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1. INTRODUCTION

Malnutrition is a one of worst public health problems in a country, which prevents the nation to become self-sufficient and it causes a population nothing but dump. India is not a exception of them. Malnutrition is always a curse to India but the Government of India has made constant effort to combat against this problem by adopting several intervention programmes. The programmes are discussed under the following heads (Das.S).

- Integrated Child Development services (ICDS) Scheme
- Nutrient Deficiency Control Programmes
- Food Supplementation Programmes
- Food Security Programmes : Food availability enhancement Programmes and Self Employment and Wage Employment Schemes

1.1 Integrated Child Development Services Scheme

The Integrated Child Development Services (ICDS) scheme is the country's most comprehensive and multi-dimensional programme.

The ICDS Scheme (one of world's largest and most unique programme for early child development) was launched on 2nd October'1975 under the 5th Five year plan and in pursuance of the National policy for children in 33 experimental blocks.

The ICDS is the most unique programme implemented by Department of Women and Child Development, Ministry of Resources Development at the centre and the nodal departments at the state which may be Social Welfare, Rural Development, Tribal Welfare. Health and Family Welfare or Women and Child Development.

The ICDS is the foremost symbol of India's commitment to her children; India's response to the challenge of providing pre-school education on one hand and breaking the vicious cycle of malnutrition, morbidity, reduced learning capacity and mortality on the other.(Das.S)

ICDS is designed to promote holistic development of children. It provides the convergent interfere / platform between communities and other systems such as primary healthcare, education , water and sanitation among others.

The programme has the potential to break intergenerational cycle of undernutrition as well as address the multiple disadvantages faced by girls and women but with adequate investment and enabling environment. (ICDS MISSION –GOI)

Background :

The researcher has given the earlier noted studies pertaining to the problem identified and are listed in this part. The report of Comptroller and Auditor General of India on Assam, 2014 reported that the performance of ICDS in Assam is poor. There has been massive leakages in providing funds to the AWCs. Moreover, the monthly salary that needs to be allocated to the Anganwadi Workers should be a minimum of □ 1000 per month. It was also found that these workers are paid an amount of □ 900 per month. Moreover, the report also mentioned that large number of Anganwadi Centres are not operational even though it was reported functioning without any barriers. There were many primary schools who have marked present for the children in spite of the children being absent in order to gain funds from the government.

Integrated Child Development Service (ICDS) was initiated on 2nd October 1975 under Ministry of Women and Child Development, Government of India for providing special

health care in terms of health services and nutrition to children under the age group of 0-6 years and for pregnant and lactating women. The scheme is flagship programme which is

worldwide popular as the largest and unique programme for the early childhood care and

development. This scheme is aimed to improve the health condition of the children by

providing nutritious cooked food to pre-primary school children during lunch hours. The scheme also provides medical facilities such as providing tablets for fighting against vitamin and iron deficiency aimed to reduce malnutrition. Pregnant and lactating women are also provided with cooked nutritious food and also by providing medical facilities necessary during pregnancy period focusing on reducing anaemic. The scheme also provides educational services regarding health care and hygiene by the appointed workers. The scheme has opened various Anganwadi Centres (AWC) under which several Anganwadi workers (AWW) and Anganwadi Helpers (AWH) are appointed for looking after the scheme ICDS has its own objectives. They are: a) to improve the nutritional and health status of the children in the age group of 0-6 years; b) to lay the foundation for proper psychological, physical and social development of the children; c) to reduce the incidence of mortality, morbidity, malnutrition and school drop-outs;) to achieve effective co-ordination of policy and implementation amongst the various departments to promote child development; and to enhance the capability of the mother to look after the normal health and nutritional needs of the children through proper nutrition and health education.

ICDS has played an important role in the development of health of child and women in India. According to the World Bank Report 2015, Infant Mortality Rate (IMR) has been reducing since 2010. It also reveals that the rate has been reduced from 46 per 1000 life birth of child in 2010 to 39 per thousand life birth in 2014.In connection with Maternal Mortality Rate (MMR) was targeted to reduce from 220/1,00,000 lives to 190/1,00,000 during the corresponding period. The reduction of IMR and MMR is the result of the proper working of ICDS and other related schemes (World Bank, 2015). In India, there are currently 7075 ICDS projects sanctioned. Out of this, Tamil Nadu and Assam covers 434 and 223projects respectively (ICDS Report, 2015). During the ongoing Twelfth Five Year Plan, the Ministry of Women and Child Development have sanctioned a sum of 10,382 crores out

of which 8,754 crores have been allocated to ICDS scheme. This allocation is nearly 3-fold of the amount sanctioned in the Eleventh Plan. Tamil Nadu's progress of health services through ICDS has been improving at an increasing rate (ICDS Report 2015). The provision of various facilities to the AWWs and AWHs has given a remarkable response in terms of enrolment into the scheme. Tamil Nadu government has provided all kind of facilities for its workers such as proper uniforms to the workers of the ICDS and also ensured pension and job guarantee. It also noted for the same report that the number of beneficiaries under the scheme has been increasing from 23 Lakhs in 2001 to 32 Lakhs in 2015. On the other hand, the allocation of sanctioned AWCs in Assam is almost half of sanctioned AWCs in Tamil Nadu. The performance of ICDS in Assam is growing at a faster pace. The Supplementary Nutrition services provided has increased from nearly 10 Lakhs in 2001 to 40 Lakhs in 2015. ICDS has thus a positive impact on health in the two states (ICDS Report, 2015).

1.2 Objectives of ICDS:

The objectives ICDS scheme are-

- to improve the nutritional and health status of in the age group 0 to 6 years
- to lay the foundations for proper psychological, physical and social development of the child.
- to reduce the incidence of mortality, morbidity malnutrition and school dropout.
- to achieve effective co-ordination of policy and implementation amongst the various departments to promote child development, and
- to enhance the capability of the mother to look after the normal health and nutritional needs of the child through proper nutrition and health education

1.3 Beneficiares

- Children below six years
- Expectant and Nursing mothers
- Adolescent girls
- Women in the age group 15 to 45 years.

1.4 Programme components:

Program components / package of services: ICDS provides a package of integrated services in a comprehensive and cost effective manner to meet the multi-dimensional and interrelated needs of children. The concept of providing a package of services is based primarily on the consideration that the overall impact will be much larger if the different services develop in an integrated manner as the efficacy of a particular service depends upon the support it receives from related services. The package of services provided by ICDS scheme includes-

a. Supplementary Nutrition

b. Growth monitoring

c. Health checkup

d. Referral services Immunization

e. Early childhood care and preschool education

f. Health and nutrition Education

g. Supportive services

h. Adolescent girls scheme (Under Kishori Shakti Yojona)

INTEGRATED PACKAGE OF SERVICES UNDER ICDS	
Nutrition Growth monitoring Nutrition and health education	**Supportive services and convergence** Supportive services, such as safe drinking water, environmental sanitation, women's Empowerment programmes and adult literacy.
Health Health check up Immunization Identification and treatment of common childhood illness and minor ailments Referral services.	**Early childhood care & preschool education** Early care and stimulation of children under 3 years. Preschool education to children in the 3 to 6 years Age group.

a. **Supplementary nutrition:** The Supplementary nutrition is given to children below 6 years of age and pregnant and nursing mothers from low income families. The provision of supplementary nutrition includes supplementary feeding and distribution of nutrient supplements-

- **Supplementary feeding:** At the ICDS centre, supplementary Food is provided with an aim to meet the gap of nearly 1/3 of calories and 1/2 of the protein requirements for a day of children below 6 years as well as of adolescent girls, pregnant woman and nursing mothers.

Supplementary Food is provided for 300 days in a year which means six days per week or 25 days per month.

Supplementary Food, given to severely malnourished children is twice the quantity (double ration) given to moderately malnuourished children.

While distributing supplementary foods, special attention is given to children below 3 years of age.

Supplementary foods, should include mixture Distribution of cooked supplementary foods of cereals (wheat, rice, maize, jowar, bajra, to pre-school children in an ICDS centre. ragi) pulses (soyabean, gram, channa, moong, arhar, masoor etc); green leafy vegetables and fruits, oil and oilseeds (ground nut, mustard, sesame, coconut or soyabean oil) and sugar or jaggery. Hygiene and cleanliness should be maintained during cooking and distribution of supplementary hot cooked meal.

ICDS SUPPLEMENTARY FOODS RECOMMENDATION		
Beneficiaries	**Nutritional contribution**	
	Energy (Kcal)	**Protein (g)**
Children (0 to 3 years) (3 to 6 years)	500	12 to 15
Severely malnourished children (6 months to 72 months)	800	20 to 25
Pregnant woman and nursing mothers / adolescent Girls (Under KSY)	600	18 to 20

Under the revised nutritional and feeding norms (2010) for supplementary nutrition, State Government / UTs have been mandated to provide more than one meal to children who came to AWCs, which included providing a morning snack in the form of milk/banana/egg/seasonal fruit/micro-nutrient food followed by a hot cooked meal.

For children below 3 years of age, expectant and nursing women, "take-home ration" is to be provided.

The meals are given irrespective of economic status of the beneficiaries. Thus the scheme is universal.

As per Financial norms the cost of meal are as shown in the following table :

ICDS MEAL COST ALLOCATED TO BENEFICIARIES	
Benficiary	**Cost of supplementary meal**
Child (6 to 72 months)	Rs. 6.00 per child per day
Child (6 to 72 months) severely malnourished	Rs. 9.00 per child per day
Pregnant and nursing woman	Rs. 7.00 per beneficiary per day

- **Micronutrient supplements distribution:**

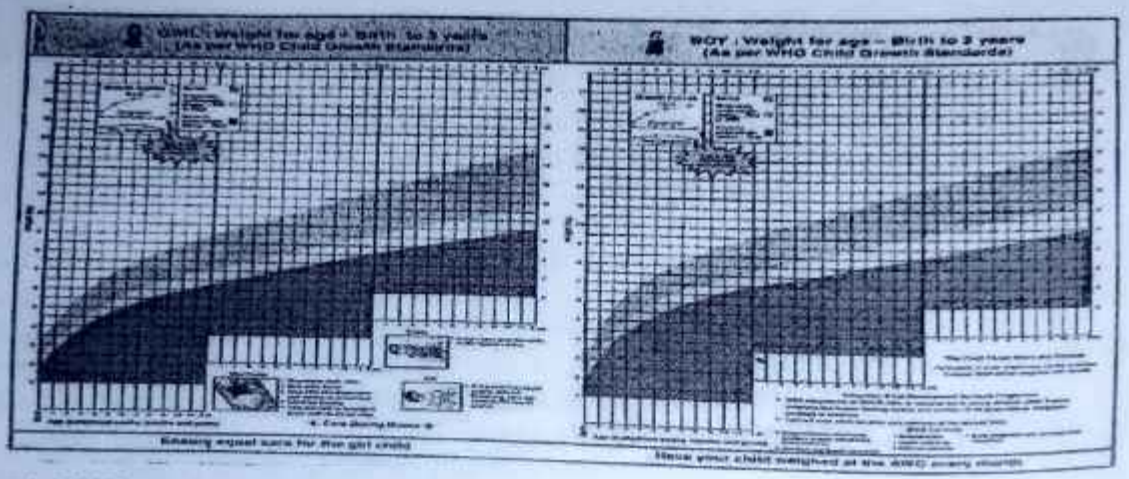
Vitamin-A supplementation: At the AWC children are administered Vitamin-A at periodic intervals according to their age to prevent Vitamin-A deficiency.

Age	Dose of vitamin-A
Children (6 to 11 months)	One dose of 1,00,000 I.U of vitamin-A orally (measles immunization is a good to give a routine dose)
Children (1 to 5 years)	One dose of 2,00,000 I.U of vitamin-A orally every six months

Iron and folic supplementation: All pregnant women and children (1 to 5 years) are given Iron and Folic Acid (IFA) tablets to prevent anaemia as per the following recommended dose irrespective of their haemoglobin status.

Beneficiary	Dose	Qqantity
Pregnant woman	1 Big tablet (each tablet containing 100 mg of elemental iron and 0.5 mg (500 µg) folic acid	1 tablet/day for 100 days (in 3rd trimester of pregnancy)
Children (1 to 5 years)	1 small tablet (each tablet containing 20 mg elemental iron and 0.1 mg (100 µg) folic acid	1 tablet/day for 100 days every year

b. Growth monitoring: The Growth monitoring is a tool for preventing malnutrition and for early detection of growth faltering. Body weight is an easily measurable parameter and can be interpreted by the AWW using New WHO growth chart (2008) to assess the child health and nutritional status. The New WHO growth standard chart helps to measure :



The WHO standard deviation weight-for-age growth chart for monitoring growth of boys and girls (from birth to 3 years) followed regularly in ICDS centres.

- Change in current estimates
- increase in total of normal weight children.
- increase in severity underweight children.
- increase in underweight children (mild/ moderate and severe) in age group of 0 to 6 months

The New WHO growth chart adopted by ICDS is weight for age chart. Using the chart, the mothers could be educated regarding - (i) Childs' growth (ii) dietary requirements (ii) proper diet and cooking methods (iv) proper feeding procedure (quantity and frequency of feeding).

c. Health check-up: It is provided for Antenatal care of expectant mother, post-natal care for nursing mothers. Care of New born babies and care for all children below 6 years of age. Expectant mothers are given a health checkup and provided with iron and folic acid tablets. The various health services provided for children by Anganwadi Workers (AWW) and Primary Health Centre (PHC) staff, include regular health check-up, recording of weight, immunization, management of malnutrition, treatment of diarrhoea, de-worming and distribution of simple medicines etc.

d. Referral services: During the health check-up and growth monitoring, sick or malnourished for children in need of prompt medical attention, are referred to the Primary Health Centre or its sub centre. The AWW has also been oriented to detect disabilities in young children. She enlists all such cases in a special register and refers them to the medical officer of the Primary Health Centre / Sub-Centre.

e. Immunization: All children below the age of 6 years are to be immunized against six vaccine preventable diseases poliomyelitis, diphtheria, pertussis, tetanus, tuberculosis and measles. These are major preventable causes of child mortality, disability, morbidity and related malnutrition. Immunization of pregnant women against tetanus also reduces maternal and neonatal mortality.

f. Early childhood care and non-formal pre-school education: The Early Childhood care and Non formal Preschool Education component of the ICDS may well be considered the backbone of the ICDS programme, since all its services essentially converge at the Anganwadi-Centre; a village country yard is the main platform for delivering of these services. Preschool activities are organized in order to develop desirable attitude and behavioural problems among children. The child is encouraged and stimulated to learn at his / her own pace. Play and other activities are organized with inexpensive **locally available** materials or toys. It also contributes to the universalization of primary education.

g. Health and nutrition education: Nutrition, Health and Education (NHED) **is a** key element of the **work of** the AWW. This forms **part** of **BCC** (Behaviour Change Communication) strategy. **It is** offered to all women in **the** age group of 15 to 45 years especially for nursing and expectant mothers. Health and Nutrition Education are imported through specially organized courses or talks **in the** project areas, home visit by Anganwadi Workers/Supervisors, cooking demonstration, use of mass media and so on.

h. Supportive services: ICDS scheme also provides supportive services like water **supply,** sanitation, functional literacy to adult women **etc**.

