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Health and Nutritional Status of Hill Farm Women of Mandi District, Himachal Pradesh

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ABSTRACT

Health and nutritional status of hill farm women selected from three blocks of Mandi District of Himachal Pradesh was assessed in the present investigation. Majority of selected farm women were in age group of 25-35 years and belonged to farm families having small to marginal land holdings. Mean height and weight of respondents was recorded below standards when compared at national level. Majority of farm women were of mesomorph body type (75%) followed by endomorphic (18.33). Physical fitness rating of the respondents showed that 48.33 per cent had high average rating followed by 18.33 per cent having good fitness. Assessment of nutritional deficiencies through clinical assessment revealed that majority of the respondents showed deficiency of iron and B complex vitamins. Less than 35 per cent women exhibited iron deficiency symptoms when assessed clinically. Comparison with suggested dietary intake revealed that the women had low intake for all food groups except sugar and oils. Their diets were inadequate in energy, protein, calcium, iron, B vitamins and ascorbic acid when compared with RDA.

Keywords: Body composition, Farm women, Food intake, Nutritional status, Physical fitness

INTRODUCTION

Nearly two-third of Indian population lives in the villages and depends mainly on agriculture and other related occupations for their livelihood. Women play a significant and crucial role in agricultural development and allied fields. Their contribution in agricultural labour force in developed countries is 36.7 per cent while, it is about 43.6 per cent in developing countries (FAO, 1999). It is estimated that women are responsible for 70 per cent of actual farm work and constitute up to 60 per cent of the farming population but, their role in agriculture has not yet been highlighted in India, so they still remain as invisible workers. Rural women often manage complex households and pursue multiple livelihood strategies. Irrespective of their degree of affluence, they provide 14-18 hr of productive physical labour every day in a wide variety of activities directly connected with agriculture, allied and domestic chores (Swarupa and Ashlesha, 2019). Their activities typically include producing agricultural crops, tending animals, processing and preparing food, working for wages in agricultural or other rural enterprises, collecting fuel and water, engaging in trade and marketing, caring for family members and maintaining their homes. Women as agricultural labourers participate in various agricultural activities like seeding, planting, weeding, irrigating, processing, harvesting and threshing operations. Hence, the physical strain of female farmers seems to be too high because of heavy work tasks of various activities done by them in agriculture

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and allied fields (Singh and Vinay, 2013). In Himachal Pradesh, women farmers are the veritable back-bone of subsistence agriculture because about 80 per cent of the field work in agriculture, from sowing to harvesting, post-harvest management and dairy management is done by hill women farmers. These women participate in extremely tedious, time consuming and labour intensive agricultural operations, viz land preparation, manuring, sowing, transplanting, weeding, hoeing, applying fertilizers, taking care of crops, harvesting and even post-harvest management like shelling, cleaning, grading, storage of food grains and processing etc. So, the role of this gender in agricultural and allied operations is very significant in the hill economy. Agriculture includes great amount of drudgery generally conceived as physical and mental strain, fatigue, monotony and hardship that compromise the health and well-being of farm women. The women also have to undergo a very hard life due to geo-physical conditions of the hilly region. The dominant features of hill farming in Himachal are small and marginal terraced and fragmented land holdings. Due to the undulating topography of region, farmers/farm women are still using traditional modes of cultivating crops. Lack of mechanisation add extra burden on the shoulders of women thereby increasing the drudgery level, affecting their nutritional status and health and reducing the productivity/output.

Health is fundamental to human progress. Nutrition is closely interlinked with health. A good nutritional status needs maintenance of health with a well-balanced diet and proportionate work. Pant (2002) in a study reported that an overwhelming population of hill women was in grip of severe to moderate malnutrition. Nutritional status as well as nutritional knowledge of hill women is unsatisfactory and needs interventions (Upadhyay *et al.*, 2011). Women's health status effect their productivity and their by their roles in society and their own development. Drudgery and low nutritional status of hill farm women is the most important reason for their undernourishment that makes them more prone to several diseases (Vats, 2006). Considering the multiple roles of agricultural women, the present study is an attempt to assess the health and nutritional status of hill farm women involved in agricultural work as well as allied activities.

