



Assesment of Growth and Vaccination Status and Factors Associated With it in Primitive Kamar Tribe Children (1-5Years Age Group) of Nagri Block of Distt. Dhamtari (C.g.)

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ABSTRACT

Introduction : The most vulnerable period next to infancy is the age of 1 – 5 yrs. Pre school children constitute about 14% of the Indian population. Nutritional status of pre school children is of paramount importance, since the foundation of lifetime health, strength and intellectual vitality is laid during this period. Malnutrition is a global health problem. In developing countries, particularly where the population is high, hunger and malnutrition are wide spread among the pre school age children. Kamar is one of five identified primitive tribe of Chhattisgarh in India. They live in south eastern region of Raipur and Dhamtari district. They are isolated from mainstream and modernization and depend almost entirely on natural resource for their subsistence. About 80 percent of Kamar are landless. They still practice shifting cultivation.

Material and methods : A study was conducted from 1st Feb 2014 to 31st Oct 2015 at Nagri block of Dhamtari district and door to door and Aanganwadi visit done and anthropometric measurement taken as WHO standard guideline also the questionnaire for vaccination status asked by parent and caretakers of children.

Results : Malnutrition is very high in Kamar tribe children then Chhattisgarh state the underweight is 58%, stunting 56.1% and wasting 33.2% also vaccination status complete immunization is 69%.

Conclusion : Under nutrition in the form of underweight, stunting, wasting was found to be widely prevalent among Kamar tribe children therefore an urgent dietary intervention and motivational programme is necessary.

KEYWORDS

INTRODUCTION

1--5 yrs children constitute about 14%¹ of the Indian population. This is a huge human resource which needs to be developed and nurtured for the country to progress. Appropriate growth of these children is of paramount importance, since growth during this age is key to his own physical, psychological and intellectual development, as well as decisive to his contribution towards a healthy society and nation. This age group particularly children of underprivileged class are at higher risk to suffer from malnutrition and ill health conditions related to this, by studying growth pattern in these children we can identify deviation from optimum growth as well as factors responsible for this deviation. So we can try to intervene at appropriate levels to combat this condition and can reduce burden caused by this. It does serious damage to the physical growth and intellectual performance in the later life (Lloyd and Lederman, 2002)²

Nutritional status of the population largely depends on the consumption of food in relation to their needs; which in turn is influenced by the availability of food and purchasing power. The literature on the tribal nutrition is very scanty³.

Despite rapid economic development along with increase in food production in recent decades and several nutritional intervention programmes in operation since the last three decades, childhood under nutrition remains an important public health problem in India. The burden of under nutrition appears particularly high among rural and Indigenous tribal populations.

About half of the World's total population of indigenous people, often referred as tribal's, are living in India. The tribal population in Indian language known as "Adibasi" stands for original inhabitants of India. Tribal communities are iso-

lated from general population and are socially and economically disadvantaged. In view of their habitat and dietary habits, they often distinguish themselves from other population groups^{4,5,6*}. Their food consumption pattern is influenced by vagaries of nature and varies from extreme deprivation in lean season to high levels of intakes of several foods during post harvest period. Geographical isolation, primitive agricultural practices, socio-cultural taboos, lack of formal education, poor infrastructure facilities, improper health seeking behaviour, poverty etc. leads to the development of various morbidities and under nutrition. "Due to different socio-cultural milieu, different diseases are prevailing among them. However, some of the diseases are common among all these primitive tribes: like acute respiratory infections, sexually transmitted diseases, diarrhoeal diseases and nutritional disorders are common among all these tribes. Some of the genetic disorders like sickle cell anaemia, thalassaemia are restricted to their clan because of consanguineous marriages."³ Government of India identified a total of 72 such tribal communities, as "primitive tribes" based on their pre-agricultural level of technology, low level of literacy and stagnant or diminishing population. Tribal population of the country, as per the 2011 census, is 10.42 crore, constituting 8.6% of the total population with 90.1% of them living in rural areas and 10.0% in urban areas. The population of tribes had grown at the growth rate of 23.7% during 2001-2011 (CENSUS OF INDIA 2011 REGISTRAR GENERAL & CENSUS COMMISSIONER, INDIA). A great majority of them inhabitant in the Central India¹.

