

DIETARY PATTERN OF SMALL AND MARGINAL FARM FAMILIES IN ADILABAD DISTRICT OF TELANGANA STATE

KEMEKAR PAVANKUMAR¹, CHALLA VENU GOPALA REDDY², CH. SAIKIRAN³ and A. MEENA⁴

¹Department of Agril. Extension, College of Agriculture, PJTSAU, Rajendranagar, Hyderabad

²AI&CC and PJTSAU Press, PJTSAU, Rajendranagar, Hyderabad

³Department of Extension Education, IGKV, Raipur, Chhattisgarh

⁴Department of Statistics and Mathematics, College of Agriculture, PJTSAU, Rajendranagar, Hyderabad

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ABSTRACT

Food plays a critical role in sustaining individuals' health and overall well-being. By keeping the importance of nutrition in daily life the study was formulated. Objectives of the study were to study the profiles of men and women from small and marginal farm families and analyse their dietary pattern. An ex post facto research design was used for the study in Telangana State. Only Adilabad District was purposively selected from Telangana. Among eighteen mandals of Adilabad District, Jainad and Bela mandals were randomly selected. From small and marginal farm families, either a man or a woman was randomly selected, resulting in a sample size of 120 respondents, comprising 60 men and 60 women. The study focused on fifteen independent variables and one dependent variable. The results indicated that most (60.00%) of the people were middle aged, had primary level of education (42.50%), agriculture as an occupation (60.00%) and annual income of 50,000 to 1,50,000 Rs. (74.99%). Exactly half (50.00%) of them were male and female, belonged to nuclear families (70.00%), engaged in cotton cropping (50.00%), had two earners in the family (60.83%) and were living in proximity of <5 kms (50.00%). They had no milch animal (75.00%), debt of >30,000 Rs. (68.33%), medium health orientation (60.00%) and moderate health status (63.33%). Additionally, wives predominantly made decisions about food (50.00%) and wholesale shops were the preferred choice for food purchases (63.33%). Half (50.83%) of the people had insufficient quantity of diet, medium frequency of diet intake (51.66%), sourced their diet diversely (55.83%), spent moderately on their diet (55.00%), stored their food moderately properly (45.00%), engaged in high physical activity (70.83%), and maintained a fair dietary pattern (45.83%). In males, the higher diet quantity difference was found in milk and milk products (190 gr), followed by cereals (150 gr), roots and tubers (75 gr), and other vegetables (75 gr). In females, the higher diet quantity difference was found in milk and milk products (220 gr), followed by cereals (100 gr), roots and tubers (100 gr), and other vegetables (90 gr). Half (54.16%) of the respondents consumed 15%-50% less the recommended quantity of cereals (54.16%) and pulses (52.50%). All (100%) of them consumed cereals pulses, milk and milk products and sugars regularly. Diversity of diet was found in cereals, fruits, other vegetables and green leafy vegetables. Education (0.3452 **), occupation (0.2409 **), number of persons earning (0.2284 **), milch animals (0.3061 **), health orientation (0.3342 **), decision making about food (0.2650 **) and preference of shops (0.2986 **) were found positive and highly significantly associated with dietary pattern. Annual income (0.2184 *), cropping pattern (0.2340 *), and health status (0.1958 *) were found positive and highly significantly associated with dietary pattern. Whereas, gender (-0.1992 *), distance to market (-0.1980 *) and debt (-0.1795 *) were found negative and significantly associated with dietary pattern.

KEYWORDS: Nutritional security, food security, food habit and food consumption

Food plays a critical role in sustaining individuals' health and overall well-being. The right to food is considered as fundamental as the right to life itself, emphasizing its importance in ensuring human dignity and survival. Food security entails ensuring that individuals have consistent access to adequate, nutritious food that caters to their dietary requirements for maintaining a healthy and active lifestyle. This includes considerations of physical, social, and economic factors that influence access to food. Dietary practices vary across regions globally, shaped by local food availability and cultural norms. Over the years, there has been a notable increase in the overall production of food grains such as cereals, millets, and

