute under nutrition and a BMI of 25 or above usually indicates over weight or obesity. The BMI criteria recommended by World Health Organization (WHO) (2010) ^[27] are shown in Table 2.

Table 2: Body Mass Index (BMI) Criteria Recommended by WHO

Body Mass Index (BMI)	Categories
Less than 18.5 kg/m ²	Underweight
18.5 - 25 kg/m ²	Normal weight
25 – 30 kg/m ²	Overweight
More than 30 kg/m ²	Obese

A women's health affects the household economic well being and as a women with poor health will be less productive in the labour force (Chatterjee 1990) ^[6]. Ruel and Alderman (2013) identified three pathways through which women's roles in agriculture influence nutritional outcomes – (i) the effect of women's social status and empowerment on their access to and control over resources, (ii) the impact of women's participation in agriculture on their time allocation, and (iii) the impact of women's participation in agriculture on their own health and nutritional status (as cited in Sraboni and Quisumbing, 2018) ^[23].

Wandel and Homboe-Ottessen (1992) ^[25] reported on women's work load in agriculture and its impact on child nutrition. In their findings; they revealed that agriculture has a negative impact on children's health and their mother's nutritional status. Although Ejembe *et al.* (2006) ^[8] reported on women's important role in food chain on nutrition status of their family, they did not report on the impact of the food chain on their nutritional health status. As women engage in agriculture, more time and energy is spent in the field, resulting into little or no time of food preparation and thus leading into skipping of meals.

According to Jacobson (1993) ^[12], the nutritional and health status of women is of great concern in the contemporary world because of the multiple roles played by women result into serious health and nutritional problems.

Nutritional Status of Farm Women India

A study by Barcker *et al.* (2006) ^[11] in India revealed that women who were involved in agriculture were thinner (low BMI) than those in non farming families. A report by Rao *et al.* (2010) ^[20] revealed that women's health affects the household economic well being. They further noted that a woman with poor health would be less productive in the labour force. Nutritional status pertains to the condition of the individual affected by the intake of foods and the utilization of nutrients. Thus, nutritional status is related to food consumption as well as to the general health-care status (Rao *et al.* 2010) ^[20].

The study of Prkruthi and Prakash (2013) ^[19] explored the relationship between somatic status, dietary intake, energy expenditure and energy intake among 300 rural women from agricultural families from a village under Mandya district in South India. The results indicated that BMI increased in women with increasing age. Food frequency indicated that the diets were cereal based with less of vegetables and fruits, low in diversity, and over-dependence on locally grown produce. The diets were sufficient in energy and protein contents, though, high in fat. Calcium and thiamin were adequate, whereas, iron, vitamin A, riboflavin, niacin and vitamin C were inadequate.

A study was conducted by Bellurkar Chitra (2015) ^[2] on daily food intake and nutrient intake by the farm women from two agro – climatic zones of Nanded and Nagpur district of Maharashtra. This research consist sample of six hundred farm women 200 each from urban, rural and tribal areas. In the study, anthropometric measurements, daily food intake and nutrient intake of the respondents were calculated. Results of the study indicated that average height of the farmwomen was 149.46 cm, average weight noted was 51.20 kg and average Body Mass Index was 22.88. It was seen that except nuts and oilseeds and meat and meat products all the

foods groups were satisfactorily consumed by majority of the selected respondents and the nutrient intake of the selected women was normal.

Jyoshna *et al.*, (2017) [14] assessed the effect of nutrition education on nutrient intake and work participation of farm women in Khammam district of Telengana. A sample 90 farm women in age range of 30-50 yrs who were not non- pregnant and non- lactating and with no chronic illness were selected for the study. The pre test revealed that their nutrient intake didn't meet the Recommended Dietary Allowances (RDA) and their work part participation was also less. The nutrition education about the importance of balanced diet, food groups and their functions and eat right according to body requirements and working status was conducted. After intervention significant differences in food consumption pattern and nutrient intake was found. The work participation of the farm women also increased.