METHODOLOGY

The baseline and the advanced survey were carried out in district Mandi of Himachal Pradesh. Sixty farm women who were performing agricultural and allied activities regularly were selected from three blocks viz. Chauntra, Mandi and Sundernnagar (twenty each) for the investigation. For carrying out the health and nutritional status of hill farm women, a well-structured questionnaire containing following aspects was developed. Pre-testing of questionnaire was done to make it more functional for final study. All the respondents were interviewed personally by the investigators at work spot, which enabled to get the first hand information.

Nutritional and health status of all the selected farm women was assessed by determining the intake of foods and nutrients information on different dietary aspects and dietary intake of women for three consecutive days using 24 hr. recall method. For this purpose, the respondent was asked which food items she consumed the whole day, from morning-tea to after-dinner. The food consumed was converted into their raw equivalents and the average daily intake of food and nutrients was calculated by using 'Diet Cal' software. The food and nutrient intake was compared with Suggested Dietary intake and Recommended Dietary Allowances (ICMR, 2010). The per cent diet and nutrient adequacy was also calculated. Height, weight and skinfold thickness of selected respondents were measured. Height measurement was taken with the help of an anthropometric stadiometer. The body weight was taken using portable weighing balance. The harpender skin fold caliper was used to measure skin fold thickness at four body sites. On basis of these parameters, body composition, body type and body mass index were calculated to assess the health status of farm women. Body Mass Index was calculated by using the following formula and was categorised as per classification given by WHO (2004).

$$\text{Body Mass Index (kg/m}^2\text{)} = \frac{\text{Weight, kg}}{\text{Height, m}^2}$$

Blood pressure was measured with digital blood pressure monitor. Physical fitness of respondents was

assessed using step-test exercise. Their resting and working heart rate while performing the exercise was measured with heart rate monitor (polar RS 400). Physical fitness Index (PFI) was calculated by using the following formula:

$$\text{Physical Fitness Index} = \frac{\text{Duration of stepping (sec.)}}{\text{Sum of } 1^{st}, 2^{nd} \text{ and } 3^{rd} \text{ min recovery heart rate}} \times 100$$

Aerobic Capacity was calculated by using formula as below.

$$(VO_2 \text{ ml / kg x min.}) = 0.377 \times \text{Step – stool test score (PFI)} – 12.767$$

Health status of the women as per their PFI scores and aerobic capacity were interpreted as given by Edward *et al.* (1973) and Anonymous (2000). The farm women were assessed for different nutritional deficiencies using clinical assessment method.

RESULTS AND DISCUSSION

Before assessing the health and nutritional status and compiling information on various aspects of respondents, a baseline survey of sixty selected farm women from three blocks of district Mandi was done to document their general profile in addition to recording of socio-economic indicators like land holding pattern, income, education and animals rearing pattern etc. The objective behind this, was to assess the quality of lifestyle of families and to study the influence of these demographic and socio economic factors on health and nutritional status of selected respondents.

The basic determinants of health and nutritional status of women are socioeconomic and cultural as well as education having a mediating or modifying influence on cultural practices (Obong *et al.*, 2001). General profile of farm women respondents is presented in Majority of women were in age group of 25-35 years (33.33%) living in a joint family system. Most of these farm families had small to marginal land holdings so 60 per cent of farmers reported insufficient produce from land. Regarding education, more than 40 per cent of women were below matric (46.66%) followed by education upto matric level (21.66%) while 23.33 per cent respondents were uneducated. Only four women studied upto senior secondary level and three were graduates. All the families had their own house with mean monthly income of Rs 17,000. Major *rabi* crops grown were wheat, potato and vegetables. During kharif season, vegetables, maize, paddy, and soybean were grown. Since, 83.33 per cent families owned milch animals, so fodder crops were grown in both seasons. Agriculture was the main occupation of the reported areas while horticulture was not done on commercial level. The horticulture crops grown were mostly their backyard plantations. Data on milch animals rearing pattern by selected farm women was also recorded and compiled. Hybrid bred cow was the main milching animal in Mandi area whose yield was only 5-10 lts/day. Besides, milching animals, other domestic animals like poultry (18.33%) and sheep were also domesticated.