pulses. However, while cereals and millets production seem to meet demand, there's a concerning decline in pulse production, which serves as a crucial protein source for rural populations, highlighting an area of vulnerability (National Institute of Nutrition, 2011). According to the 2022 Global Food Security Index, India ranked 68th among 113 countries, indicating some level of food security with a score of 58.9 (Economist Impact, 2024). However, the 2023 Global Hunger Index paints a different picture, ranking India 111th out of 125 countries, with a score of 28.7, indicating significant challenges regarding hunger and food insecurity within the country (Global Hunger Index, 2024). Hunger levels are affected by structural conditions, shocks and crises,

levels of inequity and poverty, economic downturns, quality of governance, climate extremes, demographic conditions and conflicts. The crises have exacerbated disparities among regions, nations, and social groups. Areas, countries, and communities with lower resilience are likely to suffer from persistent issues with hunger and nutrition and are less equipped to handle future emergencies. While the global impacts of the COVID-19 pandemic, the Russia-Ukraine conflict, and elevated food costs may be moderating as of 2023, climate conditions continue to deteriorate, and food remains prohibitively expensive for many populations worldwide. Low- and middle-income countries have borne a disproportionate impact. Factors like inequality, fragility of state institutions, inadequate governance, and persistent poverty hinder these countries' recovery from multiple crises. Young people in low- and middle-income countries are particularly at risk from food insecurity and nutritional crises. They are currently grappling with these challenges and will likely bear the brunt of future disasters if immediate and coordinated measures are not implemented (Global Hunger Index, 2024). In September 2022, the cost of food in India rose by 8.6% compared to the previous year, marking the highest increase since November 2020. Vegetables saw a significant rise of 18.05%, spices increased by 16.88%, and cereals recorded an 11.53% increase, marking their highest increases in nine years (Ipe *et al.*, 2022). The National Food Security Act, 2013 represents a significant shift in food security strategy, moving from a welfare-based to a rights-based approach. NFSA provides coverage to 75% of the rural population and 50% of the urban population through the Antyodaya Anna Yojana and Priority Households (Ipe *et al.*, 2022). As per NFHS data, in India, there is a higher prevalence of stunted children in rural areas (37.3%) compared to urban areas (30.1%). To break the inter-generational cycle of malnutrition, effective interventions targeting both mothers (pre- and post-pregnancy) and children are crucial to address the significant burden of stunting. The problems found in India are stunting, wasting, underweight, micro nutrient deficiency, anaemia, double burden of malnutrition and rising obesity (Ipe *et al.* 2022). Keeping the recent past scenario on hunger status, rising nutritional imbalances and importance of balanced food consumption a special study on "Dietary Pattern of Small and Marginal Farm Families in

Adilabad District of Telangana State" is planned with following hypotheses and objectives. To investigate the research objectives, a null hypothesis formulated, assuming no relationship between the profile of men and women from small and marginal farm families and their dietary pattern.

Objective

To study the profile of men and women from small and marginal farm families

To analyse the dietary pattern of men and women from small and marginal farm families

To find out association between the profile of men and women from small and marginal farm families with their dietary pattern.

MATERIAL AND METHODS

The research study was conducted during the year 2024. An ex post facto research design was used. The study was carried out in Telangana State. Adilabad District was purposively selected as the research scholar hails from the district. Among the eighteen mandals of Adilabad District, two mandals *viz.*, Jainad and Bela were selected randomly. From bela mandal, two villages *viz.*, Bhedoda and Khogdur and from Jainad mandal, two villages *viz.*, Pippalgaon and Pandalwada were selected randomly. Thus, total two mandals and four villages were selected for the study. The study targeted individuals from small and marginal farm families, so from each family, either a man or a woman was selected randomly. Thus, from each village 15 men and 15 women respondents were selected randomly. The sample size was 120 respondents, representing a total of 60 men and 60 women. A total of fifteen independent variables and one dependent variable was selected for the study.

Dietary pattern, defined as the extent to which men and women respondents has consistent and equitable access to healthy, safe, affordable foods essential to optimal health and well-being. For studying the dietary pattern, a structure schedule was developed. For studying dietary pattern, six components were identified. Those were quantity of diet, frequency of diet, source of diet, expenditure on food, storage of food and physical activity. The number of items under each component varies. The items under each component were carefully framed with the help of review

