

Emerging Nutritional Levels Of Oraon Tribes In Tehsil Pathalgaon Of Jashpur District (Chhattisgarh State), India

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ABSTRACT

In generally nutrition defined the process of taking in different food stuffs and using it for physical growth of a human body. A nutrient element is a fundamental requirement for proper growth of a human body which provides not only physical power but also the proper psychological thinking, active mentality, moral power as well as balance health in human body. Tehsil Pathalgaon is taken to be as unit of study which is basically tribal populated areas and economically depends on agricultural activities, Mahua liquor business and predominantly agro-based industry. It is situated in south-western corner of Jashpur district. According to census 2011- the total population is 168112 persons, total households is 38244, the total Gram Panchayats is 83, total number of villages is 107 in Tehsil Pathalgaon and the total Geographical area of Tehsil Pathalgaon is 941.41 Sq. kms. The total number of scheduled tribe's population is 112332 persons. The main objectives of the present study are to analyze the emerging nutritional levels of Oraon tribes in Tehsil Pathalgaon of Jashpur district. This research paper has been based on both the primary data and secondary data. ICMR's recommends norms are used for assess the emerging nutritional levels of Oraon tribes in Tehsil Pathalgaon. The processed data is analyzed with the help of quantitative techniques and cartographically represented through maps and diagrams. The main findings is that most of the Oraon tribal peoples are suffering from malnutrition due to the lack of necessary food availability, intake monotonous diets and they are mainly depend on agricultural activities which are not provides the sufficient food stuffs because low agricultural production is found in the study area due to the use of traditional agrarian method, lack of irrigational facility, not used the modern agricultural technology and poor economic conditions etc. The variation of emerging nutritional levels is remarkable concentrated among the Oraon tribes in different parts of the study area.

Index Terms: - Tehsil Pathalgaon, Jashpur District, Oraon Tribes, Agricultural Activities, Emerging Nutritional levels and Malnutrition.

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INTRODUCTION:

Food is the most important basic necessity of human beings. The human body needs food to supply the energy needed to do work, to grow and develop, and to regulate life processes (**Gautam, 2016**). In generally nutrition defined the process of taking in different food stuffs and using it for physical growth of a human body. A nutrient element is a fundamental requirement for proper growth of a human body which provides not only physical power but also the proper psychological thinking, active mentality, moral power as well as balance health in human body. Mostly the food we consume daily is usually not balanced and according to our requirements; as a single food doesn't have all nutrients present in it. Each food has a dominance of only once element (**Gole, 2015; Mittal & Srivastava, 2006**). The nutritional elements are present in each food with different ratios and in the whole world most of the peoples are suffering from malnutrition due to lack of sufficient food availability and inadequate access to energy consumption from different food stuffs (**Husain, 1996; Singh et al., 2015**). Adequate nutrition requires sufficient calories and a balanced diet. More than half of the world's population suffers from nutritional deficiency. There is a close relationship between the availability and quality of food and health of the people (**Beaudry et al., 2004; Kapoor et al., 2010 & Jerath et al., 2018**). Good nutritional status refers to the intake of a well-balanced diet, which supplies all the essential nutrients to meet the body's requirements. Such a person may be said to be receiving optimum nutrition (**Ghosh, 2016; Deka, 2011; Mitral et al., 2007 & Joshi, 2015**).

STUDY AREA (TEHSIL PATHALGAON):

Tehsil Pathalgaon in Jashpur district is taken to be as unit of study which is basically tribal populated areas and here most of the peoples are lived in rural area. Economic structure of the study area are mainly depends on agricultural activities which are characterized by monsoon climate. The study area geographically located in between 22^o33'22.9176" North latitudes to 83^o27'39.6756" East longitudes and it is situated in south-western corner of Jashpur district. Distance from district headquarter to Janpad Panchayat of tehsil pathalgaon is 110 kms. According to census 2011, in tehsil Pathalgaon the total population is 191530 persons (the total males population is 95480 persons and the total females population is 96050 persons) where the total rural population is 1,68,112 persons (the total males population is 83,702 persons and the total females population is 84,410 persons) and the total urban population is 23418 persons (the total males population is 11778 persons and the total females population is 11640 persons). Out of the total population 87.8 % lives in rural areas and 12.2 % people's lives in urban areas. The total geographical area of tehsil Pathalgaon is 941.41 Sq. kms. In rural area, the total

number of scheduled tribe's population is 112332 persons where the total males scheduled tribe's population is 55,796 persons and the total females scheduled tribe's population is 56,536 persons. In tehsil pathalgaon, the total households are 43215 where the rural households are 38244 and an urban household is 4971, the total gram Panchayats is 83 and total number of villages is 107 in the study area.