Food/dietary pattern of selected farm women suggested that majority of them (86.66%) were occasional consumers (51.66%) of non-vegetarian foods. Three

Table 1: Food/dietary pattern of selected farm women

Particulars	Blocks			Total (N=60)
	Chauntra (n=20)	Mandi (n=20)	Sundernagar (n=20)	
Food habits				
Vegetarian	0	2	6	8(13.33)
Non-vegetarian	20	18	14	52(86.66)
Ovatarian	0	0	0	0
Frequency of non-vegetarian				
Once a week	0	0	0	0
Once in fortnight	6	1	2	9(15.00)
Once a month	0	8	4	12(20.00)
Occasionally	14	9	8	31(51.66)
Never	0	2	6	8(13.33)
Meal time				
Breakfast	20	20	20	60(100.00)
Mid- morning	20	20	20	60(100.00)
Lunch	20	20	20	60(100.00)
Evening tea	20	20	16	56(93.33)
Dinner	20	20	20	60(100.00)
After dinner	9	6	13	28(46.66)

Figures in parentheses represents percentage

square meals dominated the meal pattern however many of women were taking munch in between meals (Table 1). Nutritional status of an individual is assessed by anthropometry, which includes height, weight and other body measurements. The information on height throws light on the past nutritional status, that indicates how well-nourished they have been from the beginning. Body weight gives an indication of the current nutritional status to identify the individual as overweight, underweight or retarded growth. Bulkiness of an individual or body mass index is assessed by calculating the body weight and height so as to classify them into groups depending on their nutritional status. Anthropometric measurements although genetically determined, are strongly influenced by nutrition and reflect the pattern of growth and physical state of individuals. Farm women recorded mean height

Table 2: Anthropometry, skin fold thickness body type and BMI

Particulars	Blocks			Mean
	Chauntra (n=20)	Mandi (n=20)	Sundernagar (n=20)	(N=60)
Anthropometric				
Height (cm)	148.04±10.64	148.66±9.45	146.25±6.84	146.05±8.46
Weight (kg)	52.47±4.83	53.28±8.47	52.60±7.54	52.78±2.82
BMI (kg/m^2)	24.32±3.38	24.44±5.61	25.24±4.51	24.68±5.18
Skin fold thickness (mm)				
Biceps	9.64±2.54	10.27±2.87	8.73±2.87	9.55±1.97
Triceps	12.70±2.21	11.27±2.41	12.23±3.65	12.07±1.54
Subscapular	14.87±6.95	16.25±3.29	14.85±4.54	15.32±2.54
Suprailiac	16.37±2.84	15.45±4.51	15.43±5.62	15.75±1.54
Body type				
Ectomorph (<20)	1	1	0	2(3.33)
Mesomorph (20-25)	13	15	17	45(75.00)
Endomorph (>25)	4	4	3	11(18.33)
Body composition				
Body density	1.04±0.00	1.04±0.02	1.04±0.01	1.04±0.00
Per cent fat	27.46±2.50	27.32±5.84	26.90±2.05	27.22±1.90
Fat weight (kg)	17.09±3.12	16.09±3.51	14.26±2.51	15.82±1.57
Lean body mass (kg)	44.43±3.96	42.25±4.78	38.34±6.09	41.67±3.05
BMI (kg/m^2)				
Underweight (<18.5)	0	1	0	1(1.66)
Severe thinness (<14.00)	0	0	0	0
Moderate thinness (14.00-16.99)	0	0	0	0
Mild thinness (17.00-18.49)	0	1	0	1(1.66)
Normal (18.50-24.99)	11	12	13	36(60.00)
Over weight (25.00- 29.99)	5	6	3	14(23.33)
Obese (≥30.00)	4	2	4	10(16.66)
Obese I (30.00-34.99)	4	2	3	9(15.00)
Obese II (35.00- 39.99)	-	-	1	1(1.66)
Obese III (≥40.00)	-	-	-	-

Figures in parentheses represents percentage

of 146.05±8.46 cm and mean weight of 52.78±2.82 kg which were below standards when compared at national level (Table 2). This could be due to the type of food consumed by selected population because the food consumption influences to the greater extent on the nutritional status of population. BMI is a simple and useful index of relative weight applied to assess obesity or chronic energy deficiency. It provides a reasonable indication of the nutritional status of adults as well as indicator of health risks. Categorization of BMI derived from their height and weight suggested that 60% of farm women had normal nutrition (BMI-18.50-24.99) while 23.33 per cent of them were overweight (25.00-29.99) and 16.66% were obese (≥30.00). Their mean systolic and diastolic blood pressure was normal with average values of 122.67 and 78.42 Hg. The harpender skin fold caliper was used to measure skin fold thickness at four body sites which was calculated with average values of 9.55, 12.07, 15.32 and 15.75 mm at biceps, triceps, subscapular and suprailiac sites. Distribution of selected farm women on basis of body type, body composition and severity of malnutrition presented in Table 3 depicted that majority of farm women were of mesomorphic body type (75%) followed by endomorphic (18.33).