of literature and discussions with experts in nutrition, diet and other extension personnel. In the quantity of diet, the score three, two and one was assigned for recommended diet, 1-15 per cent less than the recommended and 15-50 per cent less than the recommended for each food item, respectively. In frequency of diet, the scores three, two and one were assigned for regular (5-7 days a week), sometimes (3-4 days a week) and rarely (once a week or while), respectively. In source of diet, scores two and one were assigned for different source/form and same source/form in a week. In expenditure on diet, scores three, two and one were assigned for more than average, average and less than average, respectively. In storage of food, scores two and one were assigned for practiced and not practiced. In physical activity, score one was assigned for each activity carried out. Individual total score was computed by summing the scores of all the items. The maximum and minimum obtained scores were identified. The respondents were categorized into following three groups based on inclusive class interval method. The correlation coefficient was calculated to examine the relationship between the independent and dependent variables. Further, t-test was calculated for testing of significance of the correlation coefficient at 1 per cent and 5 per cent level of significance.

An interview schedule was prepared in line with the objective of the study and it was pre tested in sampling area with non-sampling respondents. The required changes were made and the schedule was corrected as per the requirements. Data was collected by the researcher with personal interview method. The data collected was coded and tabulated for statistical analysis. Statistical tests viz., frequency, percentage, arithmetic mean, correlation coefficient and t-test for testing of significance of the correlation coefficient were employed.

RESULTS AND DISCUSSION

Profile of men and women from small and marginal farm families

A brief description of the profile of male and female respondents of small and marginal farm families is given below. Result revealed that majority (60.00%) of the respondents belonged to middle age group, followed by old age group (20.83%) and young age group (19.16%). The lower number of young

respondents could be attributed to their ownership of small and marginal lands and their inclination towards urban employment due to perceiving farming as a tedious job. Transitioning out of farming due to various reasons, such as physical inability to work and delegating farming responsibilities to their offspring or leasing out their land. Two-fifths of respondents had education up to primary school (42.50%), followed by middle school (25.00%), illiterate (13.33%), can read and write (10.00%), intermediate (5.00%) and high school (4.16%). Since, the majority of them had education below middle school level, the reasons could be attributed to the availability of schools in their locality was up to middle school at that time. The majority (60.00%) of the respondents had agriculture as their occupation, followed by Agriculture + livestock (30.00%), Agriculture + Business/service/employee (10.00%). The reason for this distribution could be the availability of resources, which might have compelled them to engage solely in farming. Some respondents engaged in both agriculture and livestock to leverage the benefits of complementary farming. Slightly more than one-third (38.33%) of the respondents belonged to annual income group of 50,000 - 1,00,000 rupees, followed by 1,00,000 - 1,50,000 rupees (36.66%), 1,50,000 – 2,00,000 rupees (11.66%), up to 50,000 rupees (8.33%) and above 2,00,000 rupees (5.00%). The higher number of respondents in lower annual income groups could be attributed to their limited resources, land size, and farming being their sole occupation. Half (50.00%) of the respondents were male and half were female (50.00%). This distribution could be due to the sample selection process conducted by the researcher.

The majority (70.00%) of respondents belonged to nuclear families, followed by a smaller percentage belonging to joint families (30.00%). Half (50.00%) of the respondents solely cultivated cotton, while the remaining respondents cultivated cotton alongside sorghum (25.00%) or soybean alongside Bengal gram (25.00%). The preference for growing cotton alone may be attributed to the predominant reliance on rainfed farming in the area, with those having access to irrigation facilities opting for subsequent crops. A majority (60.83%) of the respondents hailed from families where two individuals were earners, followed by single earners (28.33%) and households with earners more than two individuals (10.83%), possibly

Table 1. Distribution of respondents according to profile

(n=120)

S. No.	Variable	Categories	Frequency(f)	Percentage(%)
1	Age	Young (<30)	23	19.16
		Middle (31-50)	72	60.00
		Old (>50)	25	20.83
2	Education	Illiterate	16	13.33
		Can read and write	12	10.00
		Primary	51	42.50
		Middle school	30	25.00
		High school	5	4.16
		Intermediate	6	5.00
3	Occupation	Agriculture	72	60.00
		Agriculture + livestock	36	30.00
		Agriculture + Business/ service/employee	12	10.00
4	Annual income	< 50,000 Rs	10	8.33
		50,000 - 1,00,000 Rs	46	38.33
		1,00,000 - 1,50,000 Rs	44	36.66
		1,50,000 – 2,00,000 Rs	14	11.66
		>2,00,000 Rs	6	5.00
5	Gender	Male	60	50.00
		Female	60	50.00
6	Family type	Nuclear	84	70.00
		Joint	36	30.00
7	Cropping pattern	Cotton	60	50.00
		Cotton + Sorghum	30	25.00
		Soybean + Bengal gram	30	25.00
8	Number of persons earning	1	34	28.33
		2	73	60.83
		>2	13	10.83
9	Distance to market	< 5 km	60	50.00
		5 - 15 km	60	50.00
10	Milch animals	0	90	75.00
		1-2	18	15.00
		2 - 4	8	6.66
		>4	4	3.33
11	Debt	< 10,000 rupees	14	11.66
		10,000 – 30,000 rupees	24	20.00
		>30,000 rupees	82	68.33