Chhattisgarh, the 26th State of India is situated between 17 to 23.7 degrees north latitude and 8.40 to 83.38 east longitude abounds in hilly regions and plains. The tribal regions of the state adjoin the tribal region of bordering States like Madhya Pradesh, Andhra Pradesh, Maharashtra, Orissa, Jharkhand, Bihar. The scheduled tribes, with a population of over

seventy eight lakh, constitute 31.82 per cent of the State's population as per the 2011 census. Almost 92.4per cent of this population lives in the rural areas and only 7.6per cent in urban Chhattisgarh. (Demographic Status of Scheduled Tribe Population of India <http://tribal.nic.in/>)

There are 42 schedule tribe communities in C.G. out of 74 primitive tribe of India 5 primitive tribe live in Chhattisgarh these are **abujhmaria, baiga ,birhore,kamar pahari korwa.** the period of fifth planning commission five most backward tribe were identified as the primitive tribe group in the undivided Madhya Pradesh after formation of Chhattisgarh as a 26 state of India in the year 2000, 1st November the kamar were also listed among 5 primitive tribe groupe of cg in the seventh 5 year planning commission period.**kamar means landless of forest**, are one of the five primitive tribe of Chhattisgarh, they speak mainly Chhattisgarhi their total population is 13500 spread over more then 200 villages in 4 block Mainpur Gariyaband Churra and Nagri . most of the kamar tribe woman are illiterate and almost all deliveries 96% is conducted at home and about half of these 48% are assisted by untrained personnel 8*Today the kamar earn their lively hood with the help of bows and arrows.most of the kamar are landless.their mainly economy depends on collection of minor forest produces and as agriculture laborer.kamar excel themselves in the collection of honey and in the manufacture of baichandi and tikhar apart from these they also hunt small animals like rabbits,field rats,squirrels etc,to eat.⁹

MATERIAL AND METHOD

The present observational , analytical, cross sectional study was carried out in Nagri block of Dhamtari District.

The study was conducted from January 2014 to 2015. 367 children of 1-5 year age group from 1002 families of 85 village of primitive kamar tribe were randomly selected. Pretested structural questionnaire was used to gather data from parent of family by door to door visit of every household nutritional assessment was done by clinical examination and anthropometric measurement using standered equipment and procedure.

Inclusion criteria: All 1- 5 year children in the kamar community of Nagri block of District Dhamtari Chhattisgarh.

Exclusion criteria: Pre -term newborn,0-1 year child, congenital anomalous child and severely ill child is excluded from the study.

selection of participant- kamar children between 1 to 5 year age group.

Ehical clearance

Taken from ethics committee,Pt J N M Medical college and associated Dr B R Ambedkar Hospital Raipur.District and head were contacted and informed before purpose of study.

Method of approach

Nagri block is 60 km from Dhamtari district. In this there are 6 primary health center and 66 subcenter. Most of the villages are hilly area widely scattered from primary health center and the become non aprochable during rainy season. Under the guidance of medical officer of Nagri block were randomly selected.

On reaching the village either aanganwadi worker or health worker or some local person was used to guide. a cross sectional survey was done by door to door visit.

As per pre tested structured proforma general information of every child regarding age, sex,adress cast was noted. Age was confirmed either by calendar of local events or from register of aanganwadi worker and recorded in complete month. Family size, birth order and total number of children were also noted. Age liryacy status addiction occupation monthly income recorded. Detailed history regarding ANC registra-

tion no of visit done TT &IFA taken by mother any medical illness during trimester asked.place of delivery whether at home or hospital was asked. If at home whether it conducted by trained or untrained dai was also noted.along with special event during birth.Time of first feeding after birth and type of first feeding was recorded from mother.Type of weaning food was recorded.immunization status was also taken Neonatal morbidity during 0-6 month,6month-1 year and during 1 to 5year asked. Other relevant information was also recorded. clinical examination of every child was done.

Sample size calculation

Sample size is based on the extent of malnutrition in 1-5 year children belonging to Kamar tribe. It is calculated by using the WHO Sample Size Calculator for estimating by hypothesis test population proportion(one side test) by the formula

$$n = z^2 \cdot p \cdot q / E^2$$

confidence levei 1-a 95%

Relative presicion E 10%

Anticipated population of disease among exposed p1 .48

Anticipated population of disease among non exposed p2

Constant = z

Sample size is n association =390

sample size for prevalance =417

OBSERVATIONS

Table No.1 . Age wise distribution

Age	No. of children	Percent
1—2	74	20.2
2—3	128	34.9
3—4	83	22.6
4—5	82	22.3
Total	367	100.0

Table no 1 show most of the children is 2to 3 year age group

Chart no.1

Table No.2

Sex	No. of children	Percent
Female	174	47.4
Male	193	52.6
Total	367	100.0

Table no 2 show male children is higher then female children;.