Agriculture is one of the important labour intensive activities, wherein maximum percentage of women works. They perform most of the tasks such as transplantation, weeding, harvesting etc, using their manual abilities of strength and fitness. Therefore, physical fitness of women is considered as an essential element for understanding her strength/vitality and sustainability of managing the work loads of farming. Physical fitness is primarily dependent on the functioning of the cardio – respiratory system and indicates the individual's status of health. Physical fitness rating of the respondents (Table 4) showed that 48.33 per cent had high average rating followed by 18.33 per cent having good fitness. Only 15 per cent had low average fitness. Aerobic capacity (VO_2 ml/kg-15 min) measured from heart rate values depicted that 30% had high average capacity (22.6-30.0) followed by 25% having low average capacity (<15) and 21.66 per cent having poor aerobic capacity (15-22.5).

Assessment of nutritional deficiencies of selected farm women through clinical assessment revealed that majority of the respondents showed deficiency of vitamins B_1 B_2 and B_3 as well as of vitamin C (Table 4). Less than

Table 3: Physical fitness rating and aerobic capacity

Particulars	Blocks			Mean
	Chauntra (n=20)	Mandi (n=20)	Sundernagar (n=20)	(N=60)
Physical fitness rating				
Excellent (>150)	1	0	2	3(5.00)
Very good (136-150)	4	2	1	7(11.66)
Good (116-135)	2	4	5	11(18.33)
High average (101-115)	8	10	11	29(48.33)
Low average (81-100)	4	4	1	9(15.00)
Poor (<80)	1	0	0	1(1.66)
Aerobic capacity (VO_2ml/kg 15 min.)				
Poor (<15)	3	6	4	13(21.66)
Low average (15-22.5)	6	4	5	15(25.00)
High average (22.6-30.0)	7	5	6	18(30.00)
Good (30.1-37.5)	2	3	4	9(15.00)
Very good (37.6-45.0)	1	2	1	4(6.66)
Excellent (>45.0)	1	0	0	1(1.66)

Figures in parentheses represents percentage

Table 4: Nutritional deficiencies among selected farm women

Particulars	Blocks			Mean
	Chauntra (n=20)	Mandi (n=20)	Sundernagar (n=20)	(N=60)
Protein Calorie Malnutrition				
Diminished subcutaneous fat	3	0	0	3(5.00)
Muscle wasting	0	0	2	2(3.33)
Oedema in ankles	0	5	5	10(16.66)
Vitamin A deficiency				
Night blindness	7	6	4	17(28.33)
Conjunctivalxerosis	10	1	3	14(23.33)
Bitot spot	3	8	9	20(33.33)
Vitamin D deficiency				
Knock knees or bow legs	11	6	9	26(43.33)
Thiamine deficiency				
Oedema	0	13	6	19(31.66)
Loss of ankle & knee jerks	6	14	6	26(43.33)
Calf-muscle tenderness	15	13	6	34(56.66)
Riboflavin deficiency				
Angular stomatitis	14	12	4	30(50.00)
Angular scars	14	6	3	23(38.33)
Cheilosis	14	7	3	24(40.00)
Magenta tongue	15	4	4	23(38.33)
Niacin deficiency				
Scarlet & raw tongue	11	14	15	40(66.66)
Atropic lingual papillae	0	17	16	33(55.00)
Tongue fissuring	0	4	4	8(13.33)
Vitamin C deficiency				
Spongy & bleeding gums	9	0	2	11(18.33)
Tender bone	1	17	17	35(58.33)
Easy fatigue and listlessness	12	17	20	49(81.66)
Iron deficiency				
Breathlessness on slight exertion	0	10	8	18(30.00)
Pale conjunctiva	12	0	6	18(30.00)
Paleness of skin	12	2	6	20(33.33)
Spoon shaped nails	8	0	6	14(23.33)
Feeling of lethargy/ Fatigue	6	0	4	10(16.66)
Weakness/ Dizziness	3	9	0	12(20.00)
Lack of concentration	5	10	1	16(26.66)
Decrease physical activity	0	0	0	0
Poor physical development	0	2	0	2(3.33)
Cold hand and feet	0	2	4	6(10.00)
Iodine deficiency				
Thyroid enlargement	-	-	-	-
Feeling of lethargy	-	-	-	-
Poor development	-	-	-	-