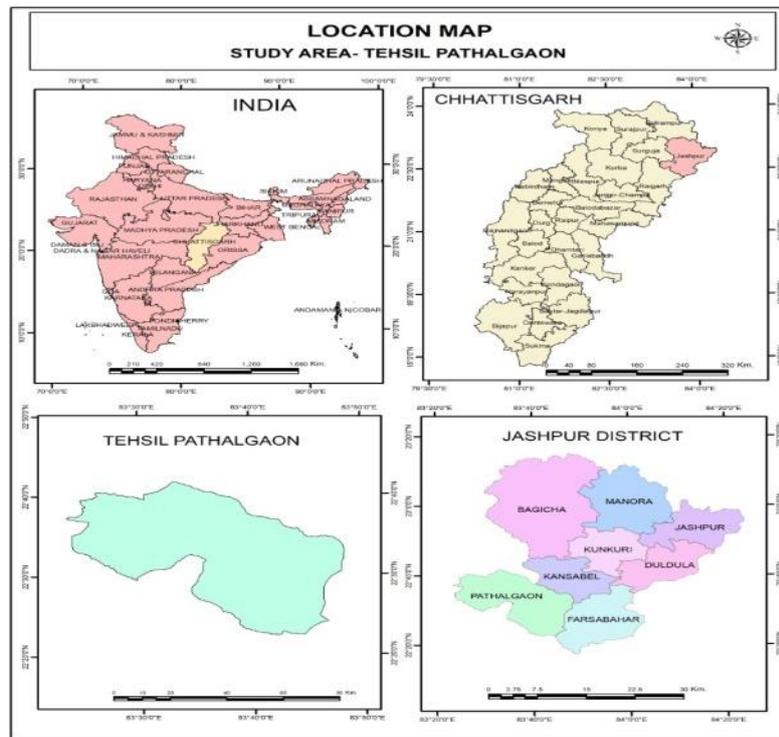


Fig. no.1: Location map of the study area

OBJECTIVES:

The main objectives of the present study are as follows -

- (1) To finding out the food consumption pattern by the Oraon tribes population in the study area.
- (2) To analyze the emerging nutritional levels among the Oraon tribal population living in different parts of tehsil pathalgaon in Jashpur district.

SOURCES OF DATA:

This research paper has been based on both the primary data and secondary data. Primary data are obtained from the head of every selected household of sample villages from the rural areas in tehsil pathalgaon of Jashpur district through schedule survey method whereas as a research tools the observation and interview methods are also included. The Secondary data has been collected from the district statistical handbook of Jashpur district and Patwari of every sample villages in the study area.

COLLECTION OF DATA AND RESEARCH METHODOLOGY:

The sample villages and households have been selected from the tehsil pathalgaon through random sampling method (Probability Sampling). Thus in total 15 sample villages and 200 households have been selected from the rural areas in tehsil pathalgaon of Jashpur district for the primary data collection through schedule survey method. ICMR's (**The Indian Council of Medical Research**) recommends norms are used to assess the emerging nutritional levels of Oraon tribe's population in different parts of the tehsil pathalgaon. The emerging nutritional levels of the Oraon tribes population has been computed

on the basis of per capita consumption pattern of different food stuffs in a per day. The nutritional levels of Oraon tribe's population have been computed for determining the quantity of nutrients elements against per 100 grams of constituents on the basis of ICMR's recommend norms. The obtained primary data and secondary data had been processed and analyzed with the help of computer as well as quantitative techniques and cartographically presented through maps and diagrams.

DISCUSSION AND RESULTS:

[1] Socio - Economic Profiles of Oraon tribes:

The study area tehsil pathalgaon in Jashpur district is basically well known tribal areas in respect to rural settlements. According to 2011 census, in tehsil pathalgaon total scheduled tribes population is 112332 persons (66.82 %) while the total scheduled tribe's population of Jashpur district is 501130 persons (64.61 %) in respect to rural area. Oraon tribes are the most dominated tribes in tehsil pathalgaon. They are socio-economically very backward and Oraon tribes population are economically depends on agricultural activities as well as Mahua liquor business. Agricultural activities of Oraon households is influenced by the various factors like small size of landholdings, lack of irrigational facilities, poor economic conditions, primitive agrarian methods, illiteracy among the villagers, unfertile soil, irregularity & uneven distribution of monsoonal rainfall etc. Size of landholdings of Oraon tribes are varies from landless farmers (no land) to large farmers (> 4 hectares) among the selected Oraon households in sample villages. Food consumption patterns of Oraon tribes are very monotonous in daily life. They are mainly prefer local or traditional foods consumption in their daily life like - **Stale Rice (Baasi Bhaat), Suktti (Guda), dry fish (Suski), Tomato Chatni, Rice beer (Kosna) and Mahua**. The quality of life of Oraon tribes is much affected by the poverty among the Oraon households in the sample villages.

[2] Sample village wise distribution of Oraon Households:

According to household's survey under the study area tehsil pathalgaon, the sample village Gala has 227 persons Oraon population and total no. of Oraon households is 37, Ila village has 239 persons Oraon population and 41 Oraon households, Kadro village has 795 persons Oraon population and total no. of Oraon households is 139, Khada Macha village has 154 persons Oraon population and total no. of Oraon households is 26, Khutapani village has 743 persons Oraon population and total no. of Oraon households is 128, Kilkila village has 347 persons Oraon population and total no. of Oraon households is 54, Kukargaon village has 698 persons Oraon population and total no. of Oraon households is 132, Kukur Bhuka village has 1007 persons Oraon population and total no. of Oraon households is 167, Kumekela village has 139 persons Oraon population and total no. of Oraon households is 27, Lakhjhar village has 79 persons Oraon population and total no. of Oraon households is 17, Pakargaon village has 763 persons Oraon population and total no. of Oraon households is 127, Palidih village has 586 persons Oraon population and total no. of Oraon households is 97, Pangswa village has 993 persons Oraon population and total no. of Oraon households is 161, Patarapali village has 678 persons Oraon population and total no. of Oraon households is 118, Susdega village has 369 persons Oraon population and 69 Oraon households which is showing in the table no.1. For the primary data collection through schedule survey method 14, 12, 12, 11, 13, 11, 13, 14, 12, 15, 13, 10, 17, 16 and 17 no. of Oraon households have been selected from the sample village Gala, Ila, Kadro, Khada Macha, Khutapani, Kilkila, Kukargaon, Kukur Bhuka, Kumekela, Lakhjhar, Pakargaon, Palidih, Pangswa, Patarapali and Susdega respectively.