Table No.3

Malnutrition	No. of patients	Percent
Normal	146	39.8
Mod	140	38.1
Severe	81	22.1
Total	367	100.0

Table no 3 show most of the children is on moderate malnutrition and then severe malnutrition.

Table No.4

Stunting	No. of patients	Percent
Normal	160	43.6
Mod	110	30.0
Severe	97	26.4
Total	367	100.0

Table no 4 show moderate stunting is more and then se-

vere stunting.

Table No.5

Wasting	No. of patients	Percent
Normal	242	65.9
Moderate	67	18.3
Severe	58	15.8
Total	367	100.0

Table no 5 show moderate wasting is high then severe wasting.

Table No.6

AGE	Malnutrition					Total	
	NOR-MAL	%	Mod	%	Se-vere	%	
1--2	28	37.8	25	33.7	21	28.3	74
2--3	51	39.8	48	37.5	29	22.6	128
3--4	36	43.3	36	43.3	11	13.2	83
4--5	31	37.8	31	37.8	20	24.3	82
Total	146		140		81		367

Table no 6 show moderate malnutrition is more in 3to4 age group and severe is more in 1to 2 year age P=0.17, malnutrition was not significantly different in age groups.

Table No.7

Age	STUNTING						Total
	Normal	%	Mod	%	Severe	%	
1-2	33	43.2	20	27	21	28.3	74
2--3	45	35.1	42	32.8	41	32	128
3--4	42	50.6	25	30.1	16	19.2	83
4--5	40	48.7	23	28	19	23.1	82
Total	124		110		97		367

Table no 7 show more moderate stunting in 2to3 year and severe stunting in 1 to2 year age group P=0.033, Moderate /Severe stunting was significantly more common in age < 3 years.

Table No.8

AGE	WASTING						Total
	Normal	%	Moda-rate	%	severe	%	
1--2	47	51.3	8	10.8	19	25.6	74
2--3	90	70.3	21	16.4	17	13.2	128
3--4	54	65.	18	21.6	11	13.2	83
4--5	51	62.1	20	24.3	11	13.4	82
total	242		67		58		367

Table no 8 show moderate wasting is more in 4 to 5 year age and severe wasting in 1 to2 year of age P=0.62, No significant difference in that age group.

Table No.9

Sex	Malnutrition						Total
	Normal	%	Mod	%	severe	%	
F	71	40.8	62	35.6	41	23.5	174
M	75	38.8	78	40.4	40	20.7	193
Total	146		140		81		367

Table no 9 show moderate malnutrition and severe malnutrition is more in male child P=0.94, No significant difference, in was found.

Table No.10

Sex	STUNTING						Total
	Normal	%	Mod	%	severe	%	
F	81	46.5	46	26.4	47	27	174
M	79	40.9	64	33.1	50	25.9	193
Total	160		110		97		367

Table no 10. show moderate stunting is more prevalent in male child and severe stunting is more in female child P=0.81, No significant difference found.

Table No.11

Sex	Wasting						Total
	Normal	%	moderate	%	severe	%	
F	108	62	34	19.5	32	18.3	174
M	134	69.4	33	17	26	13.4	193
Total	242		67		58		367

Table no 11. show moderate and severe wasting is more prevalent in female child. P= 0.047, Wasting was significantly more common in females.

Table No.12

socioeconomic status	Malnutrition					Total	
	No	%	moderate	%	severe	%	
lii	10	66.6	4	26.6	1	6.6	15
lv	114	38.5	116	39.8	64	19.6	296
V	32	57.1	13	23.2	11	21.6	56
Total	158		133		76		367

Table 12 show moderate malnutrition is high in grade 4 socioeconomic status and severe malnutrition is high in grade 5 socioeconomic status P=0.036, Malnutrition was significantly more common in SES 4&5 than 3.

Table No.13

socioeconomic status	STUNTING						Total
	Normal	%	Mod	%	Se-vere	%	
lii	8	53.3	6	26.6	3	20	15
lv	125	42.9	91	30.7	78	26.3	296
V	30	53.5	12	21.4	14	42.4	56
Total	163		109		95		367

Table no 13 show severe stunting more common in grade 5 socioeconomic status and then moderate stunting more common in grade 4 socioeconomic status P=0.11, No significant difference.