Figures in parentheses represents percentage

35 per cent women exhibited iron deficiency symptoms when assessed clinically. Further clinical assessment for iron deficiency anemia showed around 30 per cent of women having pale conjunctiva and breathlessness on slight exertion. More than 15 per cent respondents had feeling of lethargy/fatigue resulting in weakness and dizziness. No symptoms of iodine deficiency were present in the study group. Health ailment status revealed that 86.67 per cent suffered from backache followed by joint pain (71.67%), breathlessness (70.00%), body ache and headache (60% each). Women are more likely to suffer from nutritional deficiencies than men, for reasons including women's reproductive biology, low social status, poverty, and lack of education (Joshi *et al*., 2016). Socio-cultural traditions and disparities in household work patterns can also increase women's chances of being malnourished.

Good health is essential requirement throughout life and vital to women in terms of their daily activities. Women require proper nutrition for ensuring a healthy and long life. Nutritional surveys indicate large gaps in nutritional requirements and consumption among females as compared to males (Bellurkar, 2015). Diet composition plays an important role in nutritional status of an individual. A healthy and balanced diet, enriched with all the essential nutrients, is a must for overall well-being. Balanced diet must include food items from the various food groups in sufficient quantities to meet the needs of an individual and for maintenance of good health throughout the life. An ample and diverse supply of calories, protein, vitamin and minerals is necessary for good nutrition. Malnutrition and deficiency of these vital elements can lead to serious diseases and conditions and can affect the work efficiency. Comparison with suggested dietary intake revealed that the women had low intake for all food groups except sugar and oils. It was discouraging to know that a very low consumption of fruits and green leafy vegetables with per cent adequacy of 23.63 and 46.81 respectively was reported by respondents despite their accessibility to these foods in their kitchen garden/land. Many research studies (Jethi and Chandra, 2013; Mishra and Singh, 2017) have reported less consumption of pulses, green leafy vegetable, other vegetables and fruits than recommended levels among hill farm women. The food requirement of the people varies greatly depending on various factors. Apart from non-occupational activities like walking, eating, etc., the energy requirement changes depending upon the various activities that one has to perform in daily occupation such as agricultural activities, stone cutting, loading, etc. Mean daily nutrient intake and per cent adequacy of nutrients of selected farm women revealed that their diets were inadequate in various nutrients with more than 50 per cent adequacy for energy, protein, calcium, iron, B vitamins and ascorbic acid when compared with recommended dietary allowances. Energy is the main content of our food. Energy is essential for rest, activity and growth. Certain amount of energy is also expended by the body for respiration, blood circulation, digestion, absorption and excretion,

Table 5: Mean daily food intake and percent food adequacy of selected farm women

Food groups	SDI	Blocks			Total
(g per day)	(g/day)	Chauntra (n=20)	Mandi (n=20)	Sundernagar (n=20)	(N=60)
Cereals & millets	330	286.08±25.86 (86.69)	286.76±20.48 (86.89)	288.23±24.57 (87.34)	287.02±23.64 (86.97)
Pulses	75	58.70±12.50 (78.27)	58.49±10.19 (77.99)	60.17±8.92 (80.22)	59.12±10.54 (78.82)
Milk & milk products (ml)	300	250.57±63.23 (83.52)	206.48±50.16 (68.82)	231.54±54.38 (77.17)	229.53±55.92 (76.50)
Roots & tubers	200	151.11±22.60 (75.55)	143.82±42.08 (71.90)	150.61±34.72 (75.30)	148.51±33.13 (74.25)
Green leafy vegetables	100	46.98±18.67 (46.97)	46.30±11.83 (46.30)	47.18±13.72 (47.17)	46.82±14.74 (46.81)
Other vegetables	200	135.55±15.24 (67.77)	128.58±35.44 (64.29)	130.09±20.38 (65.04)	131.41±23.69 (65.70)
Fruits	100	24.26±7.61 (24.26)	23.39±13.00 (23.38)	23.26±10.37 (23.26)	23.64±10.32 (23.63)
Sugar	30	36.05±2.38 (120.15)	34.40±3.74 (114.65)	33.52±7.37 (111.74)	34.65±4.50 (115.51)
Oils	25	33.19±3.92 (132.76)	31.27±4.78 (125.08)	32.29±4.57 (129.17)	32.25±4.42 (129.00)