1.5 Schemes for the adolescence girls:

Schemes	Beneficiaries	Programme components
Kishori Shakli Yojona (KSY)	Adolescent Girls (11 to 18 years)	Services to improve the nutritional, health and development status of ado- lescent Girls, Promotion of awareness in health hygiene and family care, lit- eracy and learning numerical skills, vocational skill etc. implemented in 6118 blocks
Nutrition Programme for Adolescent Girls (NPAG)	Adolescent girls (11 to 19 years) weighting less than 35 kg.	6 kg. of free food grain is provided per beneficiary per month. This pilot project implemented in 51 identified districts from major state. Nutritional health education are given to benefi- ciaries and their families
Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (SABLA)	Adolescent Girls (11 to 18 years)	Services to improve nutrition and health status by making provision of supplementary nutrition (600 Kcal and 18g protein) at the rate of Rs. 5.00 per beneficiary/day for 300 days in a year for 11 to 14 years out of school girls and all girls in the age group of 15 to 18 years. In addition National Health Edu- cation, life skills education are also im- ported to make them selfsufficient

1.6 Administrative and organizational set up for ICDS :

Programme implementation and monitoring: The ICDS has well planned administra- tive and organizational set up.

The Administrative Unit for the location of an ICDS project is a community Development Block at the rural areas, a tribal Development Block in tribal areas and a group of slums in urban areas.

An 'Anganwadi' is the focal point for the delivery of services to children and mothers at their door steps.

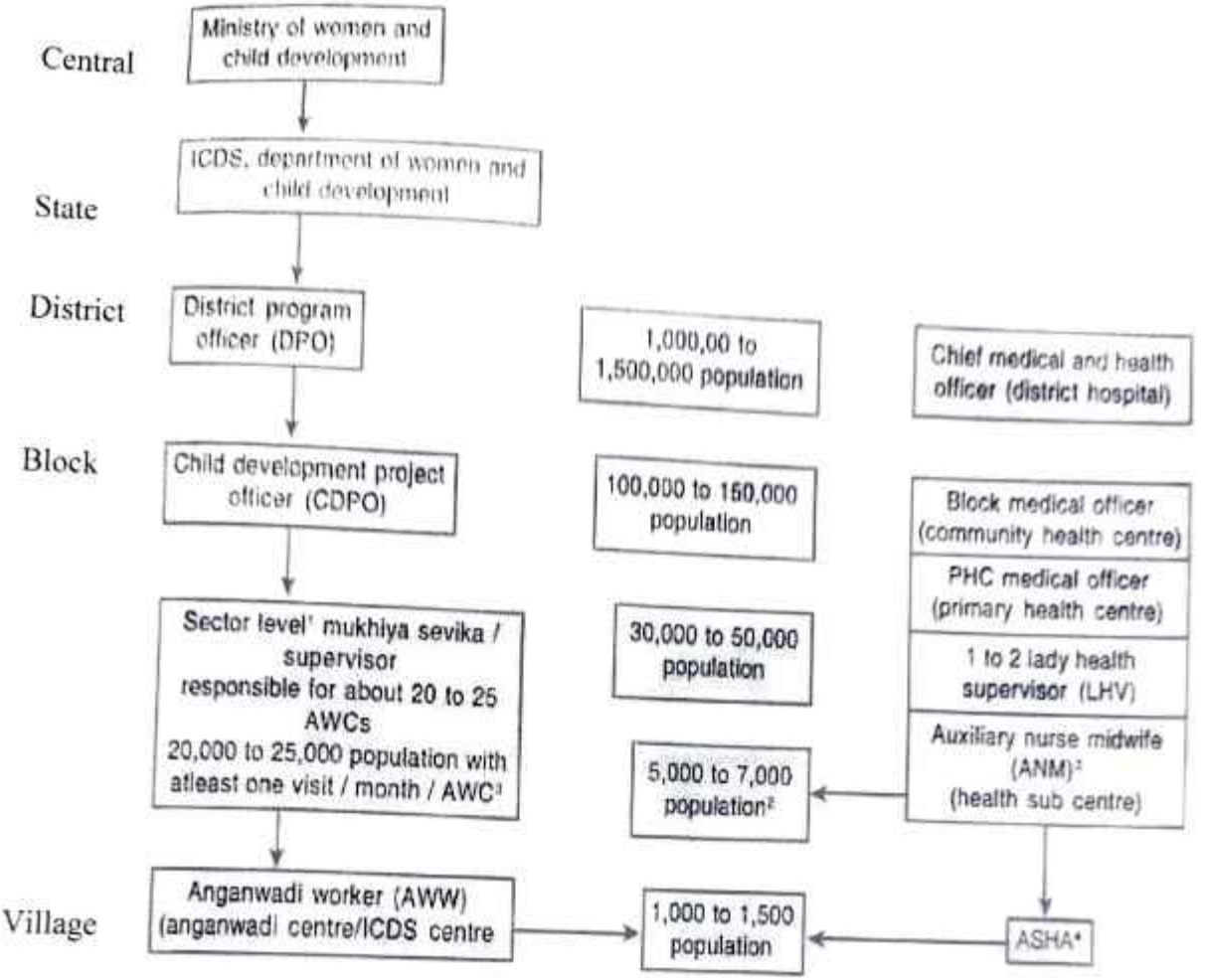
An Aganwadi centre normally covers a population of 1000 in rural & urban areas, and 700 in tribal areas. The number of Anganwadis in any project can be increased according to local needs on the basis of population, topography number of villages etc.

Services at the Anganwadi are delivered by an Anganwadi Worker (AWW), a part time honorary worker, receiving an honorarium depending on her educational qualification. She is assisted by a helper.

The work of Anganwadi worker is supervised by supervisor termed as Mukhya Sevika (MS). They are appointed at the proportion of one for 25, 20 and 17 anganwadis in urban, rural and tribal project respectively.

The supervisor is control by the Child Development Project Officer (CDPO), assisted by a Assistant CDPO. The CDPO is directly responsible for each ICDS project at the block level. The Medical officer in charge is employed in a PHC.

In the administrative hierarchy there is a programme officer above CDPO, who in turn is accountable to Assistant Director. State level Department of social Welfare is headed by Director of the Joint Director. The flow chart showing Administrative set up of ICDS is presented below:



ICDS and health systems from central to village.

1. Villages covered by Lady Health Supervisor (LHV) and Mukhiya Sevika / Supervisor are not necessarily the same.

2. Health sub-centre is recommended to cover about 5,000 population.

3. ANM's monthly visit to villages is normally based on microplan prepared for immunization coverage-atleast one visit/village/ month on the days fixed for immunization.

4. Accredited Social Health Activist (ASHA)

1.7 Number of monitoring system under ICDS scheme :

- At central level the monitoring system overall responsibility is on Ministry of Women and Child Development (MWCD). The central level ICDS Monitoring unit in the Ministry

  is responsible for collection and analysis of the periodic work reports.

- At the state Level, the various quantitative input gathered in CDPO's Monthly Progress Report (MPR) or Half-Yearly Progress Report (HPR) are compiled for all project in the states.

- At the block level, the CDPO is in the in charge of an ICDS project. CDPO's MPR and HPR have been prescribed at block level.

- At the grass-root level, delivery of various services to target groups is given at the AWC which is maintained by AWW and AWH. In the Management Information System (MIS) records and registers are prescribed at the Anganwadi level or village level by filling up and submitting MPR and HPR.

1.8 Evaluation of ICDS scheme:

A number of evaluation studies on implementation of ICDS scheme have been conducted in the past viz. Programme Evaluation organization of the Planning Commission in 1982, National Evaluation of ICDS Scheme conducted by National Institute of Public Cooperation and Child Development (NIPCCD) in 1992, Evaluation Results of Annual Survey during 1975 to 1995 and Nationwide Evaluation of ICDS by National Council of Applied Economic Research (NCAER) 1998 to 1999. The Main findings of study conducted by NCAER (1996 to 2001) are :

- Most of the AWCS across the country were found to be located within accessible distance (100 to 200 meters) from beneficiary households.
- 50% of AWCs reported to have adequate space for cooking.
- 84% of functionaries reported to have received training.
- Participation of beneficiary women and adolescent girls in AWC activities was reported to below.

A Rapid facility survey by NCAER (2004 to 2005) showed the following findings :

- More than 40% of AWCS across the country are neither housed in ICDS building nor in rented buildings.
- Only 50% Anganwandis reported providing referral services, 65% health check-up of children, 53% of health check-up of women and more than 75% of nutrition and health education.

In 2006, NIPCCD study findings showed that :

- Around 59% of AWC studied have no toilet facility and in 17% of AWCs this facility was found to be unsatisfactory.
- Around 75% of AWCs have Pucca building.
- 36.5% mothers did not report weighing of new born children.

Therefore, ICDS is a major programme channel for addressing child rights related to survival, protection, participation and development. It is considered as an unique and integrated programme having the following special features:

- Integrated package of services
- Maximum beneficiaries coverage
- Coordination mechanism
- Convergence of services
- Inter-sectoral approach

- Training set-up
- Holistic development of children
- Community empowerment
- Community participation
- Child rights conservation
- Gender equality

2. AIM AND OBJECTIVES

2.1 Aim-

- To find out the number of children being benefitted by the ICDS programme in Kesiakole.
- To monitor the growth of the children and also the updates regarding their immunization,
- To get a general overview about the beneficiaries availing ICDS programme in schools.

2.2 Objectives-

- To improve health status of the children of 6 months to 6 years in school supported under ICDS programme.
- To encourage poor and under priviledged children belonging to disadvantageous section to attend school more regularly and help them concentrate in classroom activities.
- To provide health check ups and nutritional support to the children.

METHODOLOGY

- **Sampling study area** –
  The survey was done in the ICDS centre located in Babaubandh Par ,Pathak Para,Bankura under Municipality,Ward no-08.
- **Sample size** – 16
- **Sampling technique** – It was a child development survey in a municipal area. This survey was conducted through interview technique and anthropometric assessment of children of ICDS centre

  Primarily in this survey Anthropometric assessment of 16 children was conducted by random sampling technique.

  In Anthropomentric assessment, height, weight , mid arm circumferance , chest circumference , head circumference of the children assessed.

  Through Interview technique, we collect the data of supplementary nutrition pattern , growth records and immunization records of the child.

RESULT

Table 1: FOOD STUFF OR SUPPLEMENT GIVEN TO CHILDREN PER DAY

DAYS	FOOD STUFF	NUTRIENTS	AMOUNT (gm)
Monday	Boiled rice Boiled egg	Rice Egg	50gm 30gm
Tuesday	Khichdi	Rice Lentil Potato Pumpkin Cabbage Oil	75gm 30gm 15gm 15gm 15gm 2gm
Wednesday	Boiled rice Egg curry	Rice Egg Potato Onion Oil	50gm 30gm 20gm 15gm 2gm
Thursday	Khichdi	Rice Lentil Potato Green peas Cabbage Oil	75gm 30gm 15gm 20gm 15gm 2gm
Friday	Boiled rice Egg curry	Rice Egg Potato Onion Oil	50gm 30gm 20gm 15gm 2gm
Saturday	Khichdi	Rice Lentil Potato Pumpkin Cabbage Oil	75gm 30gm 15gm 15gm 15gm 2gm

Table 2: NUTRITIONAL ANALYSIS OF THE INTAKE NUTRIENT PER DAY

DAY	FOOD STUFF	CHO (gm)	PROTEIN (gm)	FAT (gm)	ENERGY (kcal)
MONDAY	Rice	39.5	3.2	0.2	173
	Egg	----	3.99	3.99	51.9
TUESDAY	Rice	59.25	4.8	0.3	259.5
	Potato	3.39	0.24	0.01	14.55
	Lentil	17.7	7.53	0.2	102.9
	Pumpkin	0.69	0.21	0.01	3.75
	Cabbage	4.05	0.27	0.01	5.85
	oil	----	----	2	18
WEDNESDAY	Rice	39.5	3.2	0.2	173
	Egg	----	3.99	3.99	51.9
	Potato	4.52	0.32	0.02	19.4
	Onion	1.66	0.18	0.01	7.5
	Oil	---	----	2	18
THURSDAY	Rice	59.25	4.8	0.3	259.5
	Potato	3.39	0.24	0.01	14.55
	Lentil	17.7	7.53	0.2	102.9
	Green Peas	3.38	1.44	0.02	18.6
	Cabbage	4.05	0.27	0.01	5.85
	Oil	----	----	2	18
FRIDAY	Rice	39.5	3.2	0.2	173
	Egg	----	3.99	3.99	51.9
	Potato	4.52	0.32	0.02	19.4
	Onion	1.66	0.18	0.01	7.5
	Oil	---	----	2	18
SATURDAY	Rice	59.25	4.8	0.3	259.5
	Potato	3.39	0.24	0.01	14.55
	Lentil	17.7	7.53	0.2	102.9
	Pumpkin	0.69	0.21	0.01	3.75
	Cabbage	4.05	0.27	0.01	5.85
	oil	----	----	2	18