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Table 1. contd..

S. No.	Variable	Categories	Frequency(f)	Percentage(%)
12	Health orientation	Low	34	28.33
		Medium	72	60.00
		High	14	11.66
13	Health status	Poor	30	25.00
		Moderate	76	63.33
		Good	14	11.66
14	Decision making about food	Head of the family	15	12.50
		Husband	25	20.83
		Wife	60	50.00
		Both husband and wife	20	16.66
15	Preference of shops	Retail shop	34	28.33
		Wholesale shop	76	63.33
		Marts	10	8.33

indicating the involvement of both spouses in agricultural activities. Half (50.00%) of the respondents resided within a 5 km radius from the market, followed by with the remaining respondents living within a proximity of 5 - 15 km (50.00%). The reason could be the location of their village from towns and mandals. Majority (75.00%) of the respondents did not own milch animals, while the remaining had 1-2 milch animals (15.00%), 2-4 milch animals (6.66%) and (3.33%).

The majority (68.33%) of respondents had debts above 30,000 rupees, followed by those with debts ranging between 10,000 - 30,000 rupees (20.00%). Only a few (11.66%) had debts below 10,000 rupees. This trend may be attributed to lower annual incomes, leading to additional financial requirements for farming and maintenance purposes. The majority (60.00%) of respondents exhibited a medium level of health orientation, followed by those who showed low health orientation (28.33%) and high health orientation (11.66%). This distribution could be attributed to a lack of awareness regarding the importance of maintaining a healthy lifestyle. The majority (63.33%) of respondents exhibited a moderate health status, followed by those who showed poor health status (25.00%) and good health status (11.66%). In half (50.00%) of respondents' households, decisions regarding food choices were made by the wife (50.00%), followed by the husband (20.83%), both husband and wife (16.66%), and the head of the family

(12.50%). This could be due to the involvement of women in cooking, thus influencing decision-making in this regard. The majority (63.33%) of the respondents preferred shopping at wholesale shops, followed by retail shop (28.33%) and marts (8.33%). The reason could be that the mandals were near to their village as compared to the towns and the availability of multiple items at cheaper prices at wholesale shops as compared to the retail shops. These findings align with previous studies conducted by Mahmoud and Daoud (2023), Wet al *et al.*, (2023), and Hamba *et al.*, (2024).

Dietary pattern of respondents

Dietary pattern of respondents had been studied with the help of six components viz., quantity of diet, frequency of diet, source of diet, expenditure on food, storage of food and physical activity. By summing up the scores of all the components dietary pattern was obtained. The results had indicated that half (50.83%) of the respondents had insufficient quantity of diet, followed by moderate quantity of diet (29.16%) and sufficient quantity of diet (20.00%). The probable reason could be the low awareness regarding the healthy diet. Half (51.66%) of the respondents had followed medium level of frequency of diet, followed by low level of frequency (28.33%) and high level of frequency (20.00%). The reason could be that they were not having their own milch animals, unavailability of fruits in the locality and the lower annual income

Table 2. Distribution of respondents according to diet pattern**(n=120)**

S. No.	Components	Categories	Frequency(f)	Percentage(%)
1	Quantity of diet	Insufficient	61	50.83
		Moderate	35	29.16
		Sufficient	24	20.00
2	Frequency of diet	Low	34	28.33
		Medium	62	51.66
		High	24	20.00
3	Source of diet	Similar	14	11.66
		Moderately diverse	36	30.00
		Diverse	67	55.83
4	Expenditure on food	Low	37	30.83
		Medium	66	55.00
		High	17	14.16
5	Storage of food	Improper	18	15.00
		Moderately proper	54	45.00
		Proper	48	40.00
6	Physical activity	Low	0	0.00
		Moderate	35	29.16
		High	85	70.83
7	Overall dietary pattern	Poor	42	35.00
		Fair	55	45.83
		Good	23	19.16

might not have allowed them to consume fruits, milk *etc.* on daily basis. More than half (55.83%) of the farmers had followed diverse type of diet, followed by moderately diverse (30.00%) and similar type of diet (11.66%). The probable reason could be their limited land holding, cropping pattern followed by them, cultural reason and lower annual income levels.