Values: Mean ± SD (Per cent adequacy), SDI- Suggested Dietary Intake

Table 6: Mean daily nutrient intake and percent adequacy of nutrients

Nutrients	RDA	Blocks			Mean
		Chauntra (n=20)	Mandi (n=20)	Sundernagar (n=20)	(N=60)
Energy (kcal/ day)	2730	2297.55±320.79(84.15)	2258.77±235.07(82.73)	2252.95±284.63(82.52)	2269.76±280.17 (83.14)
Protein(g/ day)	60	47.88±5.82(79.79)	51.86± 3.91(86.44)	50.82±5.20(84.69)	50.19± 4.97(83.64)
Fat (g/ day)	30	36.13± 3.14(120.44)	31.48± 5.82(104.94)	35.66± 4.23(118.86)	34.43± 4.40(114.75)
Calcium (mg/ day)	600	433.07±74.33 (72.17)	486.24±60.24 (81.03)	481.23±54.10 (80.20)	466.85±62.89 (77.80)
Iron (mg/ day)	17	13.28± 2.16(78.09)	14.18± 1.94(83.40)	15.58± 2.00(91.62)	14.34± 2.03(84.37)
Carotene (µg/ day)	4800	294.68±53.77 (6.13)	186.11± 72.31(3.877)	218.66±72.34 (4.55)	233.15±66.14 (4.85)
Vitamin B_1(mg/ day)	1.4	0.87±0.22(62.14)	0.79± 0.34(56.42)	0.89± 0.26(63.57)	0.85±0.27 (60.71)
Vitamin B_2(mg/ day)	1.6	1.03±0.22(64.47)	1.02± 1.23(64.03)	1.05± 018(65.52)	1.03± 0.21(64.67)
Niacin (mg/ day)	18	12.82±2.07(71.24)	11.77± 1.97(65.36)	12.76± 1.60(70.90)	12.45±1.88(69.17)
Ascorbic (mg/ day)	40	24.34±5.09(60.85)	26.22± 13.90(65.53)	21.32± 9.52(53.30)	23.96±9.50 (59.89)
Folate (µg/ day)	200	116.93±29.33 (58.46)	76.95± 27.08(38.47)	87.04± 31.63(43.52)	93.64±29.35 (46.82)
Mg (mg/ day)	340	129.09±23.71 (37.96)	142.56± 25.55(41.92)	140.30± 27.06(41.26)	137.32±25.44 (40.38)

Values: Mean ± SD (Percent adequacy), RDA- Recommended Dietary Intake

maintenance of body temperature etc. It is depicted from the table that energy consumption of the selected respondents ranged between 2252.95 to 2297.55 kcal, whereas average energy consumption of these respondents was 2269.76 kcal which is less than recommended intake. However, the respondents could attain more than 80 per cent of the energy adequacy. Low protein and energy intake below the recommended daily allowance (RDA) results in malnutrition and invariably low productivity. Less than 50 per cent adequacy was calculated for folate (46.82) and magnesium (40.38) and a very low adequacy of 4.85 for carotene. This may be due to low consumption of green leafy vegetables and fruits in their diets.

CONCLUSION

Agriculture is the vertical backbone of the country where women play a significant and crucial role in an array of farm activities. To do these heavy works, she needs to be physically fit and in good rating of health and nutritional status. In addition to these, social and cultural aspects also govern the extent of participation of women at the farm. Health is a basic need and a fundamental right of everyone and it assumes special significance in the case of women. Health and nutrition go hand in hand. Women's health and nutrition have a direct and strong repercussion on health status of the whole family, particularly their offspring. In the present study, it was indicated that the diets of women were nutrient deficient thereby affecting their physical work capacity leading to drudgery and health ailments. The reasons of insufficient nutritional status were lack of time, lack of awareness regarding importance of nutrition and health, over involvement in agriculture and allied chores and low self-esteem of women in the village society. In Himachal Pradesh, most of farmers are small and marginal having fragmented land holding pattern. Farmers/farm women are still using traditional modes of cultivating crops which are laborious, adds burden on the shoulders of women thereby increases the drudgery level, affecting their nutritional status and health and reducing the productivity/ output. So, the agricultural policies and programmes need to be more nutrition-sensitive to impact the health and productivity of families.

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