The main objective of the study conducted by Swarupa Gangavath and P. Ashlesha (2019) [24] was to understand the nutritional status of farmwomen. Total 100 farm women were selected randomly from Madirala village, Kothagudam district and interviewed using a structured questionnaire. Nutritive value was taken and calculated and compared with Recommended Dietary Allowances (RDA). The results of the study showed that out 68 percent were having normal BMI. Average energy, protein, carbohydrate, fat, fibre, iron and calcium were 1271 k.cals, 41gm, 205gm 27.8gm, 23gm, 7mg and 315mg which were not meeting the Recommended Dietary Allowances. The results revealed that except fat and fibre the remaining nutrients were not meeting the RDA.

Gujarat

The nutritional status of women in the reproductive age group of 15-49 in rural areas of Gujarat as per National Family Health Survey (NFHS) 2019-20 (NFHS-5) is shown in the Table 3. In rural Gujarat, 30.9 percent of the women aged 15-49 years had nutritional status below normal (thin), i.e., BMI<18.5 kg/m² and 17.9 percent were obese (overweight) (BMI≥25.0 kg/m²) though over half (52.1 percent) of the rural women in Gujarat are at a healthy weight for their height.

Table 3: Nutritional Status of Women (15-49 years) in Rural Areas of Gujarat (NFHS, 2019-20)

Nutritional Status of Women (age 15-49 years) - Body Mass Index (BMI)	Gujarat (Rural) (%)
Normal (BMI 18.5 - 25 kg/m ²)	52.1
Below normal (BMI<18.5 kg/m ²) *	30.9
Overweight or obese (BMI≥25.0 kg/m ²)*	17.0

*Excludes pregnant women and women with a birth in the preceding 2 months

The study of Joshi S, *et al.*, (2019) [13] was conducted to observe the nutritional and health status of farm women in Banaskantha district of North Gujarat. A total of 1250 farm women were interviewed. The farm women belonged to nuclear family and had small family size. The educational status of farm women was low and engaged largely on agricultural labour work, had very less annual income and lived in Kutchcha house. Apart from the diet, low socio-economic status and poverty, high level of illiteracy, physical work load, unavailability of different foods, ignorance and superstitions, lack of medical facilities, lack of use of modern contraceptives etc. were the other socio-demographic factors affecting the food consumption pattern and nutritional and

health status of the farm women.

Dave Preeti *et.al.*, (2019) [7] had conducted research study in Khedbrahma and Poshina taluka of Sabarkantha district of Gujarat to assess the nutritional status and food consumption pattern of tribal farm women. BMI was measured and dietary assessment was done using food frequency method. The tribal farm women were found to be from poor socio-economic background, most of them were illiterate, their income was less and nutritional status was poor. Their average height, weight and BMI were lower than reference Indian women. Their food consumption pattern was not appropriate and frequency of consuming nutritious foods. Only half of the tribal farm women were having BMI in acceptable range. Large numbers of tribal farm women were found to be underweight. Their average height, weight and BMI were found lower than reference Indian women. Their food consumption pattern was not appropriate and frequency of consuming nutritious foods i.e. dal, pulses, millets and fruits was less and irregular. Tribal women were malnourished and their diet was not balanced to compensate their heavy physical workload.

Poshiya *et al.*, (2018) [18] had conducted a study on nutritional status of tribal farm women in Narmada district of Gujarat state. Total 200 respondents from 10 selected villages of five talukas of Narmada district were interviewed personally. The result of the study revealed that nearly half (48.50 per cent) of the tribal farm women had normal nutritional status (BMI<18.5 to 25.0). However, one third of the tribal farm women found to be poor in nutrition status. Majority of tribal farm women had good nutritional status.

According to Bonnard (2001) [3], the strategy and policy brief on improving the nutritional impacts of agriculture interventions, is that health and nutrition have a direct impact on a country's productivity and growth.

Conclusion

Various review of previous research on nutritional status of farm women both in India and Gujarat indicated that those who are engaged in agricultural work, their nutritional status are not found to be satisfactory. It is found that the nutrient intake of farm women do not meet the Recommended Dietary Allowances (RDA). The various stakeholders need to educate the women about the importance of balanced diet, according to their body requirements and drudgery conditions in order to improve the work participation for economic growth.

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