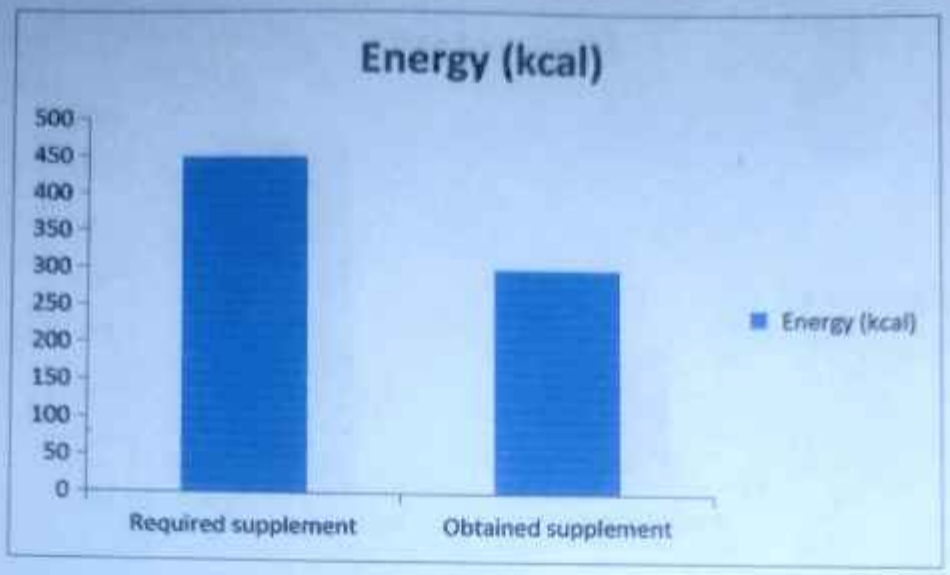


Fig 1: Difference between the required and obtained supplemented energy

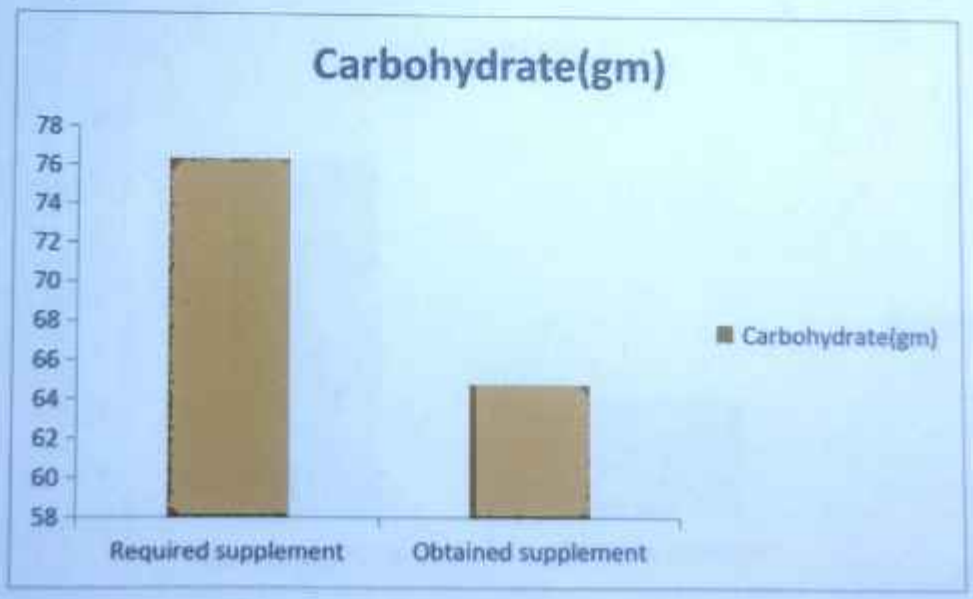


Fig 2: Difference between the required and obtained supplemented carbohydrate

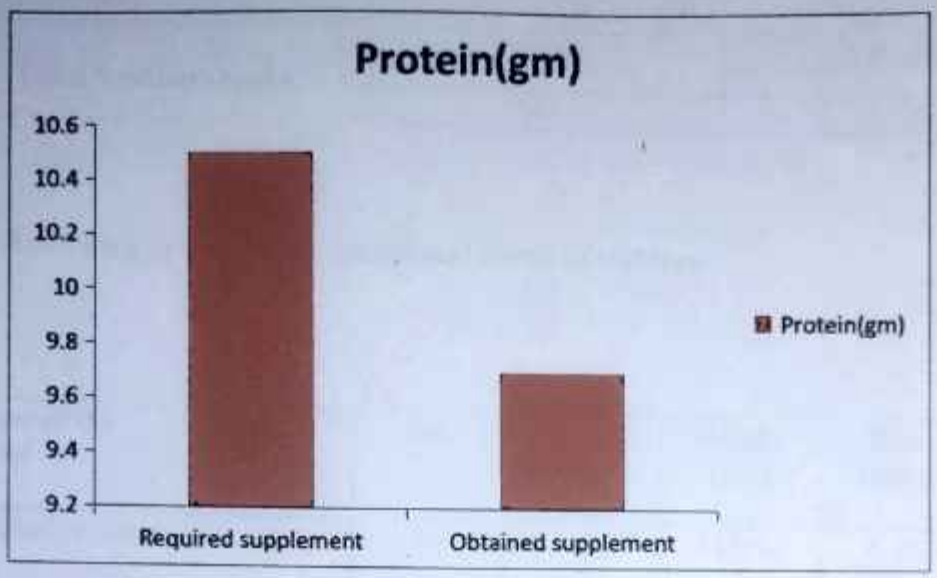


Fig 3: Difference between the required and obtained supplemented protein

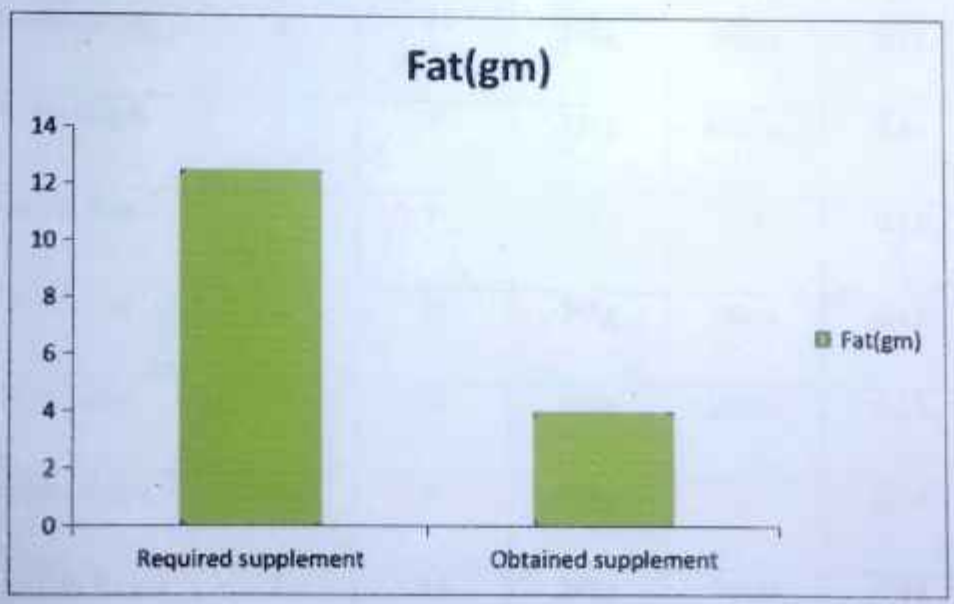


Fig 4: Difference between the required and obtained supplemented fat

Table 3: Distribution of the sample size

Total Number (n)=16	Male	Female
	10	06

Table 4: According to Rao Index, nutritional status of children

SL No.	Name of the Child	Age (Year)	Sex	Body Weight (kg)	Height (cm)	Rao Index	Nutritional Status
1.	Mahadev Lohar	4	M	15kg	113cm	0.11	PEM
2.	Rick Lohar	3	M	12kg	93cm	0.13	PEM
3.	Rabin Bagdi	4	M	14kg	99cm	0.14	NORMAL
4.	Sneha Bagdi	4	F	13kg	96cm	0.14	NORMAL
5.	Neha Bagdi	5	F	15kg	103cm	0.14	NORMAL
6.	Ayesha Bagdi	3	F	12kg	88cm	0.15	NORMAL
7.	Jitu Lohar	3	M	14kg	96cm	0.15	NORMAL
8.	Rick Lohar	4	M	13kg	100cm	0.13	PEM
9.	Ankita Bagdi	3	F	12kg	91cm	0.14	NORMAL
10.	Sayantan Bagdi	3	M	14kg	98cm	0.14	NORMAL
11.	Sohan Bagdi	4	M	15kg	102cm	0.14	NORMAL
12.	Ishaan Lohar	3	M	13kg	91cm	0.15	NORMAL

13.	Ayush Bagdi	4	M	15kg	100cm	0.15	NORMAL
14.	Mahi Bagdi	3	F	10kg	93cm	0.11	PEM
15.	Anindita Lohar	5	F	20kg	106cm	0.17	NORMAL
16.	Ayush Lohar	3	M	13kg	95cm	0.14	NORMAL

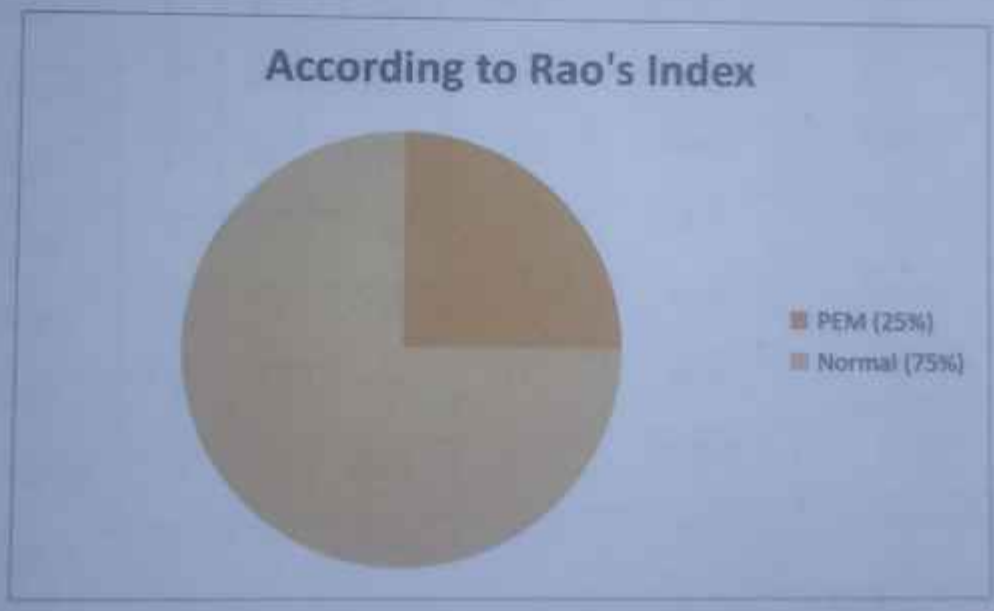


Fig 5: The percentage of PEM and normal children on the basis of Rao's Index

SL. NO	Name	Age (Year)	Sex	Body Weight (kg)	Refrence Weight	Gomez classification	Nutritional Status
1.	Mahadev Lohar	4	M	15kg	16.7	89.8	Normal
2.	Rick Lohar	3	M	12kg	14.7	102.0	Normal
3.	Robin Bagdi	4	M	14kg	16.7	83.8	Grade I undernutrition
4.	Sneha Bagdi	4	F	13kg	16.7	77.8	Grade I undernutrition
5.	Neha Bagdi	5	F	15kg	18.7	80.2	Grade I undernutrition
6.	Ayesha Bagdi	3	F	12kg	14.7	81.6	Grade I undernutrition
7.	Jitu Lohar	3	M	14kg	14.7	95.2	Normal
8.	Rick Lohar	4	M	13kg	16.7	77.8	Grade I undernutrition
9.	Ankita Bagdi	3	F	12kg	14.7	81.6	Grade I undernutrition
10.	Sayantan Bagdi	3	M	14kg	14.7	95.2	Normal
11.	Sohan Bagdi	4	M	15kg	16.7	89.8	Normal
12.	Ishaan Lohar	3	M	13kg	14.7	88.4	Normal
13.	Ayush Bagdi	4	M	15kg	16.7	89.8	Normal
14.	Mahi Bagdi	3	F	10kg	14.7	68.0	Grade II undernutrition
15.	Anindita Lohar	5	F	20kg	18.7	106.9	Normal
16.	Ayush Lohar	3	M	13kg	14.7	88.4	Normal

Table 5: According to Gomez classification,nutritional classification of children

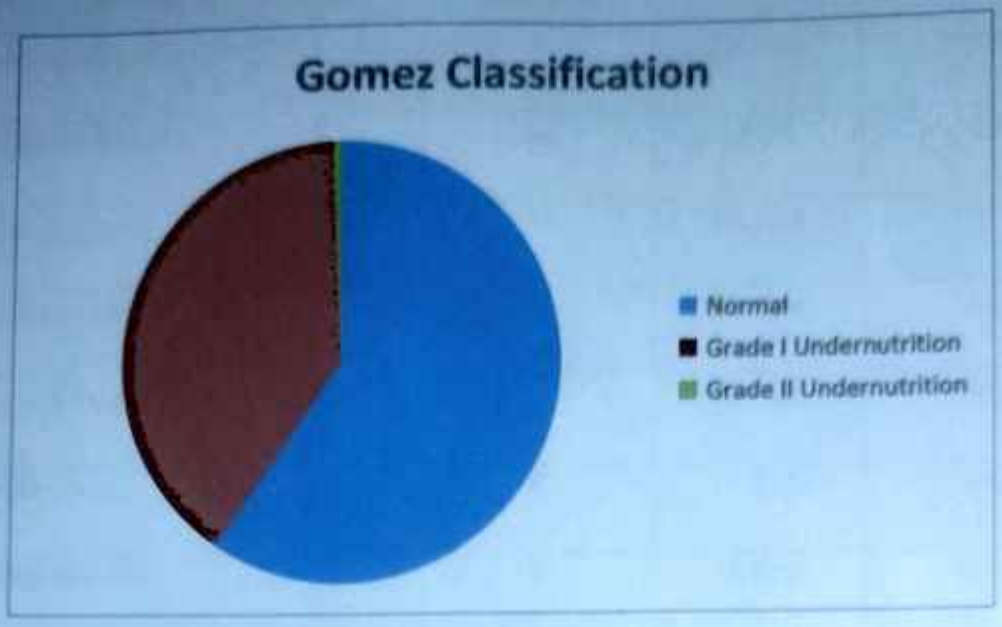


Fig 6: Nutritional status on the basis of Gomez classification

SL.NO	Name	Age	Sex	MUAC	Nutritional status
1.	Mahadev Lohar	4	M	17.2cm	Normal
2.	Rick Lohar	3	M	18cm	Normal
3.	Robin Bagdi	4	M	17.4cm	Normal
4.	Sneha Bagdi	4	F	17cm	Normal
5.	Neha Bagdi	5	F	18.3cm	Normal
6.	Ayesha Bagdi	3	F	16.8cm	Normal
7.	Jitu Lohar	3	M	18.5cm	Normal
8.	Rick Lohar	4	M	14.8cm	Normal

9.	Ankita Bagdi	3	F	15.8cm	Normal
10.	Sayantan Bagdi	3	M	17cm	Normal
11.	Sohan Bagdi	4	M	19.5cm	Normal
12.	Ishaan Lohar	3	M	18.5cm	Normal
13.	Ayush Bagdi	4	M	16.4cm	Normal
14.	Mahi Bagdi	3	F	17.8cm	Normal
15.	Anindita Lohar	5	F	18.8cm	Normal
16.	Ayush Lohar	3	M	14.5cm	Normal

Table 6: Nutritional statsus of children according to Mild Upper Arm Circumference (MUAC)

Table 7: According to Kanawati Index, nutritional status of children

SL NO	NAME	Age	Sex	MUAC	Head circumference	Chest circumference	Kanawati index	Chest circumference / head circumference	Nutritional status
1.	Mahadev Lohar	4	M	17.2cm	49cm	50cm	0.35	1.02	Normal
2.	Rick Lohar	3	M	18cm	50.5 cm	50cm	0.35	0.99	Mild PEM
3.	Robin Bagdi	4	M	17.4cm	49cm	54cm	0.35	1.10	Normal
4.	Sneha Bagdi	4	F	17cm	48cm	50cm	0.35	1.04	Normal
5.	Neha Bagdi	5	F	18.3cm	52 cm	54cm	0.35	1.03	Normal
6.	Ayesha Bagdi	3	F	16.8cm	41.5 cm	51.4cm	0.40	1.23	Normal
7.	Jitu Lohar	3	M	18.5cm	52cm	54cm	0.35	1.03	Normal