Table No.14

Socio economic status	Wasting				Total		Se-vere	%
	Nor-mal	%	Moda-rate	%				
iii	6	40	3	20	1	6	15	
iv	101	34.1	153	52	42	14.2	296	
v	7	12.5	39	69.6	10	17.8	56	
Total	114		67		58		367	

Table no 14 show severe and moderate wasting is high-er in grade 5 socioeconomic status P=0.035, Wasting was significantly more common in SES 5.

Table No.15

ANC	Malnutrition						Total
	Normal	%	Mod	%	severe	%	
0	41	31.5	56	44.6	33	25.3	130
1	22	40	20	36.36	13	23.6	55
2	28	41.7	26	38.8	13	19.4	67
3	66	48.6	32	27.8	17	14.7	115
Total	157		134		76		367

Table no 15 show that in no ANC visit more moderate and severe malnutrition then 3 ANC visit P=0.47, Not significant.

Table No.16

PLACE of delivery	Malnutrition						Total
	Normal	%	Mod	%	Severe	%	

Home	102	38	107	39.4	61	22.5	271
Hospital	43	44.7	33	34.3	20	20.8	96
Total	68		140		81		367

TABLE 16 show in present malnutrition is more common in home delivery P=0.24 statically not significant.

Table No.17

Complete vaccination	Malnutrition						Total
	Normal	%	Mod	%	Severe	%	
No	40	35.0	50	43.8	24	21	114
Yes	103	40.7	101	39.9	49	19.3	253
Total	143		155		69		367

Table no 27 show in present study malnutrition is more common those children who not receive primary series of immunize P=0.31 statically not significant.

Table no 19 Correlation Malnutrition and duration of breast feeding

Breast feeding	normal	%	Moderate	%	Severe	%	Total
No	16	18.8	49	57.6	20	23.5	85
Up to 6 month	52	53	32	32.6	14	14.2	98
6 month to 1 year	38	38	44	44	18	18	100
Above 1 year	22	26.1	44	52.3	18	21.4	84
Total	128		169		70		367

Table no 30 show in present study malnutrition is increase with no and continue breast feeding above 1 year age. P=0.002, Significantly more malnutrition in children with no and continue above 1year of breast feeding.

Table no 20 Correlation of malnutrition and weaning

age	normal	%	malnutrition	%	Total
Early	45	33.3	90	66.6	135
normal	68	57.6	50	42.3	118
late	32	28	82	71.9	114
total	145		222		367

Table no 31 show at present study show as malnutrition is increase with early and late weaning age P< 0.001, Significantly more malnutrition if weaning at 8 months or late.

Table 21 VACCINATION STATUS IN KAMAR PRIMITIVE TRIBE

SN	VACCINATION	TARGET	ACHIVEMENT	%
1	BCG	367	314	86
2	OPV ODOSE	367	314	86
3	OPV 1 ST	367	284	78
4	OPV 2 ND	367	262	72
5	OPV 3 RD	367	251	69
6	DPT 1 ST	367	284	78
7	DPT 2 ND	367	262	72
8	DPT 3 RD	367	251	69
9	MESELES+VIT A	367	300	82.2
10	DPT 1 ST BOOSTER	329	165	51
11	DPT 2 ND BOOSTER	24	5	11.6

Table 21 show in my present study BCG is highest but DPT 2nd BOOSTER is lowest .

Table no 22 show fully immunization among kamar tribe

	No of children	% of children
YES	253	69
NO	114	31

Table no 30 show 69% children were fully immunise while 44% were not /partially immunize.

Table 23 MORBIDITY PATTERN AMONG KAMAR CHILDREN

MORBIDITY	NO OF CHILD	%
Depigmented hair	66	18
Anaemia	250	68
Conjunctival xerosis	117	32
Angular stomatitis	26	7
Carries teeth	18	5
Skin infection	102	28
Earache	33	9

In present study anaemia(68%) is most prevalent followed by conjunctiva xerosis(32%),skin infection(28%),earch(9%),Angular stomatitis(7%),then carries teeth(5%)

Table 24 Morbidity pattern among kamar as per history

Disease	No of children	%
Jaundice	44	12
ARI	128	35
Diarrhoea	59	16
Malaria	7	2
Fever	136	37

In present study show on past history most common is fever(37%) but cause not found followed by ARI(35%),Diarrhoea (16%) jaundice (12%) then lastly malaria(2%) .