Table no.1
Showing the sample village wise distribution of households of Oraon tribes population
in Tehsil Pathalgaon

Sl. No.	Name of the Tehsil / CD-Blocks	Name of the Selected Sample Villages	Name of the Tribes	Total Oraon Population	Total number of Oraon Households	Total no. of Selected Oraon Households	Major four Crops Production in Selected Sample villages
1.	Pathalgaon	Gala	Oraon	227	37	14	Paddy, Urad dal, Groundnut and vegetables.
2.	Pathalgaon	Ila	Oraon	239	41	12	Paddy, Maize, Arhar dal and Sugarcane.
3.	Pathalgaon	Kadro	Oraon	795	139	12	Paddy, oilseeds, Groundnut and Vegetables.
4.	Pathalgaon	Khada Macha	Oraon	154	26	11	Paddy, Vegetables, Urad dal and Groundnut.
5.	Pathalgaon	Khutapani	Oraon	743	128	13	Paddy, Groundnut, Vegetables and sugarcane.
6.	Pathalgaon	Kilkila	Oraon	347	54	11	Paddy, Vegetables, Maize and Arhar dal.
7.	Pathalgaon	Kukargaon	Oraon	698	132	13	Paddy, Oilseeds, Vegetables and Groundnut.
8.	Pathalgaon	Kukur Bhuka	Oraon	1007	167	14	Paddy, Urad dal, Vegetables and Groundnut.
9.	Pathalgaon	Kumekela	Oraon	139	27	12	Paddy, Urad dal, Vegetables and Groundnut.
10.	Pathalgaon	Lakhjhar	Oraon	79	17	15	Paddy, Groundnut, Urad dal and Vegetables.

11.	Pathalgaon	Pakargaon	Oraon	763	127	13	Paddy, Vegetables, Urad dal and tomato.
12.	Pathalgaon	Palidih	Oraon	586	97	10	Paddy, Groundnut, Urad dal and Vegetables.
13.	Pathalgaon	Pangswa	Oraon	993	161	17	Paddy, Vegetables, Oilseeds and Groundnut.
14.	Pathalgaon	Patarapali	Oraon	678	118	16	Paddy, Groundnut, Oilseeds and Vegetables.
15.	Pathalgaon	Susdega	Oraon	369	69	17	Paddy, Vegetables, Potato and Urad dal.

Source: Census of India - 2011 & Households Survey by the Researcher, 2022

[3] Sample village wise Size of landholdings among the Oraon Households in Tehsil Pathalgaon:

As seen in table no.2 & fig. no.2, there has been considerable disparity is found in the size of landholding among the 200 selected sample households of Oraon tribe's population. The sample village wise total no. of selected Oraon households has been divided into five categories such as Landless (no land), Marginal farmers (< 1 hectares), Small farmers (1-2 hectares), Medium farmers (2-4 hectares) and large farmers (> 4 hectares). Out of the total selected sample 200 households or families, the landless households of Oraon tribes is 4.5 %, 41.5 % is found in the category of marginal farmers, in the category of small farmers is 30.5 %, medium farmers is 16.0 % and 7.5 % is found in the category of large farmers. The size of landholdings among the Oraon households in the sample villages is a crucial factor for the adaptation of agricultural modernization on land and productivity of various crops. As a result the poor economic condition is found among the Oraon farmers which are the reflection of marginal and small operational landholdings.

[4] Production of crops in Sample Villages:

The study area tehsil Pathalgaon are basically falls under the tribal regions and most of the peoples are economically depends on agricultural activities. Rice is the most available food stuff because of the dominance of paddy cultivation. Paddy cultivation is the major dominated crop among the all selected sample villages and it is the most livelihood work of the sample villagers. The variation of major crops production is remarkable concentrated in all sample villages due to size of landholdings, lack of irrigational facility, irregularity of monsoonal rainfall, poverty, unfertile soil, lack of agricultural modernization and illiteracy among the sample villagers.

Table no. 2
Sample village wise Size of landholdings among the Oraon households in Tehsil Pathalgaon