8.	Rick Lohar	4	M	14.8cm	48cm	53.5cm	0.30	1.11	Normal
9.	Ankita Bagdi	3	F	15.8cm	48cm	46.2cm	0.32	0.96	Normal
10.	Sayantan Bagdi	3	M	17cm	48cm	51.4cm	0.35	1.07	Normal
11.	Sohan Bagdi	4	M	19.5cm	48cm	48.8cm	0.40	1.01	Normal
12.	Ishaan Lohar	3	M	18.5cm	49cm	51.4cm	0.37	1.04	Normal
13.	Ayush Bagdi	4	M	16.4cm	49cm	51.4cm	0.33	1.04	Normal
14.	Mahi Bagdi	3	F	17.8cm	47cm	46.2cm	0.37	0.98	Mild PEM
15.	Anindita Lohar	5	F	18.8cm	49cm	56.4cm	0.4	1.15	Normal
16.	Ayush Lohar	3	M	14.5cm	49cm	48.8cm	0.29	0.99	Mild PEM

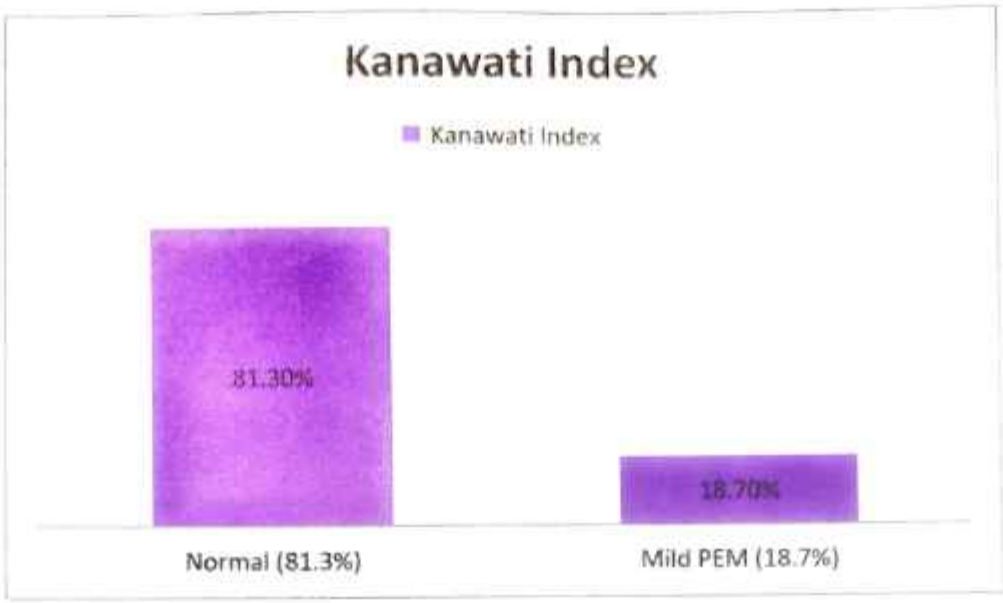


Fig 7: Nutritional status on the basis of Kanawati Index

DISCUSSION

From the above survey done we have come across around 16 children under an ICDS centre. Out of these children 10 are males and 6 are females. There have been a number of classifications like Rao Index, Gomez Classification, Kanawati index on the basis of weight, height, MUAC (mid upper arm circumference), head circumference and chest circumference. We found that the 3 children are slightly under PEM and most of them are normal in category.

The ICDS centre also provides supplementary food for them and same food are repeated on every other days of week.The food provided should be 1/3 of calories and 1/2 of protein . However suppplenemtary food provided by them is approximately same but not exactly . Hence these ICDS centre play a active role in providing health benefits to the children.

Photos taken during ICDS Centre visit

CONCLUSION

From the survey it is concluded the survey was very beneficial to this part of the society. These children are the future of the nation and they require a lot more attention. So these ICDS centers have proved to be a great initiative for these children betterment.

The data also says that most of the children is growth was quite normal.Some good supplement growth was quite normal . Some good supplement are provided by the government under ICDS scheme like Bengal Gram, Groundnut, Egg, Rice, Soyabean, Jaggery, Rajmah etc. The proper growth monitoring is also being recorded there along with the immunization program.

Hence most of the beneficiary under ICDS program are healthy and free from some disease. From this service the mortality, morbidity, malnutrition, like problems can be reduced, So in future we would like to be part of such more surveys and gather more information.

Reference:

1. Rajivan, A K, 2006, Tamil Nadu: ICDS with a Difference, Economic and Political Weekly, Vol.41 No 34. Pp 3684-3688
2. Report on "Function of Anganwadi Centres in Assam and Meghalaya", Centre for North-East Studies and Policy Research, Ministry of Human Resource Management, Government of India
3. Report on "Rapid Survey on Children", Tamil Nadu Fact Sheet, Ministry of Women and Child Development, Government of India.
4. http://www.assamtribune.com/scripts/detailsnew.asp?id=jun1815/at053
5. http://m.newshunt.com/india/english-newspapers/the-assam-tribune/news/icds-and-corruption_38231586/991/c-in-l-english-n-theassam-ncat-news
6. https://online.assam.gov.in/web/swd
7. http://www.assamtribune.com/scripts/detailsnew.asp?id=nov2414/city056
8. http://articles.economictimes.indiatimes.com/2015-05- 27/news/62719033_1_chief-minister-tarun-gogoi-backward-regions-grant-fund- centrally-sponsored-scheme .
9. http://www.assamtribune.com/scripts/detailsnew.asp?id=aug1915/state056
10. http://www.livemint.com/Opinion/hvUQqhb18GqNd4Wg3DERAM/Six-charts-that-explain-Indias-battle-against-malnutrition.html
11. http://scroll.in/article/731585/not-just-madhya-pradesh-denying-eggs-to-malnourished-children-is-common-in-bjp-run-states
12. http://www.business-standard.com/article/pti-stories/8-states-flouted-norms-for-food-procurement-under-icds-govt-115081301276_1.html
13. http://www.business-standard.com/article/economy-policy/assam-to-make-healthcare-free-for-poor-115061601356_1.html
14. https://www.timesofassam.com/headlines/fictious-and-fake-children-of- anganwadi-centers-of-jorhat-district-under-icds-cnp/
15. http://timesofindia.indiatimes.com/india/Overworked-ICDS-workers-on-measly-pay/articleshow/17380078.cms

Bankura Christian College

Field survey

Title of The Event : ICDS survey

Date : 09.12.2023 **Time :** 07: 00 am

Organized By : Department of Nutrition, Bankura Christian College

Funded By : College fund

Sanctioned Amount : 1000/-

Brochure of the Seminar : NA

Resource Person with Designation : NA

No. of Participants Teachers – 02 Students – 12

Activity Report

- **Sampling Study Area**: ICDS centre, Doltala, Bankura.
- **Design:** Random sampling
- **Study Population**: Children of ICDS centre
- **Sample Size: 16**

Activity report :

The Integrated Child Development Services (ICDS) scheme is the century's most comprehensive and multidimentionalprogramme. This scheme was launched for the promotion of holistic development of children as well the expectant mothers. A number of anganwadicentres have been created where anganwadi workers have been appointed. Due to this scheme there has been a huge increase in the live birth given to the children, promotion of maternal health care, decrease in morbidity and mortality etc.

To be an active participant of this social programme we went to an ICDS centre of Doltala, Bankura, West Bengal on 09.12.23. under this scheme ICDS centre provides them supplementary nutrition, growth monitoring is observed, health check ups are provided, immunization is given, early childhood and preschool education, health and nutrition education is provided.

We find out the number of children being benefited by the ICDS programme in Doltala ICDS centre. There are 16 children being benefitted by this scheme. Among which 6 were girls where as 10 were boys. They also promoted primary education to the children to satisfy their curiosity without following any rigid curriculum.

Under the provision of supplementary nutrition they were provided food stuffs everyday in a year except on Sundays. In the above ICDS centre on Monday boiled rice and egg given followed by on Tuesday khichdi, Wednesday boiled rice and egg curry, Thrusdaykhivchdi, Friday boiled rice and egg curry, Saturday khichdi were provided. According to the ICDS programme 450 kcal should be provided as the supplementary food but in this ICDS centre around 300 kcal of energy is given which is comperatively low.

We finally concluded that among the 16 children 75% of them were normal and 25% of them may be grouped under slight PEM. According to the Gomez classification 6 of them had grade I undernutrition, one of them under grade II undernutrition and 9 of them were completely normal. So, this scheme have effectively targated to reduce the mortality and morbidity of the childrens and mothers as well as enables provision of proper nutrition and health education.

In future we would like to be part of more survey and gather more information.


GPS Map Camera
Bankura, West Bengal, India
63PC+RC6, Bankura, West Bengal 722101, India
Lat 23.237169°
Long 87.071396°
09/12/23 09:03 AM GMT +05:30


GPS Map Camera
Bankura, West Bengal, India
Baburbandh par, behind of jora Shiv Mandir, Pathak Para, Bankura, West Bengal 722101, India
Lat 23.237391°
Long 87.070387°
09/12/23 09:02 AM GMT +05:30


GPS Map Camera
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Baburbandh par, behind of jora Shiv Mandir, Pathak Para, Bankura, West Bengal 722101, India
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BANKURA CHRISTIAN COLLEGE
GPS Map Camera
Google
Bankura, West Bengal, India
63PC+RC6, Bankura, West Bengal 722101, India
Lat 23.237182°
Long 87.07142°
09/12/23 09:58 AM GMT +05:30


BANKURA CHRISTIAN COLLEGE
GPS Map Camera
Bankura, West Bengal, India
63PC+RC6, Bankura, West Bengal 722101, India
Lat 23.237182°
Long 87.07142°
09/12/23 09:59 AM GMT +05:30
Google

List of students under ICDS Survey (Field Work)

Sl No .	Name	Roll no.
1.	Varsha Baral	687
2.	Chandreyi Chakraborty	783
3.	Shruti Sinhababu	204
4.	Arpita Pal	429
5.	Archita Bhattacharya	997
6.	Priyanka mukherjee	980
7.	Kartik Bhandari	402
8.	Soumyajit Mandal	018
9.	Snigdha Mondal	198
10.	Puja Ghosh	278
11.	Sathi Bej	809
12.	Sanjukta Karak	438

12/12/2023

12/12/23

To whom it may concern

This is to certify that....Varsha....Baral.....a student of Nutrition Honours (5th semester) of Bankura Christian College under Bankura University, has completed this survey work under my supervision and guidance.

I am satisfied with her performance. She is now allowed to submit this survey report for assessment.

Examiner
Dept. of Nutrition
Ramananda College
Bishnupur, Bankura
PIN- 722122

Date : 08·02·2024

MOUMITA DUTTA

ACKNOWLEDGEMENT

First of all I would like to express my sincere gratitude to all the Lecturers of Department of Nutrition, Bankura Christian College. I received their words of advice and encouragement and help to carry the project work. They guided me to perform this survey work successfully. I am also grateful to the Principal of Bankura Christian College for the support.

Varsha Baral

Signature

Date :- 08.02.2024

CONTENT

1.MARKET SURVEY DEFINITION

Market survey is the survey research and analysis of the market for a product/ service which includes the investigation into customer. It is a study of various customer capabilities such an investment attributed and buying potential. Market survey's are tools to collect feedback from the target audience to understand there characteristics, expectations and requirement.

Market develop new and exciting strategies. Market surveys collect data about a target market such as pricing trends, customer requirements, competitor analysis, and other details. Also the feedback received from these survey's can be contributory in product marketing and feature enhancement.

2.Purpose of market Survey

- Gain critical customer feedback

The main purpose of the market survey is to offer marketing and business managers a platform to obtain critical information about their consumers can be retained and new ones can be got onboard.

- Understand customer inclination towards purchasing products

Details such as whether the customers will spend a certain amount of money for their products/services,inclination levels among customer about upcoming features or products,what are their thoughts about the competitor products etc.

- Enhance exsisting products and services

A market survey can be implemented with the purpose with the purpose of improving exsisting products,analyze customer satisfaction levels along with getting data about their perception of the market and build a buyer person using information from existing clientele database.

- Make well informed business decision

Data gathered using market survey is instrumental in market major changes in the business which reduces the degree of risks involved in taking important business decision.

- Identify areas to plan for nutritional awareness among customers

Data Gathered in market survey is analysed to study customer behavior and practices to assess the nutritional awareness among the community.this is important for future planning and policy making

3. Aims & Objectives:

This market survey project aims:-

- To evaluate the purchasing and consumption behavior of consumers de packaged foods.
- To assess the consumers preferences for food and grocery products .
- To assess the market attributes influencing consumer behavior pattern
- To study the consumers for sample awareness behavior like reading the food labels and best before date etc.

4. Methodology

A proforma question nation was used to collect relevant information from a representative sample of local consumers. The available information was tabulated and analysed to assess consumers preference and behavior.

5. Findings:

The preference of the consumers clearly indicate:

- Their priority for cleanliness and freshness of food products
- Affordability of price
- Quality and consistency of the product
- Ability of the food to add variety to the diet and non-seasonal availability.
- Convenient packaging

The results also show that:

- Most of the food and grocery items are purchased in loose form from the nearby outlets.
- Fruits and vegetables are mostly purchased daily or twice a week due to their perishable nature.
- Grocery items are less frequently purchased.

Future implications:

- The result may help the food processors and outlet owners to understand a diversified set of preferences for products and market attributes so that they can make better decisions in the emerging organized food and grocery retail environment.
- The results helps to identify areas for improving consumer behavior by creating awareness regarding consideration of nutrient content and best before date for purchasing along with price and attractive packaging.

Proforma questionnaire for Market Survey

1. Do you buy groceries from the local store? (Yes/No)
2. How often do you buy groceries? (Daily/Weekly/Monthly)
3. Do you prefer branded packed products overlook unbranded products? (Yes/No)
4. When buying packed products do you consider the best before date ? (Yes/No)
5. Where do you buy fruits and vegetables? (Local vendor/Market place)
6. How often do you shop for fruits and vegetables? (Daily/Twice weekly/ Thrice weekly / Weekly)
7. Number the following factors to consider while food items according to your preferences
   - Quality
   - Price
   - Non seasonal availability
   - Variety
8. Do you read the nutriention label on packed food before buying the item? (Yes/No)
9. Which nutrients do you lookout for while buying packed food?
10. Do you look for FSSAI/ISI/BIS logo on pre-packed food before buying them? (Yes/No)
11. Which factors do you consider while choosing among different brands of packaged item?
    - Price
    - Quality
    - Packaging
    - Perishability
    - Availability round the year
    - Nutrient compositions

12.Do you check non- veg, veg label on products. (yes/no)

13. Do you check expiry date of the product. (yes /no)

14. Which ready to eat food you prefer?

- cornflex
- puffed rice
- flaxed rice
- musseli

15. Which ready to cook food you prefer :

- oats
- daliya
- idli batter

16. Which type of oil you prefer?

(mustard oil / sunflower oil/ olive oil/ soyabean)

17. Do you check the serving size of the product? (yes/no)

18. Do you prefer fortified product or not like salt :(yes/no)

19 . From where do you buy milk or milk products? (nearby locality/ packaged)

20. What kind of biscuit you prefer? (bakery/ packaged)

PERFORMA QUESTIONNAIRE FOR MARKET SURVEY

Q1.Do you buy groceries from the local store ?(Yes/No)

Table:-1

Sample	Yes	No
20	12	08
percentage	60%	40%

Figure 1.