Table 25Age wise morbidity pattern of kamar tribe

AGE	Depigmented hair	Anemia	Co-junctiva xerosis	Angular stomatitis	Carries teeth	Skin infection	Earche
1to2	12	68	9	2	2	22	0
2to3	18	88	25	12	2	32	3
3to4	16	66	38	12	8	18	18
4to5	30	28	45	12	6	30	12

In present study anemia is common in all age group,conjunctival xerosis is increasing with age angular stomatitis is low in lower age group and depigmented is increase with increasing age skin infection and earche common in all age group

DISCUSSION

Out of 5 primitive tribes of Chhattisgarh Pahari Korwa and Birhor primitive tribes live in Jashpur, Sarguja, Raigarh, Bilaspur & Korba distric abujhmara tribe is live in bastar. As per survey conducted by State tribal Board years 2005, kamar are circum-tribe living in southern part of Raipur district their total population is about 13500,spread over 200 vilages in 4 block mainly Gariyaband, Chhura, Mainpur and Nagri.in Nagri block and population in nagri block is 4115.

Morbidity pattern :

In the present study to assess morbidity pattern in kamar children clinical examination and past history evaluation were used. On clinical examination following percentage of morbidity found in children (both age and sex combined). anemia was found to be most common morbidity (68.0%), followed by conjunctival xerosis (32.0%),skin infectio infections (28%),and depigmented hairs (18%) earche (9%), angular stomatitis (7%),carries teeth(5%).

KM Susmitha37* et all in 2012 found the leading causes of morbidity were pediculosis (83.2%), pallor (41%), dysmenorrhoea (43.6%), dental caries (28%), skin diseases (26.4%), vitamin deficiency (21.5%), and passing worms in stools (13.2%) and defective vision (12%).

Tapas Chakma et al³ 2006(regional medical research centre for tribals,Jabalpur) found that ARI most common (30.9)% ,scabies 12.9% malaria11.5%. However, B-thalassaemia was found to be 6.5% in this tribe.and G6PD is found 1.6%.

Sarjapura V. Divakar et al³⁹ (2012) Major sicknesses reported at the time of surveys among tribal populations were nutritional deficiencies(14.68%),skin infections (12.78%),diarrhoeal disorders (12.25%) followed by dental disorders (10.98%).

A study conducted by **Singh et al(2006)** in urban slums

of **lucknow**⁴⁰, the various morbid conditions found were inadequate oral hygiene (55.4%), pediculosis (39.2%), cold and cough (25.8%), lymphadenopathy (22.2%), scabies (16.2%), inflamed tonsils (7.8%), and ear discharge in (7%) girls.

A study conducted by satpathy et al (2008) in tribal children of Orissa of age up to 15 years⁴¹, different type of morbidities found were fever (24.4%), ARI (35.4%), goiter (14.4%), diarrhoea (5%).

The high % of anaemia and conjunctival xerosis reflects poor nutritional status of children, while high % dental caries and skin infections reflects poor personal hygiene and overcrowding.

Morbidity pattern as per past history was found as follows:

In present study morbidity was also assessed by past history and found to have prevalent some morbid conditions i.e. Acute febrile illness (non malaria) was most frequent (in 37% children), while h/o malaria was also prevalent (2%), h/o envenomation/animal bite found to be as common as 16%, while, h/o jaundice in 12% children, recurrent A.R.I. in 35%, h/o blood, mostly due to malaria, while h/o recurrent diarrhoea 16%.

Tapas Chakma et al³ 2006 (regional medical research centre for tribals, Jabalpur) Acute respiratory infections (30%) and scabies (12.9%) were the two major morbidities observed. They also compared morbidity profile of all 7 primitive tribes of M.P. and C.G. which is as follows:

ICMR BULLETIN 2003⁴²: prevalence different morbidities in tribal children of Orissa was found to be anaemia in children 79.8; children with acute respiratory infection 22.4; children with recent diarrhoea 21.1.

KM Susmitha et al in 2012 found in scheduled tribe girls in Nellore, A.P⁴³. also studied morbidity as per recent past history and found h/o pyrexia in 42%, scabies in 16.7%, diarrhoea 11.07%, A.R.I. 6.64%, exanthematous fever 3.8%.