Sl. No.	Selected Sample villages	Size of landholdings in Oraon Households										Total no. of Selected Oraon Households	
		Landless (no land)		Marginal (< 1 hect.)		Small (1-2 hect.)		Medium (2- 4 hect.)		Large (> 4 hect.)			
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1.	Gala	01	7.1	05	35.7	04	28.6	03	21.5	01	7.1	14	7.0
2.	Ila	-	-	05	41.7	04	33.3	01	8.3	02	16.7	12	6.0
3.	Kadro	01	8.3	06	50.0	02	16.7	02	16.7	01	8.3	12	6.0
4.	Khada Macha	01	9.1	05	45.5	03	27.2	01	9.1	01	9.1	11	5.5
5.	Khutapani	01	7.7	04	30.8	05	38.4	03	23.1	-	-	13	6.5
6.	Kilkila	-	-	07	63.6	02	18.2	01	9.1	01	9.1	11	5.5
7.	Kukargaon	01	7.7	06	46.2	03	23.1	02	15.3	01	7.7	13	6.5
8.	Kukur Bhuka	01	7.1	06	42.8	04	28.6	03	21.5	-	-	14	7.0
9.	Kumekela	-	-	06	50.0	04	33.3	01	8.3	01	8.3	12	6.0
10.	Lakhjhar	01	6.7	07	46.6	05	33.3	01	6.7	01	6.7	15	7.5
11.	Pakargaon	-	-	05	38.4	05	38.4	02	15.3	01	7.7	13	6.5
12.	Palidih	-	-	04	40.0	03	30.0	02	20.0	01	10.0	10	5.0
13.	Pangswa	01	5.9	06	35.3	05	29.4	03	17.6	02	11.8	17	8.5
14.	Patarapali	-	-	05	31.2	07	43.8	03	18.7	01	6.3	16	8.0
15.	Susdega	01	5.9	06	35.3	05	29.4	04	23.5	01	5.9	17	8.5
Total		09	4.5	83	41.5	61	30.5	32	16.0	15	7.5	200	100

Source: Calculated by the Researcher based on Household Survey of 200 families, 2022.



Photo. no. 1: Family members of Oraon tribes in Gala village.



Photo. no. 2: Family members of Oraon tribes in Kumekela village.

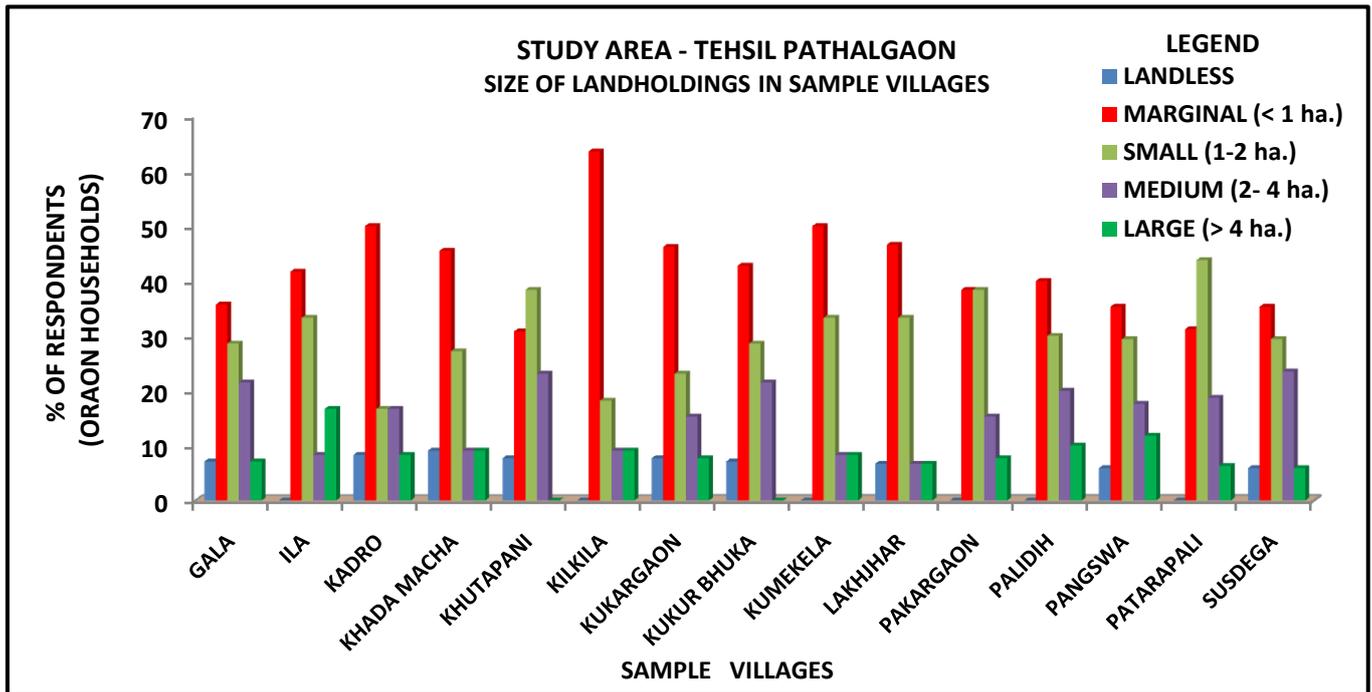


Fig. no. 2: Showing the % of Oraon household’s respondents according to their size of landholdings in sample villages.



Photo. no. 3: Family members of Oraon tribes in Pakargaon village.



Photo. no. 4: Family members of Oraon tribes in Palidih village.

[5] Availability of food stuffs and food consumption pattern by the Oraon tribes in sample villages:

The production of agricultural crops is the most livelihood work of the sample villagers and it is the major source of food availability in tehsil pathalgaon, especially in the tribal regions of rural settlement where Oraon tribes are resides. Rice is the major food stuffs of Oraon tribes because the dominance of paddy cultivation in the study area. In the sample villages, most of the Oraon tribes are consumed rice in the form of cooked rice in their daily life which is called ‘Bhaat’ and they also prefer the ‘Baasi Bhaat’ as well as rice beer (Kosna) and Mahua. In the sample Oraon households the average per capita per day consumption of different food stuffs according to their size of landholdings is showing in the table no. 3 & fig. no. 3.