Slightly more than half (55.00%) of the respondents had medium expenditure on food, followed by those who had low expenditure on food (30.83%) and high expenditure on food (14.16%). The reason could be limited land holding, lower level of educational status, lack of knowledge regarding a healthy diet, unavailability of food items in the locality *etc.* Less than half (45.00%) of the respondents had moderately proper storage of food followed by, those who had proper storage of food (40.00%) and improper storage of food (15.00%). The probable reason for such result could

be that they were not aware of negative effects of not following hygiene and another reason could be the drudgery involved in farming and multiple roles performed by them might not allowed them to draw their attention on proper storage. Majority (70.83%) of the respondents had high physical activity, followed by moderate level of physical activity (29.16%). The reason for such result was all of the respondents were belonged to farm family and actively engaged in farming. Slightly less than half (45.83%) of the respondents had fair level of dietary pattern, followed by those with poor dietary pattern (35.00%) and good dietary pattern (19.16%). The reason could be the lack of awareness, limited sources, unavailability, unaffordability and lack of time to give attention to diet. The results are in line with the findings of Manikanta and Satpathy (2023), Elinur *et al.*, (2024), Sanz-Martín *et al.*, (2024) and Yildirim *et al.*, (2024).

Quantity of food consumed by men and women

The results presented in Table 3 indicate that men were consuming quantities of food below the recommended diet for individuals engaged in heavy activity. Men exhibited deficits of 150 grams in cereals, 60 grams in pulses, 190 grams in milk and milk products, 75 grams in roots and tubers, 40 grams in green leafy vegetables, 75 grams in other vegetables, 40 grams in sugar and 20 grams in fats. Only fruits were consumed in sufficient amounts, with consumption typically occurring once a week. Regarding cereals,

In the case of women, they were also consuming a deficit quantity of food compared to the diet recommended for women engaged in heavy activity. Women exhibited deficits of 100 grams in cereals, 50 grams in pulses, 220 grams in milk and milk products, 100 grams in roots and tubers, 50 grams in green leafy vegetables, 90 grams in other vegetables, 30 grams in sugar and 10 grams in fats. Only fruits were consumed in sufficient amounts per day, but the consumption was rare, occurring only once a week. Apart from cereals, women were consuming a greater deficit quantity of food compared to men.

Table 3. Distribution of respondents according to quantity of diet (in gr)/individual (n=120)

S. No.	Food items	Recommended for a Man (gr)	Mean consumption by a man (gr)	Difference (gr)	Recommended for a woman (gr)	Mean consumption by a woman (gr)	Difference (gr)
		(A)	(B)	(A-B)	(C)	(D)	(C-D)
1	Cereals	600	450	150	480	380	100
a	Rice	NA	300	NA	NA	250	NA
b	Wheat (or)		150			100	
c	Sorghum						
2	Pulses	120	60	60	90	40	50
3	Milk and milk products	300	110	190	300	80	220
4	Roots and tubers	200	125	75	200	100	100
5	Green leafy Vegetables	100	80	40	100	50	50
6	Other Vegetables	200	125	75	200	110	90
7	Fruits	100	125	-25	100	110	-10
8	Sugar	55	15	40	45	15	30
9	Fats	40	20	20	30	20	10

men consumed 300 grams of rice per day, 150 grams of wheat, and occasionally sorghum as a substitute for wheat. The consistent consumption of wheat (with occasional sorghum) may be attributed to factors such as proximity to Maharashtra, cultural dietary habits, the tradition of consuming Jwari Kanya (a local sorghum-based dish), and the predominant Marathi ethnicity within the sampled villages.