Q2.How often do you buy?(Daily/Weekly/Monthly)

Table:-2

Sample	Daily	Weekly	Monthly
20	05	12	03
percentage	25%	60%	15%

Figure 2.

Q3.Do you prefer branded packed products overlook unbranded products? (Yes/No)

Table:-3

Sample	Yes	No
20	15	5
percentage	75%	25%

Figure 3.

Q4.When buying packed products do you consider the best before date ?(Yes/No)

Table:-4

Sample	Yes	No
20	17	3
percentage	85%	15%

Figure 2.

Q5. Where do you buy fruits and vegetables ?(Local vendor /Market place)

Table:-5

Sample	Local Vendor	Market place
20	13	07
percentage	65%	35%

Figure 5.

Q6.How often do you shop for fruits and vegetables?(daily/twice weekly/thrice weekly/weekly)

Table:-6

Sample	Daily	Twice weekly	Thrice weekly	Weekly
20	4	8	3	5
percentage	20%	40%	15%	25%

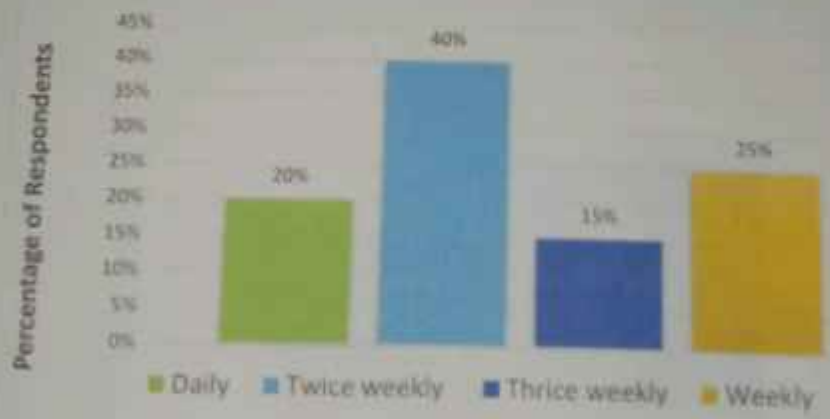


Figure 6.

Q7.Number the following factors to consider while food items according to your preference.

Quality Price Non seasonal availability Variety

Table:-7

Sample	Quality	Price	Non seasonal availability	Variety
20	10	09	0	1
percentage	50%	45%	0%	5%

Figure 7.

Q8.Do you read the nutrition label on packed food before buying the item ?(Yes/No)

Table:-8

Sample	Yes	No
20	08	12
percentage	40%	60%

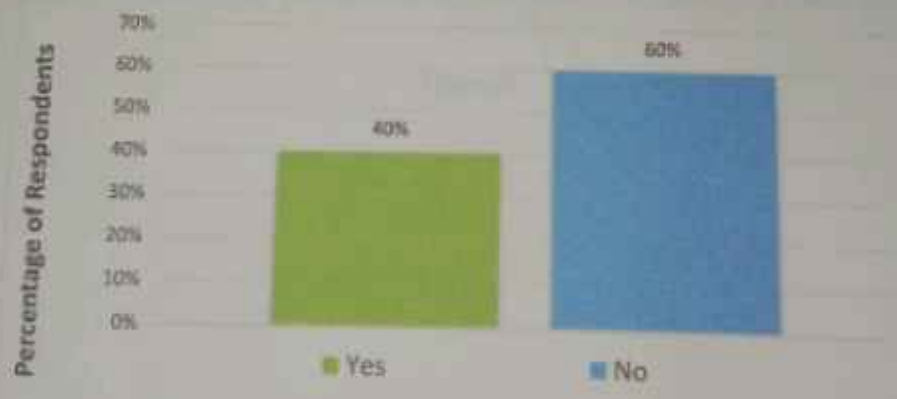


Figure 8.

Q9.Which nutrients do you lookout for while buying packed food ?

- Sugar
- Protein
- Vitamin
- Sodium
- Saturated Fats
- Calcium
- Unsaturated Fats
- Trans Fatty Acid

Table:-9

Sample	Sugar	Saturated fats Price	Unsaturated Fats	Trans fatty acid	Protien	Vitamin	Sodium	Calcium
20	03	05	02	00	08	01	01	00
Percentage	15%	25%	10%	0%	40%	05%	05%	0

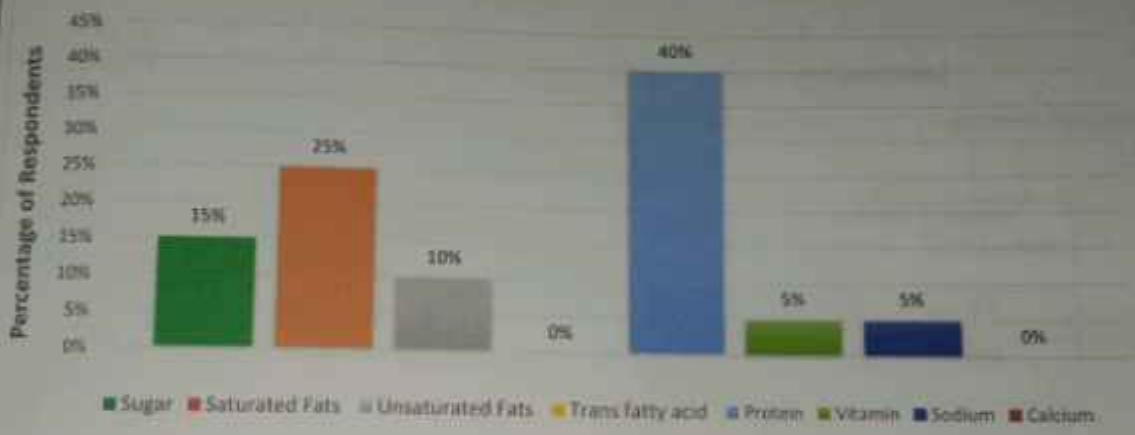


Figure 9.

Q 10.Do you look for FSSAI/ISI/BIS logo on pre -packed food before buying them ?(Yes/No)

Table:-10

Sample	Yes	No
20	06	14
percentage	30%	70%

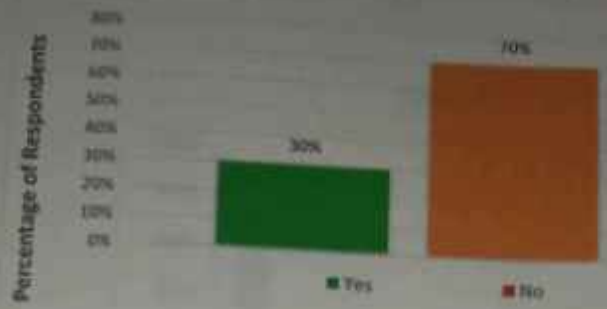


Figure 10.

Q 11.Which factors do you consider while choosing among different brands of packaged item ?

Price Quality packaging Perishability Availability round the year nutrient compositions

Table:-11

Sample	Price	Quality	packaging	Perishability	Availability round the year	nutrient compositions
20	14	03	01	00	00	02
percentage	70%	15%	5%	0%	0%	10%

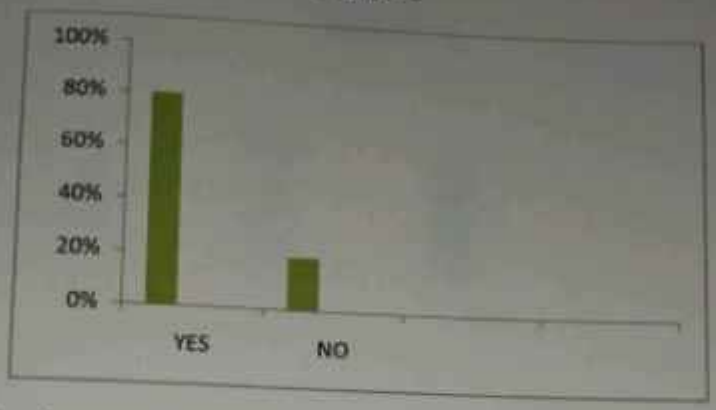
Figure 11.

12.Do you check veg. nonveg label on products? (yes/no)

Table:12

SAMPLE	YES	NO
20	16	4
PERCENTAGE	80%	20%

Figure:12



13.Do you check expiry date of the products? (yes/no)

Table: 13

SAMPLE	YES	NO
20	15	5
PERCENTAGE	75%	25%

Figure: 13

14.Which ready to cook food you prefer: (oats/daliya/idli batter)

Table: 14

SAMPLE	Idli batter	Daliya	Oats
20	5	8	7
PERCENTAGE	25%	40%	35%

Figure: 14

15.What kind of biscuit you prefer? (bakery/packaged)

Table:15

SAMPLE	Packeged	Bakery
20	15	5
PERCENTAGE	75%	25%

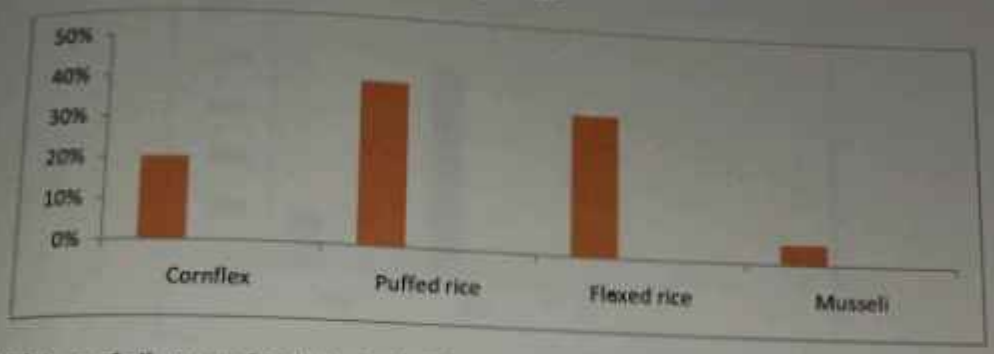
Figure:15

16. Which ready to eat cooked food you prefer: (Cornflex/ Puffed rice/Flaxed rice/ Musseli)

Table:16

SAMPLE	Cornflex	Puffed rice	Flaxed rice	Musseli
20	4	8	7	1
PERCENTAGE	20%	40%	35%	5%

Figure:16

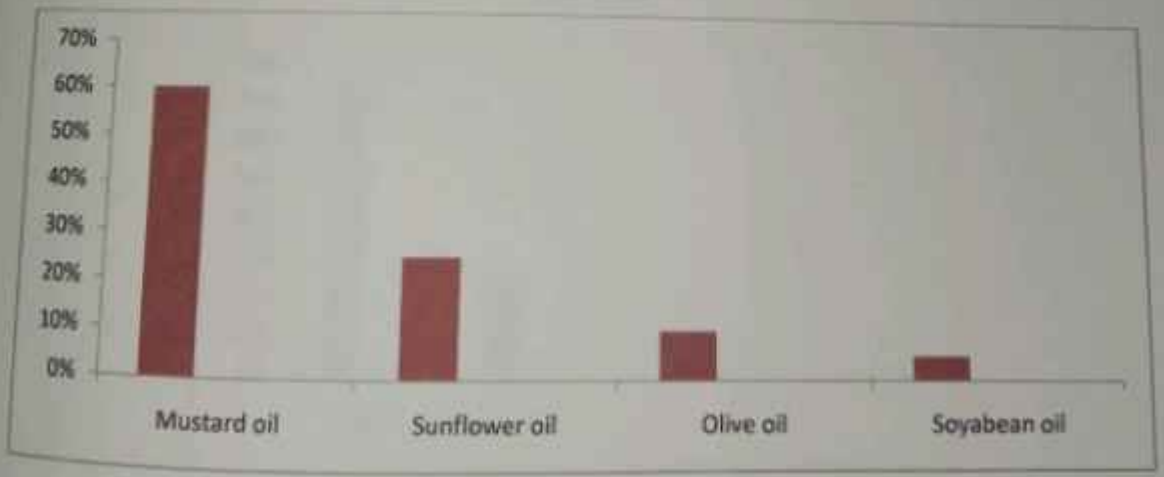


17.Which type of oil you prefer: (Mustard oil/ Sunflower oil/ Olive oil/Soyabean oil)

Table:17

SAMPLE	Mustard oil	Sunflower oil	Olive oil	Soyabean oil
20	12	5	2	1
PERCENTAGE	60%	25%	10%	5%

Figure:17

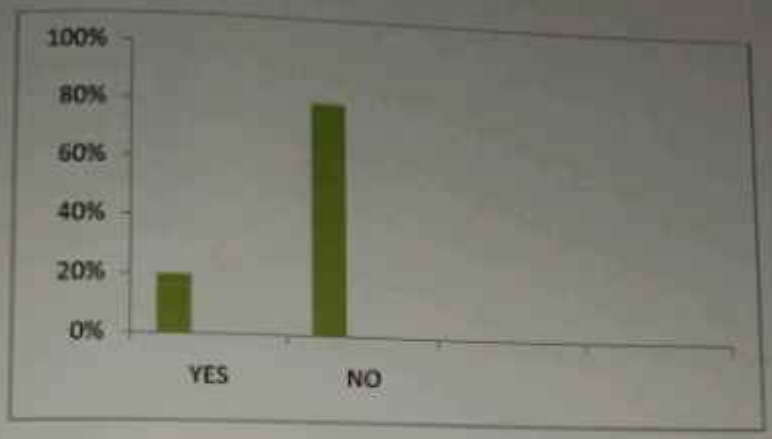


18.Do you check the serving size of the product? (Yes/No)

Table:18

SAMPLE	YES	NO
20	4	16
PERCENTAGE	20%	80%

Figure:18



19.Do you prefer fortified product or not like salt? (yes/no)

Table: 19

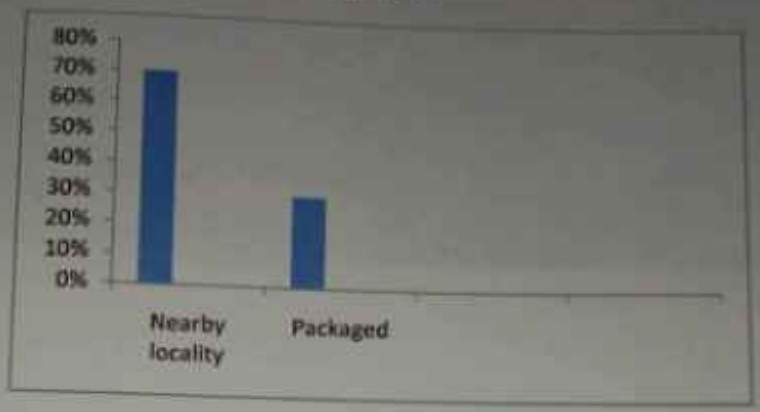
SAMPLE	YES	NO
20	15	5
PERCENTAGE	75%	25%

Figure: 19

20. From where do you buy milk and milk products. (Nearby locality /Packaged)

SAMPLE	Nearby locality	Packaged
20	14	6
PERCENTAGE	70%	30%

Figure: 19



Photos taken during the survey

CONCLUSION

After conducting a market survey in the College More of Bankura Distirct we concluded that purchasing and consumption of the various products are different .We found that the respondents mostly prefer buying products from local stores on a weekly basis . However the seasonal fruits and vegetables are of greater preference among people and they prefer buying it twice weekly .The best before or expiry date is a major concern among people along with the nutritional label ,FSSAI logo,price and quality .A majority of people also prefer checking the veg ,non veg label too wherease serving size of the products is checked by only few of them.