The highest rice consumption by Oraon tribes is found in large farmer (> 4 hectares) household of village Kilkila (550.6 grams in per capita per day) within the sample villages; the main factor being high yield of paddy cultivation due to the irrigational facility from river Kilkila and the lowest rice consumption has been found in landless household of village gala (250 grams in per capita per day); the main determinant factor is poverty as well as depend on labour work. In the sample Oraon households the average per capita per day consumption of pulses is 12.8 grams and in average 76 grams pulses are require for a one person. So, high deficiency of pulses consumption is found among the Oraon households in the study area due to small size of landholdings. The highest pulses consumption is found in large farmer household of Kumekela village (25.2 grams in per capita per day). Most of the Oraon households in sample villages has mainly consumed the Ramtil (widely used) and mustard, groundnut are also used as oilseeds in a moderate to low quantity. The average oilseeds consumption in per capita per day is 8.8 grams. The lowest consumption of oilseeds is found in landless household of Khutapani village (4.6 grams) while the highest is found in medium farmer households of village Pakargaon (6.5 grams). The average sugar consumption by the Oraon tribes in per capita per day is 9.4 grams. The lowest consumption of sugar is found in landless household of Khutapani village (5.8 grams) while the highest is found in large farmer households of village Ila (8.6 grams).

The overall per capita per day consumption of total meat and fish has been found to be only 12.0 grams. the highest consumption of meat is found among the large farmer households of village Pangswa (29.8 grams) while moderately found in Lakhjhar village (27.6 grams) among the small farmer households and lowest is found in landless household of Susdega village (25.9 grams). Most of the Oraon households in sample villages have widely used the refine oil for cooking than mustard oil. The average consumption of cooking oil by the Oraon tribes in per capita per day is 11.4 grams. The lowest consumption of cooking oil is found in landless household of Kukur Bhuka village (4.4 grams) while the highest is found in medium farmer households of Palidih village (8.5 grams). The average consumption of mixed vegetables by the Oraon tribes in per capita per day is 40.2 grams which is much lower than the normal requirement (100 grams). The consumption of vegetables is highly found in large farmer household of gala village (72.6 grams) while lowest in landless household of Kukargaon village (22.6 grams). The average consumption of dairy foods by the Oraon tribes in per capita per day is 17.5 grams. The lowest consumption of dairy foods is found in landless household of Khada Macha village (10.0 grams) while the highest is found in large farmer household of Kumekela village (24.8 grams).

Table no. 3
Consumption of different food stuffs by the Oraon tribes in sample villages
(Per capita per day in Grams)

Intake food stuffs by the Oraon tribes	Size of landholdings in selected sample villages					Average intake
	Landless (no land)	Marginal (< 1 hect.)	Small (1-2 hect.)	Medium (2- 4 hect.)	Large (> 4 hect.)	
Rice	209.3	412.2	417.6	429.0	331.4	359.9
Pulses	6.4	13.5	14.8	15.6	13.8	12.8
Oilseeds	4.6	7.9	9.4	10.5	11.6	8.8
Sugar	5.8	8.7	9.9	10.8	11.9	9.4
Meat / Fish	6.9	9.8	15.8	13.2	14.3	12.0

Cooking Oil	7.4	10.2	13.0	14.2	12.3	11.4
Mixed Vegetable	24.5	42.6	44.3	46.4	43.1	40.2
Milk / Dairy foods	10.0	15.0	17.5	20.0	25.0	17.5

Source: Calculated by the Researcher based on Household Survey of 200 families, 2022.