Item wise analysis of quantity of diet, frequency of diet and source of diet

The majority of respondents had consumed recommended quantity of fruits (66.66%), followed by sugar (51.66), other vegetables (38.33%) and green leafy vegetables (33.33%). Half of the respondents had consumed 1%-15% less to the recommended quantity of milk and milk products, followed by fats

Table 4. Distribution of respondents according to quantity of diet, frequency of diet and source of diet (n=120)

S.No.	Food items	Quantity			Frequency			Source	
		Recommended	1%-15% <recommended	15%-50% recommended	Regular	Sometimes	Rarely	Different	Same
1	Cereals	24(20.00%)	31(25.83%)	65 (54.16%)	120(100%)	0(0.00)	0(0.00)	101(84.16%)	19(15.83%)
a	Rice	NA	NA	NA	120(100%)	0(0.00)	0(0.00)	NA	NA
b	Wheat (or)				82(68.33)	38(31.66)	0(0.00)		
c	Sorghum				0(0.00)	47(39.16)	73(60.83)		
2	Pulses	19(15.83%)	38(31.66%)	63(52.50%)	120(100%)	0(0.00)	0(0.00)	37(30.83%)	83(69.16%)
a	Red gram	NA	NA	NA	120(100%)	0(0.00)	0(0.00)	NA	NA
b	Bengal gram				0(0.00%)	23(19.16%)	97(80.83%)		
c	Black gram				0(0.00%)	0(0.00%)	120(100%)		
d	Moth bean				0(0.00%)	0(0.00%)	120(100%)		
e	Lentil				0(0.00%)	0(0.00%)	120(100%)		
3	Milk and milk products	25(20.83%)	65(54.16%)	30(25.00%)	120(100%)	0(0.00%)	0(0.00%)	50(41.66)	70(58.33%)
4	Roots and tubers	20(16.66)	62(51.66%)	38(31.66)	0(0.00%)	5(4.16%)	115(95.83%)	10(8.33%)	110(91.66%)
5	Green leafy Vegetables	40(33.33%)	35(26.66%)	45(37.50%)	0(0.00%)	15(12.50%)	105(87.50%)	87(72.50%)	33(27.50%)
6	Other Vegetables	46(38.33%)	42(35.00%)	32(26.66%)	60(50.00%)	28(23.33%)	32(26.66%)	98(81.66%)	22(18.33%)
7	Fruits	80(66.66%)	25(20.83%)	15(12.50%)	7(5.83%)	25(19.16%)	80(66.66%)	105(87.50%)	5(12.50%)
8	Sugar	62(51.66)	36(30.00%)	22(18.33%)	120(100%)	0(0.00%)	0(0.00%)	10(8.33%)	110(91.66%)
9	Fats	25(20.83%)	65(54.16%)	30(25.00%)	97.50	36(30.00%)	75(62.50%)	23(19.16%)	97(80.83%)

(54.16%), roots and tubers (51.66%), other vegetables (35.00%), and sugar (30.00%). Similarly, half (54.16%) of the respondents had consumed 15% -50% less to the recommended quantity of cereals, followed by pulses (52.50%) and green leafy vegetables (37.50%).

In case of frequency of diet, all (100%) respondents had consumed cereals, pulses and milk and milk products and sugar on regular basis, followed by half (50.00%) who consumed other vegetables regularly. The majority (95.83%) of respondents consumed roots and tubers rarely, followed by green leafy vegetables (87.50%), fruits (66.66%) and fats (62.50%). All (100%) of the respondents consumed rice and red gram on regularly, with the majority (68.33) also consuming wheat regularly. Additionally, all (100%) respondents consumed black gram, moth bean and lentil rarely, with Bengal gram (80.83%) and sorghum (60.83) following suit. Two-fifths (39.16%) of the respondents consumed sorghum occasionally, followed by wheat (31.66%). These results align with the findings of Sabu (2019).

In case of source of diet, the majority (84.16%) of the respondents consumed different sources of diet in cereals, followed by green leafy vegetables (72.50%), other vegetables (81.66%) and fruits (87.50%). Similarly, most (69.16%) of them consumed similar sources of diet in pulses, milk and milk products (58.33%), roots and tubers (91.66%), sugar (91.66%), fats (80.83%).

Association between the profile of respondents and their overall diet status

In consideration of the significance of dietary patterns, an attempt was made to delineate the association between the profiles of respondents and their overall dietary pattern using correlation coefficients, and the results are provided in Table 5.