Morever over this survey helped us to asses how market attributes influencing consumer's behavior.

Examiner
Dept. of Nutrition
Ramananda College
Bishnupur, Bankura
PIN- 722122

01.03.24.

List of students under Market survey

Sl No .	Name	Roll no.
1.	Varsha Baral	687
2.	Chandreyi Chakraborty	783
3.	Shruti Sinhababu	204
4.	Arpita Pal	429
5.	Archita Bhattacharya	997
6.	Priyanka mukherjee	980
7.	Kartik Bhandari	402
8.	Soumyajit Mandal	018
9.	Snigdha Mondal	198
10.	Puja Ghosh	278
11.	Sathi Bej	809
12.	Sanjukta Karak	438

08/02/2024

BANKURA UNIVERSITY

BANKURA CHRISTIAN COLLEGE

A REPORT ON DIET SURVEY

(Practical)

UID NO. : 21013123001

ROLL NO. : 204

COLLEGE ID : 1012101357

(5TH SEMESTER)

YEAR : 2023-24

To whom it may concern

This is to certify that ..Shruti Sinhababu....., a student of Nutrition Honours (5th Semester) of Bankura Christian College under Bankura University, has completed this survey work under my supervision and guidance.

I am satisfied with ~~his~~/her performance. ~~He~~/she is now allowed to submit this survey report for assessment.

MOUMITA DUTTA

Date: 10.01.2024

ACKNOWLEDGEMENT

I express my sincere gratitude to my teacher Moumita Sutka (Lecturer, Department of Nutrition, Bankura Christian College) for her supervision, guidance, encouragement and valuable suggestion.

I convey my sence of gratitude to all other teachers for their encouragement to all other teachers for their encouragement to perform this survey work.

I am thankful to the non teaching Staff of Nutrition department for his cooperation.

I am also thankful to my classmates for their immense help and cooperation.

Shruti Sinhababu

CONTENTS

1. INTRODUCTION

Diet Survey is the systematic collections of factual data pertaining to the diet, of a human population within a given geographic area. It constitute an essential part of any complete study of nutritional status of individuals or groups. Providing essential information on nutrient intake levels, sources of nutrients, food habits and attitudes. Under conditions, where frank signs for malnutrition do not exit, a survey of intake of nutrients may give and indication of the adequacy of the diet for promoting optimal nutrition of individuals or groups. Diet surveys of communities will yield data regarding the extent of dietary deficiencies and the quantity and type of foods required for overcoming them.

1.1 Information Provided by the diet Survey:

The diet Surveys provide information on the following aspect.

- Food habits and the overall food supply as well as the cost of food staff.
- The actual quantity of individual foods consumed and waste of individual foods.
- The average daily intake of essential food nutrients per person or per family.
- Information concerning planning and nutritional adequacy of menus.
- The methods of food procurement, storage and distribution.
- The nutritional adequancy of food purchases during different seasons of the year.
- Local feeding and food service procedure.
- Sanitation practices involves in the procurement, handling, storage, preparation and service of food.

1.2. Methods of diet survey:

The methods commonly used in diet survey(2). are the following——

A. Interview technique:- This technique is widely used to obtain a general picture of a person's food intake. It requires a skilled interviewer who is able to elicit an accurate picture of diet. This technique is widely used to obtain a general picture of person's food intake. A checklist of foods may be used to remid the subject about the foods that they eat but forget to mention. Some of these interview techniques are given below:

1. Diet recall:- In this method, a trained interviewer asks the respondent to recall in detail all the food and drink consumed during a time in the previous 24 hours. Thus the method is most commonly known as the 24hours recall. In some cases the time period is the past 48hours, the past 7 days or in some rarer cases, the previous month. As memories of food intake may fade rather quickly beyond the most recent day or two, the accuracy is looser in long recall methods.

2. Diet History:- This is a detailed method of recording the intake. The subject is interviewed for about one to two hours and the typical or usual food intake is noted. It is possible to construct a seven day eating pattern of the subject. Most of the questions are open ended. This technique may be supplemented with a checklist of foods usually consumed.

3. Food frequency questionnaires:- This type of survey is either interviewer administrated or self completed. A detailed questionnaires includes the list of foods and the subjected answers as to how often and in what quantity each food is eaten per day, per week and per month.

4. Telephone interview:- In this method, investigators use telephone interviewing to administer 24 hours recalls or food frequency questionnaires.

B. Record Technique:

This is the ideal and realistic method used in dietary intake studies. This technique involves a record of actual food and drink consumed on specified days after the first contact by the investigator. Generally a 4 day record is maintained. The record may be taken in different ways which are discussed below:

1. **Menu record:** - In this method, the components of menu are recorded. The amounts of foods are not directly measured. The investigator estimates weight of the food from the portion consumed. Therefore accurate weight of food is not measured by this method.

2. **Food accounts (weighed inventory technique):** - In this method a record is taken about all the food items in hand in the home or institution at the beginning of the survey period. The quantity of food purchased or grown through out the survey period is also recorded. At the end of survey, the amount of food which remains in store is also taken into amount. Thus a record is obtained from the accounts of foods.

3. **Estimated food record:** - In this method the respondent records each item of foods and beverages consumed by the respondent. The quantity of food is estimated by using household measure such as cups, spoons, bowls, glasses. The leftover are also estimated in the similar way. The investigator quantify these

house hold measure by volume and weight.

4. **Weighed food record:-** In this method, the respondent records all foods and beverages consumed by him. Here the quantity of food is measured by weighing these items. The left over similarly weighed.

5. **Weighement of raw food:-** This method has been practiced by majority of the workers in India. The investigator makes a list of raw food items used by the family or institution every times before cooking. The quantity of raw food items are measured by the investigator personally using balance or he can also check the weighment of raw foods immediately before cooking. Snacks purchased and consumed between meals and outside the home should be recorded. The age, sex, occupation of the family members or the members of the institutions are recorded.

C. Techniques of direct Analysis:

In this method the nutrient contains of the cooked food are analyzed chemically in a laboratory and it provides accurate estimation of nutrient intake. Some of the methods of direct analysis are discuss below:

1. **Duplicate diets:-** In this method, the subject keeps a weight record and duplicate portion of each food as consumed is put aside for later analysis by the investigator.

2. **Aliquot sampling technique:-** It is similar to duplicate diets except that aliquot samples of food as consumed by the subject are keep aside for later analysis.

3. **Equivalent Composite technique:-** In this method also a weighed record is maintained. Subsequently a combined sample of raw food equivalent to average amounts of feeds eaten is made up by the investigator for the analysis.

2. AIMS AND OBJECTIVES

A diet Survey provides information about dietary intake patterns of specific food consumes and estimated nutrient intakes. It indicates relative dietary inadequacies, which is helpful in planning health education activities and changes needed in the agriculture and food production industries. The aims and objectives of this survey works are the following:-

- To assess the nutritional status of the members of the family.
- To know the food habits of the family.
- To know the actual quantity of different nutrients consumed by the members of the family.
- To identify the deficiency or excess of nutrients, if any.
- To aware the family members about nutritional and health.

3. SURVEY ZONE

For conducting the diet survey, I have selected a nuclear family in Jagannathpur, Simlapal of Bankura district. The family consists of 3 members and the head of the family is Achintya Sinhababu.

4. METHODOLOGY

To conduct any survey work we should adopt an appropriate methodology. For conducting this diet survey. I have used the following methodology.

4.1. Methods of Diet Survey:

To conduct this diet survey I have used weighment of raw food method. The survey conducted for the duration of 7 days.

4.2. Analysis of collected data:

From the data collected by diet survey, the man intake of different foods per day is to be conducted. Then the nutritive value of the raw foods are calculated from the food composition table, published by ICMR.

4.3. Comparism of nutrients Consumed with requirement

Now the determined the adequency of nutrients consumed, it is compared with the required amount of nutrients. The require amounts of nutrients of the family is computed. By adding the individual RDA (ICMR, 2010).

5. RESULT

5.1 GENERAL DATA

1.Name of the respondent : Kakali Sinhababu

2.Religion : Hindu

3.Type of family : Neuclear

4.Address :

Village- Jagannathpur

Post office- Simlapal

District- Bankura

Pin no.- 722151

5.Family size-

MALE	FEMALE	TOTAL
1	2	3

6.Details of the family members:

Case no.	Name	Age	Sex	Marital status	Physical activity type	Physiological status	Educational level	Occupation
1.	Achintya Sinhababu	51	Male	M	Moderate	–	B.Sc	Forman
2.	Kakali Sinhababu	45	Female	M	Sedentary	NPNL	B.A.	House wife
3.	Shruti Sinhababu	20	Female	U	Sedentary	NPNL	3rd yr Hons	Student

- NPNL- Non pregnant non lactating
- M-Married
- U-Unmarried

Fig: Member of Family

Fig : Collection of Data by surveior

5.2 DATA OF FOOD INTAKE

NAME OF FOOD	1st day	2nd day	3rd day	4th day	5th day	6th day	7th day	TOTAL	AVERAGE
CEREALS									
Rice (Parboiled)	288	285	290	282	136	283	286	1850	264.28
Puffed rice	280			233		298		811	115.85
Flaxed rice		130			138		142	410	58.57
Semolina			145					145	20.71
Wheat flour	245	220	250	234	235	230	241	1655	236.42
Bicuit	95	88	102	98	87	106	96	672	96
Wheat bread (white)								313	44.71
Pasta				50				50	7.14
PULSES									
Lentil		75						126	18
Peas dry		65						136	19.42
Peas green			120					120	17.14
Chick Pea		82						82	11.71
Bengal gram (whole)	61							118	16.85
Green gram dal				62	53			115	16.42
Red gram dal					54			54	7.71

NAME OF FOOD	1st day	2nd day	3rd day	4th day	5th day	6th day	7th day	TOTAL	AVERAGE
Rajmah							168	168	24
Soyabean			52	55				107	15.28
Bengal gram (Roasted)	68							68	9.71
LEAFY VEGETABLES									
Cabbage	312				187			499	71.28
Radish leaves	200					192		392	56
cauliflower		188						188	26.85
Spinach			480					480	68.57
ROOTS AND TUBERS									
Potato	124			105			98	327	46.71
Onion	58	42	52		60	48	200	460	65.11
Carrot								167	23.85
colocasia		80						80	11.42
yam, elephant						644		644	92
OTHER VEGETABLES									
Papaya				412				412	58.85
Brinjal	80	442		165			241	928	132.57

Fig: Raw Foods

Fig : Weighing Machine

NAME OF FOOD	1st day	2nd day	3rd day	4th day	5th day	6th day	7th day	TOTAL	AVERAGE
Bitter groud (Small)		95		88				183	26.14
Pumpkin	342			576				918	131.14
Ladies finger			175			205		380	54.28
Beans			132			148		280	40
Plantain green				235				235	33.57
Bottle gourd					584		890	1474	210.57
Parwar		188			203			391	55.85
NUTS & OIL SEED									
Almonds	10			15	14	12	9	60	8.57
Groundnut		14	20					34	4.85
Mustard seed	8			5		6		19	2.71
CONDIMENTS & SPICES									
Garlic	8		10			9	22	49	7
Ginger	18	13	15	14	20	22	34	136	19.42
Chillies dry	3	4	3	3	5	3	3	24	3.42
Chillies green	8	5	5	6	4	4	8	38	5.42
Cumin	7	8	7	5	8	9	7	51	7.28

NAME OF FOOD	1st day	2nd day	3rd day	4th day	5th day	6th day	7th day	TOTAL	AVERAGE
Tomato	6	9	8	8	6	10	12	59	8.42
FRUITS									
Apple	345		410	354			253	1362	194.57
Banana		225				238		463	66.14
Orange					240		215	455	65
Guava						200		200	28.57
Tomato (Ripe)	122		134			127	182	565	80.71
Dates		102		97	84			283	40.42
FISHES									
Katla	152							152	21.71
Rohu						180		180	25.71
MEAT & POULTRY									
Egg (hen)			188		175			363	51.85
Chicken							450	450	64.28
MILK & MILK PRODUCTS									
Milk (cow's)	234					252		486	69.42
Curd	115	105		122			120	462	66

NAME OF FOOD	1st day	2nd day	3rd day	4th day	5th day	6th day	7th day	TOTAL	AVERAGE
FATS & OILS									
Cooking oil	65	70	54	67	52	53	75	436	62.28
Sunflower oil		71				60		131	18.71
Ghee	5				7			12	1.71
SUGAR & JAGGERY									
Sugar	75	62	78	80	67	76	78	516	73.71
Jaggery		36			27			63	9

Fig : Weighment of raw food (soyabean)

Fig : Weighment of raw food (rice)

5.3 DATA OF NUTRIENT INTAKE

Name Of Food	Quantity gm/ml	Energy kcal	Protien gm	Fat gm	CHO gm	Ca mg	Iron mg	Vit-A mg	Vit -B1 mg	Vit-B2 mg	Vit-C mg
CEREALS											
Rice(Perboil)	264.28	914.40	16.91	1.05	208.18	23.78	2.64	–	0.55	0.13	0
Puffed rice	115.85	376.51	8.68	0.11	85.26	26.64	7.84	–	0.24	0.01	0
Flakes rice	58.57	202.65	386	0.70	45.27	11.71	11.71	0	0.12	0.02	0
Semolina	20.71	72.07	2.15	0.16	15.49	3.31	0.33	–	0.02	0.006	0
Wheat flour	236.42	806.19	28.60	4.01	164.07	113.48	11.58	68.56	1.15	0.40	0
Biscuit	96	452.16	10.08	15.55	67.96	–	–	–	–	–	–
Wheat, bread white	44.71	109.53	3.48	0.31	23.20	4.91	0.49	–	0.03	–	–
Pasta	7.14	27.36	0.88	0.096	5.73	0.26	1.55	–	003	0.35	–
PULSES											
Lentil	18	61.74	4.51	0.12	10.62	12.42	1.36	48.6	0.07	0.03	0
Peas dry	19.42	61.17	3.82	0.21	11.36	14.56	1.36	7.57	0.09	0.03	0
Peas green	17.14	15.94	1.23	0.01	2.72	3.42	0.25	14.22	0.04	0.001	1.54
Chick Pea	11.71	31.49	1.69	0.49	5.25	9.36	0.55	–	0.02	0.01	0.24
Bengal gram (whole)	16.85	60.66	2.88	0.89	10.26	34.03	0.77	31.84	0.05	0.02	0.50
Green gram dal	16.42	57.16	4.02	0.19	9.83	12.31	0.62	8.04	0.07	0.03	0
Red gramdal	7.71	25.82	1.71	0.13	4.44	5.62	0.20	10.17	0.03	0.01	0