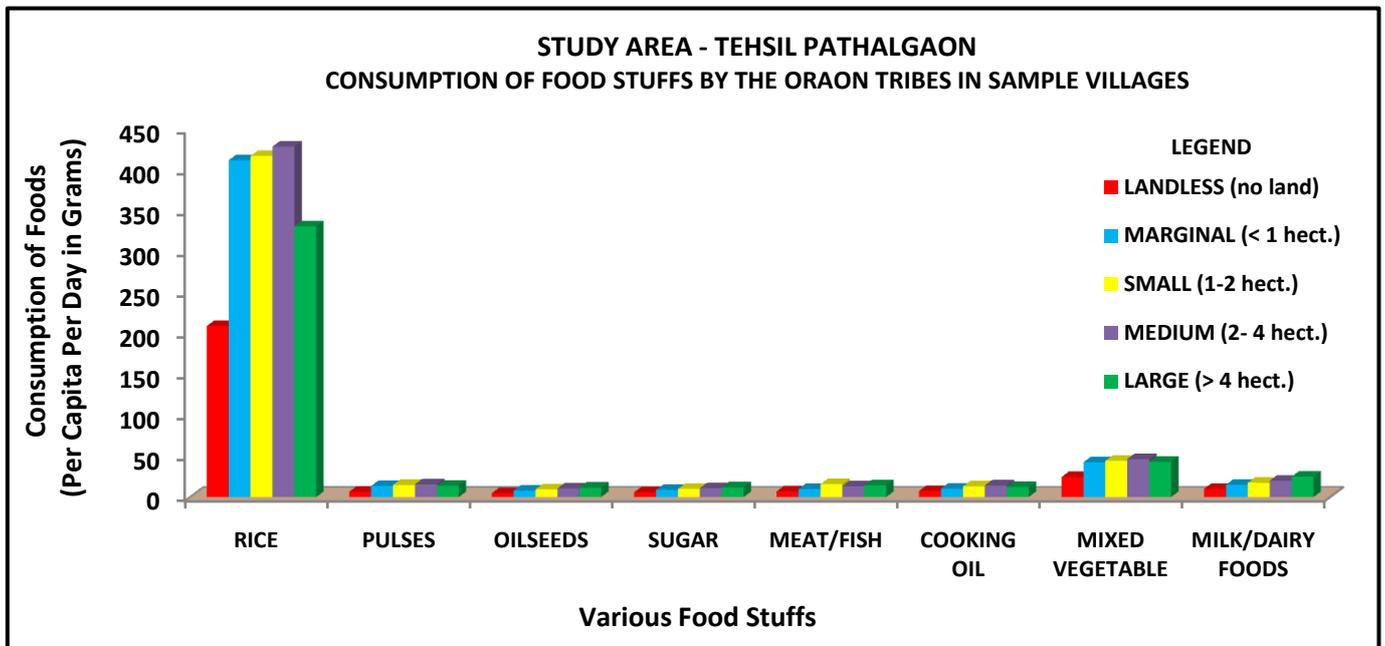


Fig. no. 3: Showing the consumption of different food stuffs by the Oraon tribes according to their size of landholdings in sample villages.

[6] **Intake of nutritional elements by the Oraon tribes and emerging nutritional levels of Oraon tribes in sample villages:** - The emerging nutritional level of Oraon tribes in sample villages has been computed on the basis of per capita per day consumption of various food stuffs such as rice, pulses, oilseeds, sugar, meat/fish, cooking oil, mixed vegetables, dairy foods and consumption of local foods also which are available in their daily life. Considering the recommended norms of nutrients requirement in per capita per day which is given by ICMR, the emerging nutritional level of Oraon tribes has been computed for determining the actual quantity of nutrients against per 100 grams of edible portion. Balanced diet compositions and actual intake of nutrient elements in per capita per day by the Oraon tribes population in sample villages of tehsil pathalgaopn is showing in the table no. 4 & fig. no. 4.

Intake of Calorie:

Calorie is one of the most important nutritional elements in various foods; it is providing the energy to human body. The requirement of calorie intake is varies among the children, adult and old persons (men and women). The average calorie intake per capita per day in sample villages among the Oraon tribes was found to be 1718.7 kcl which is less than the requirement norm (2400 kcl.) given by the ICMR. The variations in size of landholdings among the Oraon households are responsible factor for this difference between the actual intake and requirement of calorie. The widely variation is found among the Oraon households in per capita per day calorie intake on the basis of their different size of landholdings. Calorie intake by the Oraon tribes is ranges from 964.5 kcl among the landless households to 2165.4 kcl among the large farmer’s households. Highest intake of calorie is found in large farmer household of village Kilkila (2165.4 kcl) and lowest is found in landless household of Gala village (964.5 kcl).

Table no. 4
Tehsil Pathalgaon: Balanced diet Compositions and Actual intake of nutrient elements
in per capita per day by the Oraon tribes population

Nutrient Elements	Requirement Nutrients based on ICMR's Norms	Size of landholdings in selected sample villages					Average intake
		Landless (no land)	Marginal (< 1 hect.)	Small (1-2 hect.)	Medium (2- 4 hect.)	Large (> 4 hect.)	
Calorie	2400 kcl.	964.5	1729.6	1812.6	1921.6	2165.4	1718.7
Protein	55 gm.	22.3	44.9	45.8	47.2	37.9	39.6
Calcium	400 mg.	87.12	144.56	145.34	157.21	143.34	135.5
Vitamin - 'A'	3000 iu.	1232	1911	2021	2079	1810	1810.6
Vitamin - B ₁ (Thymine)	1.2 mg.	0.6	0.82	0.94	0.98	0.86	0.84
Vitamin - B ₂ (Riboflavin)	1.32 mg.	0.5	0.98	1	1	0.9	0.88
Vitamin - 'C'	50 mg.	24.1	41.4	42.9	46.1	42.4	39.4
Iron	20 mg.	9.23	17.87	19.12	20.11	15.23	16.3

Source: Calculated by the Researcher based on Household Survey of 200 families, 2022.

(Abbreviations: hect. = Hectares, kcl. = Calorie, gm. = Grams, mg. = Milligrams, iu. = International unit.)

Intake of Protein:

As a nutrient element Protein is a very important component for our body. The human beings cannot live without protein because it is essential for the development of human brain as well as new cells in human body. The average protein intake by the Oraon tribes of sample villages in per capita per day is found to be 39.6 grams which is less than the recommended norm of 55 grams given by the ICMR. Protein intake by the Oraon tribes is ranges from 22.3 grams among the landless households to 37.9 grams among the large farmers. The actual intake of protein by the Oraon tribe's population is less than the recommend norm due to the consumption of traditional foods which are available in their daily life and it is also affected by the poverty among the Oraon households. Highest intake of protein is found in medium farmer household of village Kumekela (47.2 grams) and lowest is found in landless household of Khada Macha village (22.3 grams).