The data presented in Table 5 indicated that education (0.3452**), occupation (0.2409**), number of persons earning (0.2284**), health orientation (0.3342**), milch animals (0.3061**), health orientation (0.3342**) decision making about food (0.2650**) and preference of shops (0.2986**) were found to be positively and highly significantly associated with dietary patterns. Conversely, annual income (0.2184*), cropping pattern (0.2340*) and health status (0.1958*) were found positive and significant with dietary pattern.

Family type (-0.1140^{NS}) was found positive but not significantly associated with dietary patterns. Gender (-0.1992*), distance to market (-0.1980*) and debt (-0.1795*) were found to be negatively and significantly associated with dietary patterns. Meanwhile, age (-0.1284^{NS}) was found to be negatively but non-significantly associated with dietary patterns. Therefore, the null hypothesis was rejected, and the empirical hypothesis was accepted. These findings are consistent with the results reported by Jebessa *et al.*, (2024).

From the above results, it can be concluded that, with higher and increase in education, occupation number of persons earning, milch animals, health orientation, decision making about food, preference of shops, annual income, gender, cropping pattern, distance to market and health status led to an improvement in dietary patterns. The reasons for this trend could be attributed to various factors. Firstly, improved education might have led to increased awareness and knowledge regarding health and diet. Secondly, engagement in additional occupations alongside farming could boost annual income, enabling individuals to afford a wider variety of food items. Moreover, an increase in the number of earners within a household could correlate with higher annual income, facilitating greater spending on food. Additionally, an increase in the availability of milch animals may lead to a greater abundance of milk and milk products, positively impacting dietary patterns. Furthermore, heightened health orientation may result in increased interest and importance placed on health, thereby influencing dietary choices. Women's involvement in decision-making about food exhibited a positive impact on dietary patterns. This may be attributed to their heightened concern for the health and nutritional needs of their families. Preference for wholesale shops may enhance accessibility to food items at lower prices, thereby improving dietary patterns. Those cultivating a diverse range of cereals and pulses may have greater access to grains and pulses from their own farms, resulting in a positive relationship with dietary patterns. Individuals with good health statuses may be more conscientious about their diet and overall health. Gender dynamics may also play a role, with female respondents potentially prioritizing the health and nutrition of their families over their own dietary patterns. Increased distances to markets may limit access to a

Table 5. Association between the profile of respondents and their overall diet pattern (n=120)

S. No.	Variables	'r' value
X1	Age	-0.1284 ^{NS}
X2	Education	0.3452 ^{**}
X3	Occupation	0.2409 ^{**}
X4	Annual income	0.2184 [*]
X5	Gender	-0.1992 [*]
X6	Family type	0.1140 ^{NS}
X7	Cropping pattern	0.2340 [*]
X8	Number of persons earning	0.2284 ^{**}
X9	Distance to market	-0.1980 [*]
X10	Milch animals	0.3061 ^{**}
X11	Debt	-0.1795 [*]
X12	Health orientation	0.3342 ^{**}
X13	Health status	0.1958 [*]
X14	Decision making about food	0.2650 ^{**}
X15	Preference of shops	0.2986 ^{**}

NS Non-significant, * Significant at 0.05 level,
 ** Significant at 0.01 level

variety of food items, including fruits and vegetables, negatively impacting dietary patterns. Moreover, increased debt may lead to a cautious mindset when spending on food items.

CONCLUSION

The results indicated that half of the participants had insufficient quantity of diet, with medium frequency of diet, diverse source of diet and medium expenditure on diet. Their storage of food was moderately proper and they engaged in high physical activity with a fair amount of dietary pattern. In the association between profile and dietary pattern, education, occupation, number of persons earning, health orientation, milch animals, health orientation, decision making about food, preference of shops, annual income, cropping pattern, and health status had positively affected the dietary pattern. On the other hand, gender, distance to the market, and debt negatively affected dietary pattern. Thus, it can be concluded from the results that, there is difference between the consumption of female and male and respondents. Vast differences were found in the food intake and pattern than the recommended. Hence,

to improve the condition, inclusion and distribution of millets and pulses in Public Distribution System should be done. People were still not aware about importance of maintaining healthy diet, those who aware were not taking practicing it seriously. Hence, extension systems should focus on conducting mass awareness programmes on importance of maintaining healthy diet. extension systems should conduct trainings in collaboration with Anganwadi and women associations on preparation of highly nutritional diets, practicing healthy diets and identifying symptoms of malnutrition.

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