AGE WISE DISTRIBUTION OF MORBIDITIES:

Table 6 shows that anaemia and skin infection were prevalent in all age groups, while hair dyspigmentation became less prevalent as age advanced, so was caries teeth, lymphadenopathy was more prevalent in younger, while conjunctival xerosis infections were less common in lower age group.

KM Susmitha et al in 2012 found⁴³ that diseases related to poor personal hygiene were less prevalent as age advanced, while defective vision, ENT diseases were more prevalent in advanced age group.

Health status: in current study to assess the health status in kamar children we used anthropometric indices and compare them with WHO reference tables for weight for age (1-5 years of age).

MALNUTRITION: malnutrition was assessed in present study by weight for age assessment. W.H.O. (2007) reference tables/charts were used to interpret the results. As discussed above. In present study overall we found (age and sex combined) 38.1% children to moderately, while 22.1% children to be severely malnourished. Stunting moderate (30%) and severe (26.4%), then wasting is moderate (18.3%) and severe (15.8%).

Distribution and relation of different variables with malnutrition is as follows:

K malikharjuna rao hari kumar Nutritional status of saharia tribe⁴⁴ a study conducted in 0 to 5 year child in two block kishanganj and shahbad with 8 village and 238 children found 72 % of children has moderate malnutrition and 24% children is severe undernutrition. moderate stunting 68% and

severe stunting (38%) wasting is 13%.

Nutritional problem in urban slum shanty ghose⁴⁵ is found that in delhi 58% is underweight in lucknow 68% is underweight.

M uppall k kumara study⁴⁶ in 1 to 5 year age group in 1000 children in scheduled cast and found 39.3% in moderate undernutrition and 14.3 % in severe under nutrition.

Mangla subramaniam et al³⁶ studies in 268 children under 5 year and found 63.8 % children is undernourished.

Nutritional status with age group

in present study we see that moderate malnutrition is more in 3 to 4 age group and severe is more in 1 to 2 year age

Renuka m rakesh a et⁴⁷ al study done in jenukuruba tribe of Karnataka in 1 to 5 year child a cross sectional observational study done in august 2011 and taken 220 children found that more malnourished children in 4 to 5 year age group then 2 to 3 year age group.

Mangla subramaniam et al³⁶ seen more malnutrition in 3 to 4 year age group then 2 to 3 year age group.

Distribution of malnutrition as per sex :

in present study malnutrition was slightly more prevalent in boys (total 61.1%), moderate malnutrition 40.4%, severe malnutrition in 20.7%) then girls (total 59.1%, mod. Malnutrition 35.6%, severe malnutrition 23.5%), stunting is more common in male child 60% moderate stunting 33.1% severe 25.9% and in girl total stunting 53.4% moderate stunting is 26.4% severe 27%, but in case of wasting the female child more wasted total wasting 37.8% moderate 19.5% severe 18.3% but in male child total wasting 30.4% and moderate wasting 17% and severe 13.4%.

Venkaiah K et al⁴⁸ (2002) National Institute of Nutrition, Indian Council of Medical Research, Hyderabad also found similar distribution of malnutrition across both sexes. The prevalence of under nutrition (<median -2 s.d. of NCHS weight for age) is higher (53.1%) in boys than in girls (39.5%).

M uppall k kumara et al⁴⁶ study nutritional status in pre school children in scheduled tribe in Punjab the study conducted in 1 to 5 year age group in 1000 children in Amritsar and found that girl slightly more malnourished 57.8% moderate 41.1% severe 16.7% and in case of boy total malnutrition 53.6% moderate is 39.1% and severe is 14.39%.

Mangla subramaniam et al³⁶ seen malnutrition in female child is 65.2% and male is 62.2%.

Renuka m rakesh et al⁴⁷ seen underweight more common in female child 41% and male child 35.9% in stunting slightly high in male 36.9% in female 36.8 then wasting more common in female 21.4% then male 15.5%.

Correlation between malnutrition and socioeconomic status:

In present study correlation between malnutrition of child and socioeconomic status as according to Prasad classification studied, found that malnutrition was more prevalent in grade 3 stunting more prevalent in grade 3 but wasting more prevalent in grade 5.

While **Renuka m rakesh et al**⁴⁷ found underweight more common in low socioeconomic class 40.8% and medium class 28.6% stunting more common in low economic class 38% and in medium 31.4% then stunting is also more in low socioeconomic class 20.1% then medium class 11.4%.

While **D.hanumantha rao et al (1993)** same relation of malnourished child with mothers education, but that was statistically significant.