Intake of Calcium:

As mineral element calcium is very essential for growth of a human body and it is also keeps the water balance in our body. Calcium is a much needed more than any other minerals. Calcium received from the milk, dairy foods, small fishes and green leafy vegetables with sufficient quantity and it is also found in some cereals crops as well as meat with small quantity. In the sample villages among the Oraon households the average per capita per day consumption of calcium by the Oraon tribes is 135.5 milligrams which is very low in comparison of requirement amount (400 milligrams) which is recommended by ICMR. Calcium intake by the Oraon tribes is ranges from 87.12 milligrams among the landless households to 143.34 milligrams among the large farmers. Consumption pattern of calcium by the Oraon tribes is directly correlated with the size of landholdings and it is also influenced by the poverty as well as intake of calcium reach foods with very low quantity. Highest intake of calcium is

found in medium farmer households of Gala village (157.21 milligrams) and lowest is found in landless household of Kukargaon village (87.12 milligrams).

Intake of Vitamin - 'A':

On the basis of ICMR's recommended norms, 3000 International Unit of vitamin - 'A' has needed for every person in their daily diet. It is obtained from milk, meat, eggs, papaya, mango, carrot, spinach and green leafy vegetables etc. and vitamin - 'A' significantly contributed to the overall development in our body. In the surveyed sample households of Oraon tribes the average per capita per day consumption of vitamin - 'A' is 1810.6 International Unit which is quite less than the recommended amount of 3000 International Unit given by ICMR. The lower level consumption of vitamin - 'A' has been found among the Oraon households in the sample villages due to lack of balanced diet, highly use of cereals and not consumed the vitamin - 'A' reach foods like fruits, milk, vegetables in regularly (It is highly influenced by the poverty). Highest intake of vitamin - 'A' is found in medium farmer households of Gala village (2079 iu.) and lowest is found in landless household of Kukargaon village (1232 iu.).

Intake of Vitamin - B₁ (Thymine):

The soluble form of vitamin - B₁ is known as Thymine. Beriberi disease is caused by the deficiency of vitamin - B₁ and it has an important role for our health. In the surveyed sample households of Oraon tribes the average per capita per day consumption of vitamin - B₁ is 0.84 milligrams which is less than the recommended value of 1.2 milligrams given by the ICMR. The very worst situation is found among the landless households of Oraon tribes, they consumed only 0.6 milligrams vitamin - B₁ in their daily life. Intake of vitamin - B₁ by the Oraon tribes is highly varies from 0.6 milligrams among the landless households to 0.86 milligrams among the large farmers. This variation is the result of small size of landholdings, low agricultural production and poor economic conditions. Highest intake of vitamin - B₁ is found in Medium farmer household of village Kumekela (0.98 milligrams).

Intake of Vitamin - B₂ (Riboflavin):

Vitamin - B₂ (Riboflavin) is built up a red cell in human body and it is very helpful for digestion process as well as also protects the skin. Vitamin - B₂ (Riboflavin) is obtained from milk, dairy foods, pulses, oilseeds, green leafy vegetables, meat and eggs. The recommended value of Vitamin - B₂ (Riboflavin) is 1.32 milligrams in per capita per day while the average Vitamin - B₂ (Riboflavin) intake by the Oraon tribes of sample villages in per capita per day is found to be 0.88 milligrams which is less than the requirement value. Consumption of Vitamin - B₂ (Riboflavin) by the Oraon tribes is ranges from 0.5 milligrams among the landless households to 0.9 milligrams among the large farming households due to the dominance of paddy cultivation, irregular consumption of Vitamin - B₂ (Riboflavin) reach foods and they have not sufficient money for purchase the Vitamin - B₂ (Riboflavin) reach foods. Highest intake of Vitamin - B₂ (Riboflavin) is found in small & medium farmer households of village Pangswa (1 milligrams) and lowest is found in landless household of Susdega village (0.5 milligrams).

Vitamin - 'C' Intake:

Vitamin - 'C' is one of the most important nutrient element for human health. It is very essential for proper functioning of human body, protect from contagious diseases, strength of teeth, bone strength and respiratory functions of body. Vitamin - 'C' is obtained from green vegetables and seasonal fruits like Aamla, Ber, Mango, Guava etc. The recommended value of Vitamin - 'C' is 50 milligrams in per capita per day while the average Vitamin - 'C' intake by the Oraon tribes of sample villages in per capita per day

is found to be 39.4 milligrams which is less than the requirement value. Consumption of Vitamin -‘C’ by the Oraon tribes is ranges from 24.1 milligrams among the landless households to 42.4 milligrams among the large farming households due the dominance of paddy cultivation as well as poorness among the Oraon households is also responsible factor. Highest intake of Vitamin -‘C’ is found in medium farmer households of village Gala (46.1 milligrams) and lowest is found in landless household of village Kukargaon (24.1 milligrams).

Intake of Iron:

Iron is quite significance for human body. Iron is a mineral which is very essential for growth and development of human body. Our body uses the iron to make hemoglobin, a protein in red blood cells that carries oxygen from the lungs to all organs of our body. According to ICMR’s norms, 20 milligrams iron is necessary for a healthy person in per day. In the sample villages among the Oraon households the average per capita per day consumption of iron by the Oraon tribes is 16.3 milligrams which is less than the requirement value (20 milligrams); this being due to the dominance of paddy cultivation as well as lesser consumption of pulses and green vegetables by the Oraon tribes in sample villages. Highest intake of Iron is found in small & medium farmer households of village Pangswa (19.12 milligrams & 20.11 milligrams) and lowest is found in landless household of village Susdega (9.23 milligrams).