Fig : Preparation of food for cooking

Fig : Cooking time

Name Of Food	Quantity gm/ml	Energy kcal	Protien gm	Fat gm	CHO gm	Ca mg	Iron mg	Vit-A mg	Vit-B1 mg	Vit-B2 mg	Vit-C mg
Rajmah	24	83.04	5.49	0.31	14.54	62.4	1.22	–	–	–	0
Soyabean	15.28	66.00	6.60	2.97	3.19	36.67	1.58	65.09	0.11	0.059	–
Bengal gram (roasted)	9.71	35.82	2.18	0.50	5.64	5.63	0.92	10.9	0.019	–	0
LEAFY VEGETABLES											
Cabbage	71.28	19.24	1.28	0.07	3.27	27.79	0.57	85.53	0.042	0.044	88.38
Radish leaves	56	15.68	2.12	0.22	1.34	148.4	0.05	2965.2	0.10	0.26	45.36
Cauliflower	26.85	8.05	0.69	0.10	1.07	8.86	0.03	8.05	0.01	0.02	15.03
Spinach	68.57	17.82	1.37	0.47	1.98	50.05	0.78	3826.2	0.02	0.17	19.19
ROATS & TUBERS											
Potato	46.71	45.30	0.74	0.04	10.55	4.67	0.22	11.21	0.046	0.004	7.94
Onion	65.71	32.85	0.78	0.06	7.29	30.81	0.32	0	0.05	0.006	7.22
Carrot	23.85	11.44	0.21	0.04	2.52	19.08	0.24	4507	0.09	0.004	0.71
colocasia	11.42	11.07	0.34	0.01	2.40	4.56	0.47	2.74	0.10	0.003	0
yam, elephant	92	72.68	1.104	0.09	16.92	46	0.55	239.2	0.055	0.064	0
OTHERS VEGETABLES											
Papaya	58.85	15.88	0.411	0.117	3.35	16.47	0.52	0	0.0058	0.0058	7.06
Brinjal	132.57	31.81	1.855	0.397	5.30	23.86	0.50	98.13	0.053	0.145	15.90

Name Of Food	Quantity gm/ml	Energy kcal	Protien gm	Fat gm	CHO gm	Ca mg	Iron mg	Vit-A mg	Vit-B1 mg	Vit-B2 mg	Vit-C mg
Bitter gourd (Small)	26.14	15.68	0.548	0.261	2.77	6.012	0.52	32.93	0.018	0.015	25.09
Pumpkin	131.14	32.78	1.835	0.131	6.03	13.11	0.57	65.51	0.078	0.052	2.62
Ladies finger	54.28	18.99	1.031	0.108	4.55	35.82	0.18	28.22	0.037	0.054	7.05
Beans	40	63.2	2.96	0.4	11.92	20	1.04	13.6	0.136	0.076	10.8
Plantain green	33.57	28.19	0.469	0.061	4.69	3.357	2.10	10.07	0.016	0.006	8.05
Bottle gourd	210.57	25.26	0.421	0.210	5.26	42.11	0.96	0	0.063	0.021	0
Parwal	55.85	11.17	0.187	1.157	1.228	16.75	0.94	85.45	0.027	0.033	16.19
NUTS & OIL SEED											
Almonds	8.57	56.13	1.782	5.04	0.89	19.71	0.43	0	0.020	0.048	0
Groundnut	4.85	27.49	1.227	1.944	1.26	4.36	0.121	1.794	0.043	0.006	0
Mustard seeds	2.71	14.66	0.542	1.07	0.64	13.27	0.214	4.39	0.017	0.007	0
CONDIMENTS & SPICES											
Garlic	7	10.15	0.441	0.007	2.08	2.1	0.119	0	0.004	0.0161	0.91
Ginger	19.42	13.01	0.446	0.174	2.38	3.88	0.679	7.765	0.011	0.0058	1.16
Chillies dry	3.42	8.41	0.543	0.212	1.08	5.47	0.078	11.79	0.031	0.0147	1.71
Chillies green	5.42	1.571	0.157	0.032	1.162	1.626	0.238	9.485	0.010	0.0211	6.01
Cumin	7.28	25.91	1.361	1.092	2.664	78.62	0.822	38.001	0.040	0.0262	0.218
Turmeric	8.42	29.38	0.530	0.429	5.843	12.63	5.708	2.526	0.0025	0	0

Name Of Food	Quantity gm/ml	Energy kcal	Protien gm	Fat gm	CHO gm	Ca mg	Iron mg	Vit-A mg	Vit-B1 mg	Vit-B2 mg	Vit-C mg
FRUITS											
Apple	194.57	114.79	0389	0.972	26.07	19.45	1.284	0	–	–	1.945
Banana	66.14	76.722	0.793	0.198	17.99	11.24	0.238	51.58	0.033	0.052	4.62
Orange	65	31.2	0.455	0.13	7.085	16.9	0.208	717.6	–	–	19.5
Guava	28.57	1457	0.257	0.085	3.199	2.85	0.077	0	0.0085	0.0085	60.56
Tomato(ripe)	80.71	16.142	0.726	0.161	2.905	16.14	0.516	283.29	0.096	0.048	21.79
Dates	40.42	128.13	1.0105	0.161	30.63	48.50	2.95	10.509	0.004	0.008	1.212
FISHES											
Katla	21.71	24.09	4.233	0.521	0.629	115.06	0.195	–	–	–	–
Rohu	25.71	24.93	4.267	0.359	1.131	167.11	0.257	–	0.0128	0.0179	5.656
MEAT & POULTRY											
Egg (hen)	51.85	89.70	6.89	6.89	–	31.11	1.088	217.77	0.057	0.207	0
Chicken	64.28	70.06	16.64	0.38	–	16.07	–	–	–	0.089	–
MILK & MILK PRODUCTS											
Milk (cows)	69.42	46.51	2.22	2.84	3.05	83.30	0.138	36.79	0.84	0.111	1.388
Curd	66	39.6	2.046	2.64	1.98	98.34	0.132	20.46	0.033	0.105	0.66
FATS & OILS											
Cooking oil	62.28	560.52	–	62.28	–	–	–	–	–	–	–
Sunflower oil	18.71	168.39	–	18.71	–	–	–	–	–	–	–
Ghee	1.71	15.39	–	1.71	–	–	–	10.26	–	–	–

Name Of Food	Quantity gm/ml	Energy kcal	Protien gm	Fat gm	CHO gm	Ca mg	Iron mg	Vit-A mg	Vit-B1 mg	Vit-B2 mg	Vit-C mg
SUGAR & JAGGERY											
Sugar	73.71	393.36	0.073	0	73.26	8.84	0.114	–	–	–	–
Jaggery	9	31.77	0.135	0.027	7.749	32.67	–	–	–	–	–
TOTAL		5969.36	192.344	141.84	983.72	1707.46	77.87	9611.77	6.38	5.16	406.22

Fig: Raw food for cooking

Fig : Food prepared for consumption

5.4 DETERMINATION OF NUTRITIONAL REQUIRMENT OF THE FAMILY

NUTRIENTS	CASE NO.1	CASE NO.2	CASE NO.3	TOTAL
Energy(kcal)	1660	1660	2710	6030
Protein(gm)	45.7	45.7	54	145.4
Fat(gm)	44.2	44.2	81.3	169.7
CHO(gm)	269.7	269.7	440.3	979.7
Calcium(mg)	1000	1000	1000	3000
Iron(mg)	29	29	19	77
VitaminA(mg)	840	840	1000	2680
VitaminB1(mg)	1.4	1.4	1.8	4.6
VitaminB2(mg)	1.9	1.9	2.5	6.3
VitaminC(mg)	65	65	80	210

[Abuming 65% of calorie is derived from carboky drate]

5.5 COMPARISON BETWEEN REQUIRMENT AND INTAKE

NUTRIENTS	REQUIRMENT	INTAKE	BALANCE(+/_)
Energy(kcal)	6030	5969.36	−60.64
Protein(gm)	145.4	192.34	+46.94
Fat(gm)	169.7	141.84	−27.86
CHO(gm)	979.7	983.72	+4.02
Calcium(gm)	3000	1707.46	−1292.54
Iron(mg)	77	77.87	+0.87
VitaminA(mg)	2680	9611.77	+6931.7
VitaminB1(mg)	4.6	6.38	+1.78
VitaminB2(mg)	6.3	5.16	−1.14
VitaminC(mg)	210	406.22	+196.22