Correlation in ANC visit and malnutrition

In present study show undernourished ,stunting and wasting children is more common in no ANC visit of mother respectively 69.3%,63% 47% but in mother who visit 3 ANC check-ups found 51.2%,59.9%39% respectively.

Dr. Apurvadan N Ratnu⁴⁹ Prevalence of Under Nutrition in 0-5 Year Children of Junagadh District, Gujarat seen that complete ANC visit (3 anc visit cause 17.3% moderate malnutrition then no ANC visit 27.3% and in severe malnutrition complete visit 9.1%then no visit 6.2%.

Correlation between place of delivery and malnutrition

In present study found that three under nutrition indicators (underweight = 61.9 %, stunting =57.5 % and wasting = 35.7 %) were higher among the home delivery children (HDC) compared to health institution delivery children (HIDC): underweight = 55.1 %, stunting = 53 % and wasting = 29.1 %.

Kebede Mengistu⁵⁰et al found that in home delivery 79.5% children is malnourished then health care delivery 20.5%.

Adaruddin Biswas and Kaushik Bose

⁵¹ at el Overall rates of underweight, stunting and wasting among the studied preschool children were 48.30%, 48.20% and 10.60%, respectively. Rates of the three under nutrition indicators (underweight = 60.78 %, stunting =57.15 % and wasting = 13.42 %) were higher among the home delivery children (HDC) compared to health institution delivery children (HIDC): underweight = 10.42 %, stunting = 21.04 % and wasting = 2.20 %..

Correlation of vaccination and malnutrition in present study found that malnutrition is slightly high in no fully immunize children 64.8 % then immunize 59.2%. While

Renuka m rakesh et al⁴⁷ found that fully immunize children show 38.1% malnutrition when partial or no fully immunize41.2%.

Dr. Apurvadan N et al found that⁴⁹ fully immunize children show 56.5% malnutrition when partial or no fully immunize62.6%.

Correlation between Malnutrition and duration of breast feeding

In present study seen that no breast feed child develop 17.5 % malnutrition and above 6 month continue EBF child develop more malnutrition16.8%.

Correlation between weaning age and malnutrition

present study show as malnutrition is increase with early weaning age 26.4% . and late weaning age 22.3% more malnutrition.

Khan MAS, Hossain MM⁵² et al shoe that early weaning cause 77.2% and late weaning cause 66% of malnutrition. Children's immunization is an important component of child survival programme in India withefforts focussing on six serious, but preventable diseases, Tuberculosis, Diphtheria, Pertussis, Tetanus,Polio and Measles. The object of UIP launched in 1985-86 was to extend immunization coverage to at least85% of infants by 1990. And the target now is 100%.

In Chhattisgarh only 74.1 1*% of children aged 12-23 months, are fully immunized, 26.9% have received some, not all recommended vaccinations. . Only 89.4% children received measles vaccine, The drop out rates are very high for the vaccinations. The public sector is the major source of childhood vaccinations in Chhattisgarh. In our study we found BCG 86% but the third dose of DPT 3rd and DPT booster 2nd is very low.

CONCLUSION

In current study we found high prevalence of morbidities i.e. nutritional deficiency diseases ,infectious diseases including

malaria, diarrhoea ,acute respiratory tract infection, envenomation etc in kamar tribal children (1-5 years) of Nagri block, Dhamtari,C.G..

However health status of these children(assessed by anthropometric indices) when compared with other tribes of different states was not critical this may be an impact of efforts put by government for upliftment of the tribe and slow however but their assimilation in mainstream society.

Further efforts are needed to improve their health status by making health care more accessible to them and making them part of main stream society further. nutritional status of the children belonging to kamar tribe of Nagri block is more severe. We feel that –

1. The economic status of the parents must be improved.
2. Parents will be acknowledged about the nutritive values of locally available foods.
3. Children have to supply with the foods having proper balance of protein, carbohydrate, fat and minerals.
4. Moreover, the parents must be cautious about the children health and development.
5. Target type of supplementary nutritional programme may be started from the Government

LIMITATIONS OF STUDY

- 1.Cross-sectional study was conducted due to paucity of time and man power. Comparatively, a longitudinal study is a better indicator of health problems in a study population.
2. Morbidity status of the study population was assessed by relevant history and clinical examination, but it was not supported by laboratory parameters.
3. Present study was Small sample study ,to get more conclusive results larger studies are recommended.

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