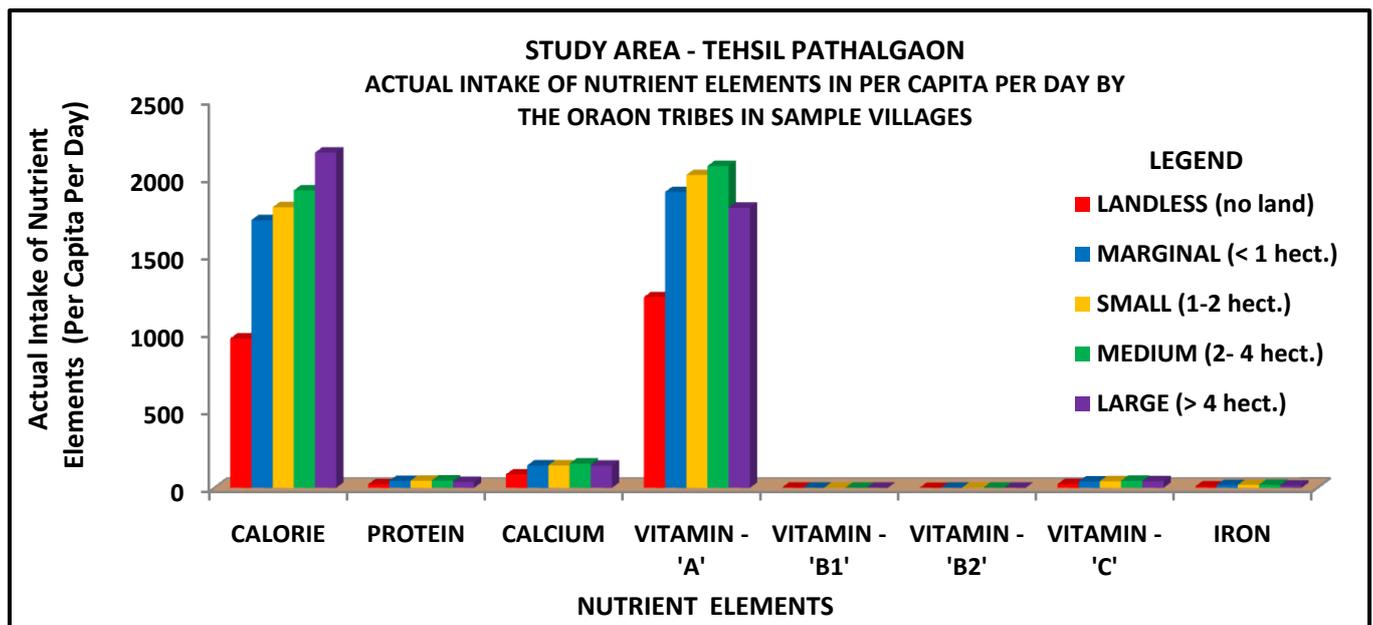


Fig. no. 4: Showing the actual intake of nutrient elements in per capita per day by the Oraon tribes in sample villages according to their size of landholdings.

[7] Nutrients deficiency diseases among the Oraon tribes in Sample Villages:

The present study area tehsil pathalgaon is mainly dominated by paddy (rice) cultivation which is rich in carbohydrates but other nutrient elements are deficient in nature. Cereals foods are moderately available in the study area but in respect to proper nutrient elements most of the Oraon households in the sample villages have deficient in Calorie, Protein, Iron, Vitamin - ‘A’, Vitamin - ‘B’ and Vitamin - ‘C’. Most of the Oraon households are largely depends on production of food crops (mainly paddy crop) which is the key factor of deficient nutrients among the Oraon tribes in the sample villages. A remarkable finding of this study area is that Oraon tribes were severely undernourished, as indicated by their low

BMI (Body Mass Index) as well as most of the Oraon tribes are suffering from malnutrition due to the deficiency of nutrient elements. Intakes of nutrient foods by the Oraon tribes are more associated with the traditional or local foods consumption, small size of landholdings, low agricultural production and economically depend on paddy cultivation. Nutritional deficiency of Oraon tribes is also concerned with the poverty among the Oraon households in the sample villages.

CONCLUSION:

The Oraon household's population in tehsil pathalgaon of Jashpur district is basically depends on agricultural production for their daily life consumption because villagers of the study area are socio-economically backward in nature. In the study area low agricultural production is found due to the backwardness of socio-economic conditions, traditional agrarian methods, lack of irrigational facility, not use of modern agricultural technology, mass of illiteracy among the Oraon villagers and Oraon tribal population are unknown about the modern agricultural practices. The low agricultural production in the study area is directly effects on the food consumption pattern by the Oraon tribes. Consumption of nutrient elements (food stuffs) is directly related to the size of landholdings and intake of nutrients by the Oraon tribes is usually increases with the increasing size of landholdings. The large size of landholding households has more consumption of diversified food stuffs for nutrition in the study area than the landless or marginal or small size of landholding households. For the development of nutritional levels of Oraon tribal population is facilitate, the government should provides the appropriate guidelines for the high agricultural practices through the use of modern agricultural technology and arrangement of motivational programmed by their local languages for the awareness about modern agricultural practices as well as interrelationship between agricultural production and nutrition.

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