5.6 GRAPHICAL REPRESENTATION

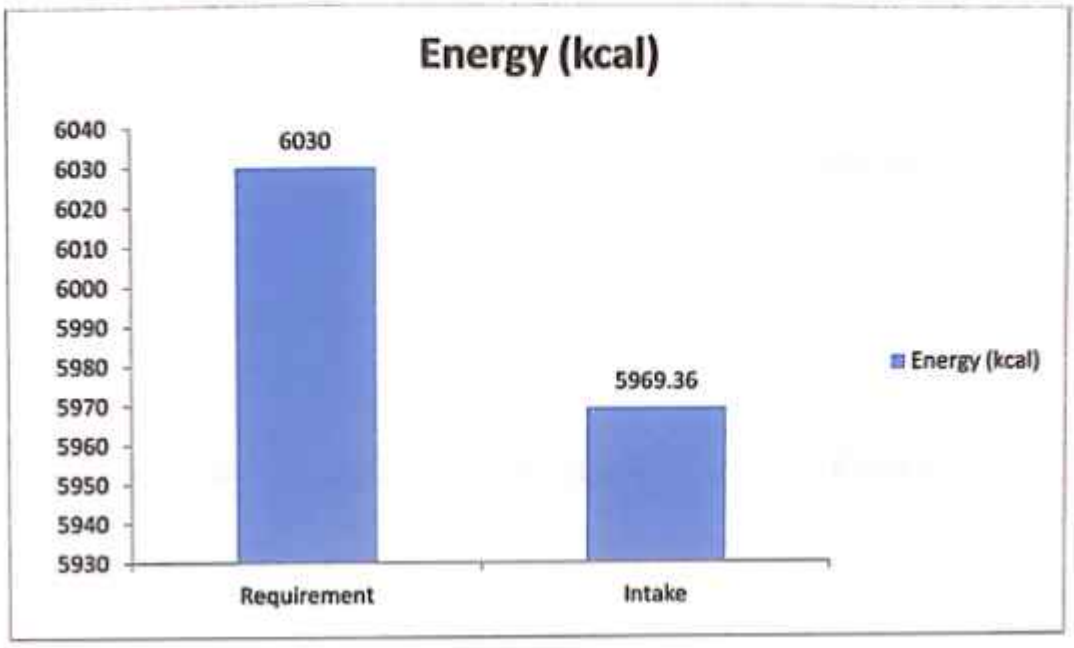


Fig 1: Comparison between energy requirement and intake

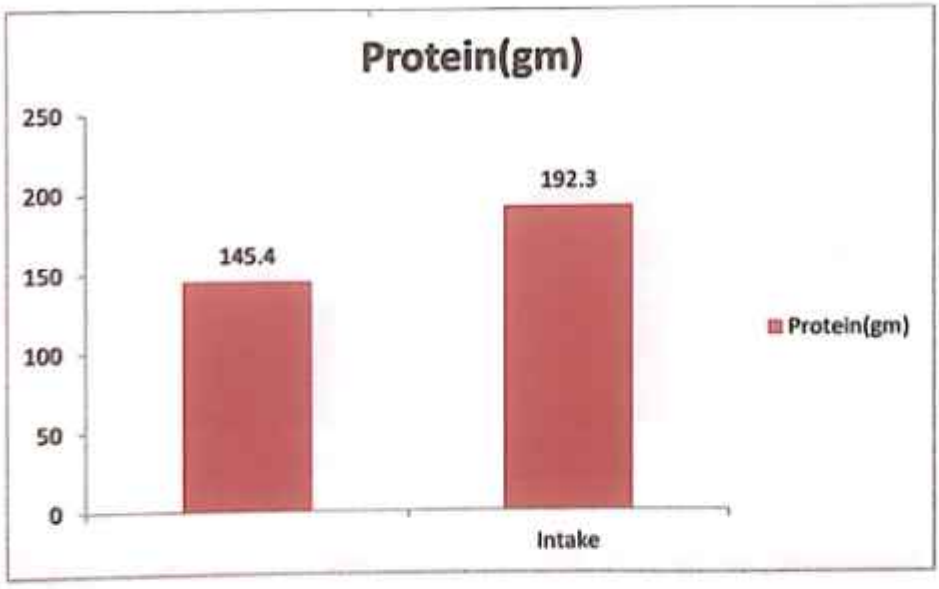


Fig 2: Comparison between protein requirement and intake

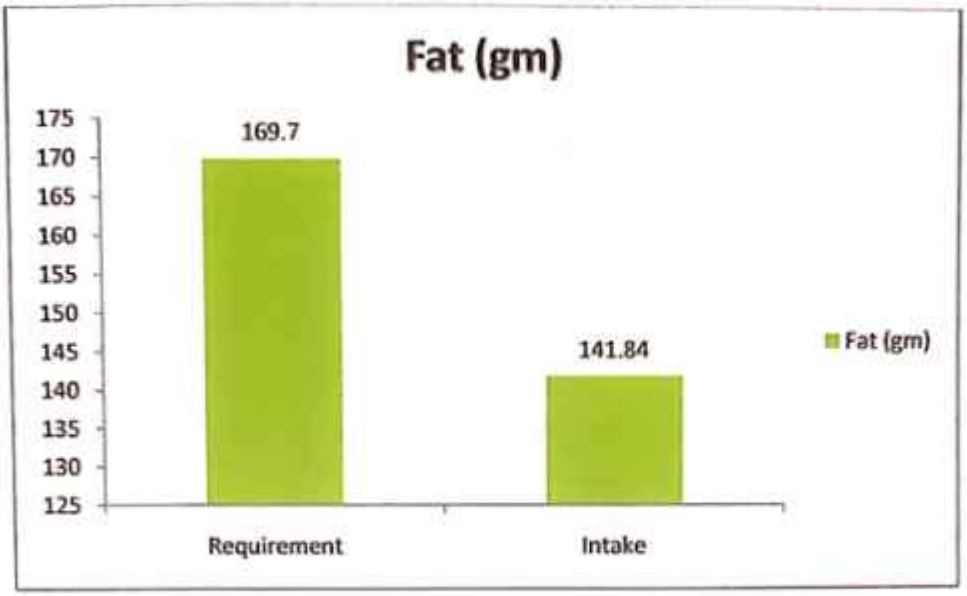


Fig 3: Comparison between fat requirement and intake

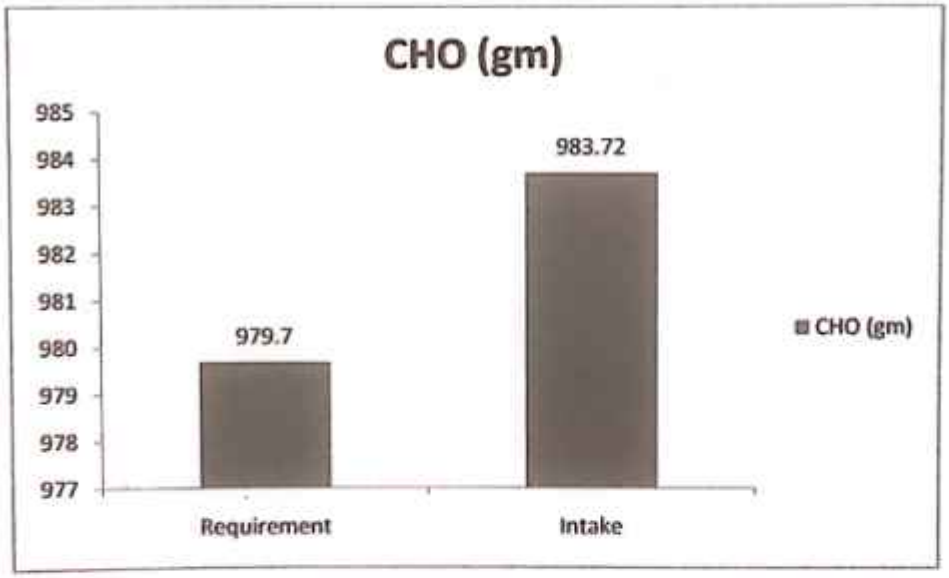


Fig 4: Comparison between carbohydrate requirement and intake

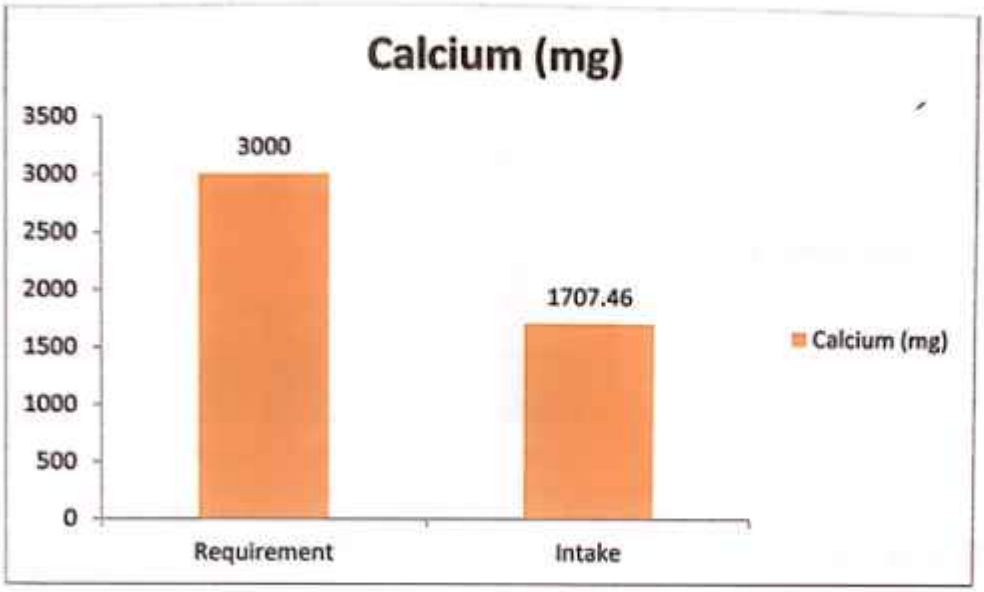


Fig 5: Comparison between calcium requirement and intake

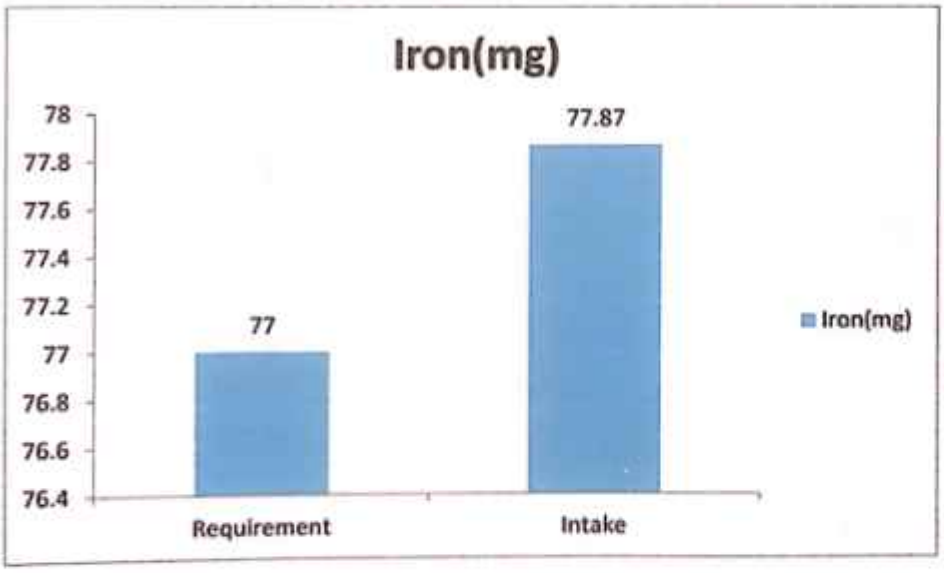


Fig 6: Comparison between iron requirement and intake

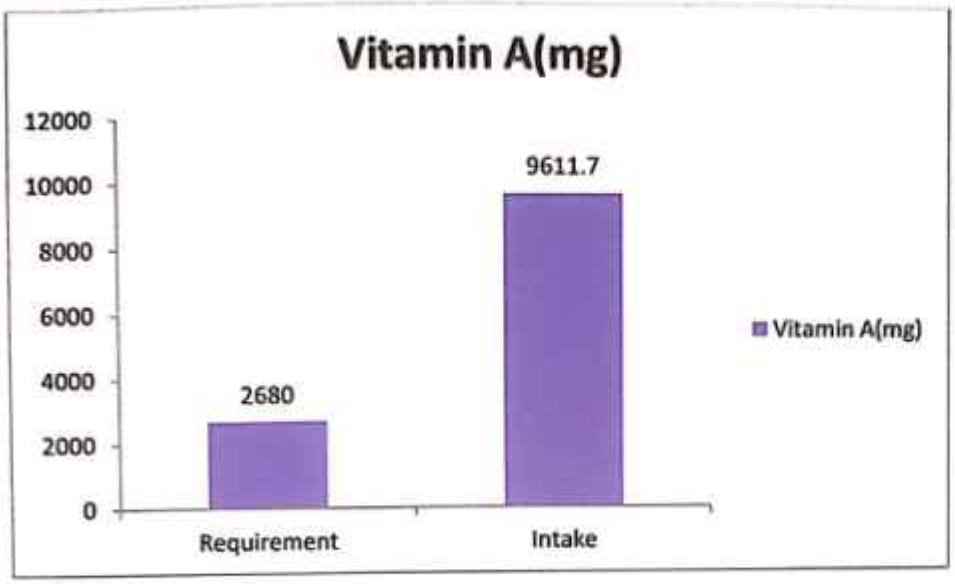


Fig 7: Comparison between vitamin A requirement and intake

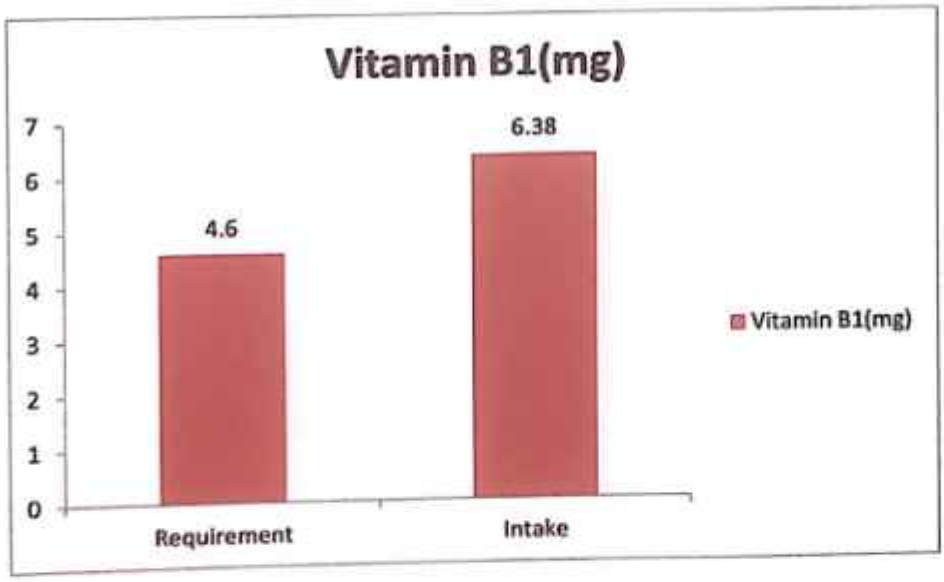


Fig 8: Comparison between vitamin B1 requirement and intake

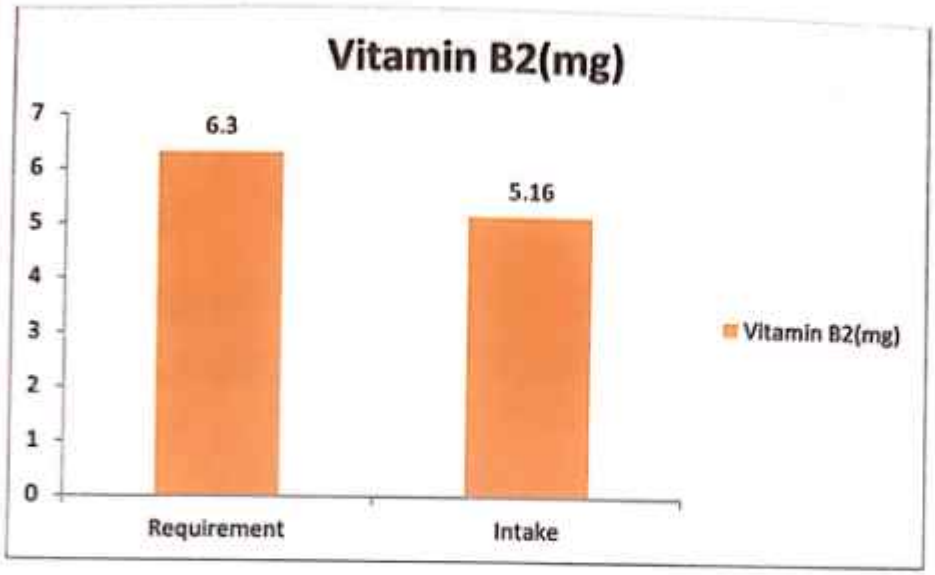


Fig 9: Comparison between vitamin B2 requirement and intake

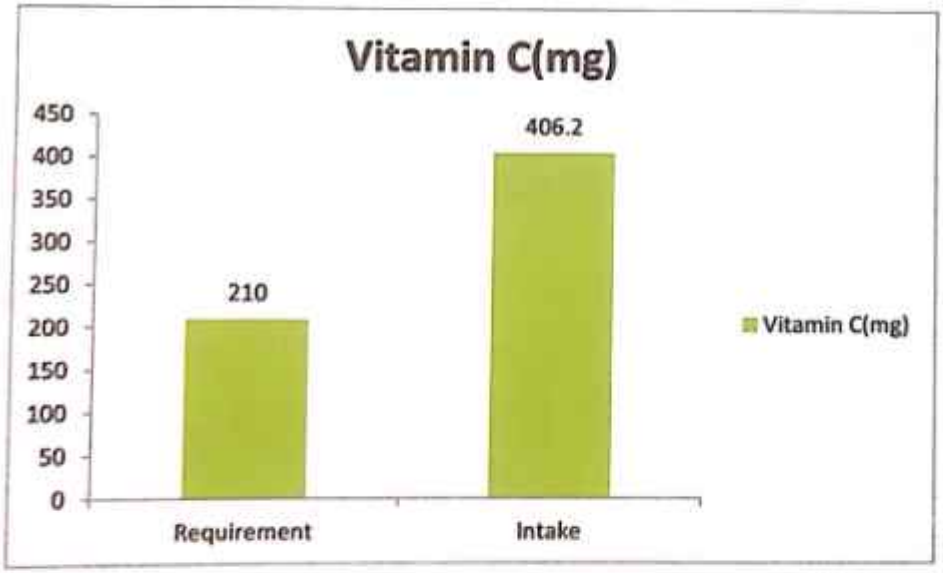


Fig 10: Comparison between vitamin C requirement and intake

6. CONCLUSION AND SUGGESTION

After conducting the diet survey in a family located at Jagannathpur, Simlapal of Bankura district, was found that the intake level of different nutrients by the family is some what different from the requirement.

The intake of energy, fat, Calcium, Vitamin B_2 are lower than the requirement On other hand Protein, CHO, Iron, Vitamin A, Vitamin B_1 and vitamin C are higer than the requirement.

Following dietary suggestions can be given to the family to improve the nutritional status of the family members.

- As the intake of energy is lower (- 60.64) than the requirement, family should be increase energy intake. Energy rich food like some cereals, ghee, cooking oil should increase.
- As the intake of carbohydrate is higher (+402) than the requirement, family should be curtaild carbohydrate intake. carbohydrate rich food like cereals (Rice, wheat flour, semolina etc), Potato, Sugar should be highly decreased.
- As the intake of Protein is higher (+46.94) than the requirement family should be curtailed Protein intake. Protein rich food like legumes (lentil, green gram, bengal gram) should be decreased.
- As the intake of fat is lower (-27.86) than the requirement. Family should be increase the fat intake. Fat rich food like ghee, cooking oil should be increased.

- As the intake of Ca is lower(-1292.54) than the requirement (3000mg) family should be increased the Ca intake. Ca rich food like leafy vegetables, Rohu, milk should be increased in the diet.
- As the intake of iron is higher (+0.87) than the requirement family should be curtailed the iron intake. Iron rich food like leafy vegetables, other vegetables (Plantain green, tomato, Parwar), milk should decreased.
- As the intake of vitamin A is higher(+6931.7) than the requirement family should be curtaild then the intake of vitamin A. vitamin A rich food like leafy vegetables, carrot, mango, cooking oil should decreased.
- As the intake of vitamin B_1 is higher (+1.78) than the requirement, family should curtaild the vitamin B_1 intake. Vitamin B_1 rich food like Parboiled rice, Pulses should be controled.
- As the intake of vitamin B_2 is lower(-1.14) than the requirement, family should be increased the intake of vitamin B_2. Vitamin B_2 rich food like milk, egg, green leafy vegetables should increase.
- As the intake of vitamin C is higher (+196.22) than the requirement, family should increase intake of vitamin C. Vitamin C rich food like fruits (guava, orange), leafy vegetable (amaranth) should be decreased.

REFERENCE

(1) Swaminathan M:(2007); Essentials of food and Nutrition (volume-2). The Bangalore Printing and publishing company Ltd Page NO: 334-338.

(2) Joshy SA: (2005); Nutrition and Dieletics. The Mc Graw Hill companies; Page no: 397-402

(3) Srilakhshmi B, Nutrition Science (edition 4th), New Age International Publishers; Page NO: 314-315.

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5.	Archita Bhattacharya	997
6.	Priyanka mukherjee	980
7.	Kartik Bhandari	402
8.	Soumyajit Mandal	018
9.	Snigdha Mondal	198
10.	Puja Ghosh	278
11.	Sathi Bej	809
12.	Sanjukta Karak	438

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