

# RDAS FOR TARGET GROUPS

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**Mondelez**  
International  
SNACKING MADE RIGHT



# OUTLINE

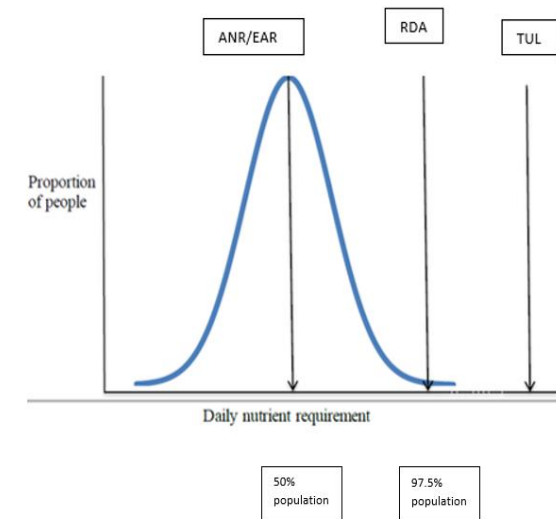
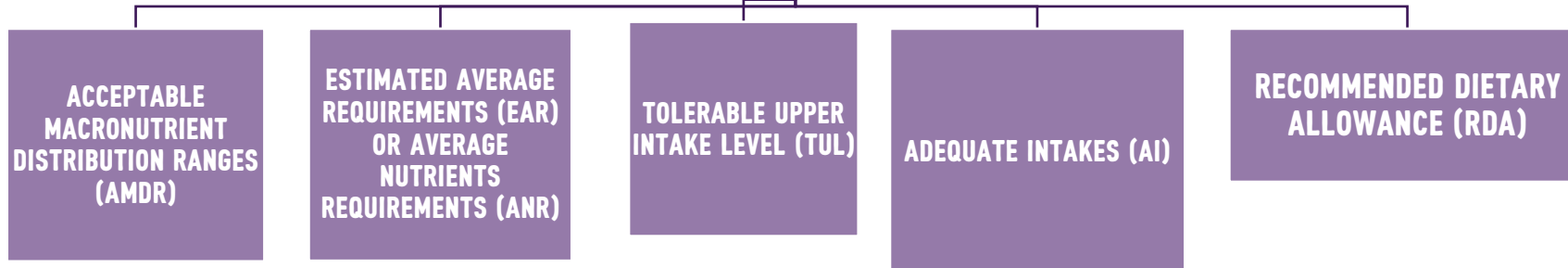
- **RDAS** what are they, why do we require them
- **BASIS FOR DECIDING RDAS** what factors determine them
- **CURRENT INDIAN FOOD HABITS** Do we eat Right
- **HEALTH STATUS OF INDIANS** How are we faring
- **FORTIFICATION** Effective tool to manage undernutrition
- **FORTIFIED PRODUCTS** Are they The Solve

# RDAS – WHAT ARE THEY & WHY DO WE NEED THEM

## DIETARY REFERENCE VALUES/ REFERENCE NUTRIENTS INTAKES

Policymakers and other stakeholders to empower individuals and populations on **consumption of a healthy, nutritionally adequate diet.**

- Planning diets,
- Assessing their adequacy in healthy individuals/population prevention of chronic diseases,
- Providing nutrition education,
- Nutrition labelling and
- Fortification



- ✓ Average daily level intakes of nutrients to meet the requirements of **97.5<sup>TH</sup>** percentile of **Healthy people**
- ✓ **Age Gender Physiological group** specific
- ✓ **May not apply to all (sick/therapeutic condition)**
- ✓ **EAR- Energy/Fats; RDA: Proteins, Vitamins, Minerals**

Ref: ICMR, 2020

# WHY RDAS

Amounts of nutrients for normal **GROWTH, DEVELOPMENT AND MAINTENANCE (RECOVERY)**

- Monitor consumption status
- Assess Health Status
- Plan policies

# WHAT DETERMINES RDAS

ROLE AND FUNCTION OF NUTRIENTS

DIET AND DIETARY COMPOSITION

BIO- ACCESSIBILITY/  
BIO-AVAILABILITY

COOKING PRACTICES

AGE

REFERENCE WEIGHT

PHYSIOLOGICAL CONDITIONS

ACTIVITY LEVEL

HEALTH STATUS OF POPULATION

EVOLVED PRINCIPLES & TECHNIQUES



Nutrient demand increases as we age

Adults/adolescents have higher RDAs

Elders/Geriatrics have specialised needs

Pregnant/Lactating women have increased demands

# SOME OF THE GROUPS HAVE HIGHER RDAS THAN OTHERS

SUMMARY OF RDA FOR INDIANS - ICMR- NIN, 2020

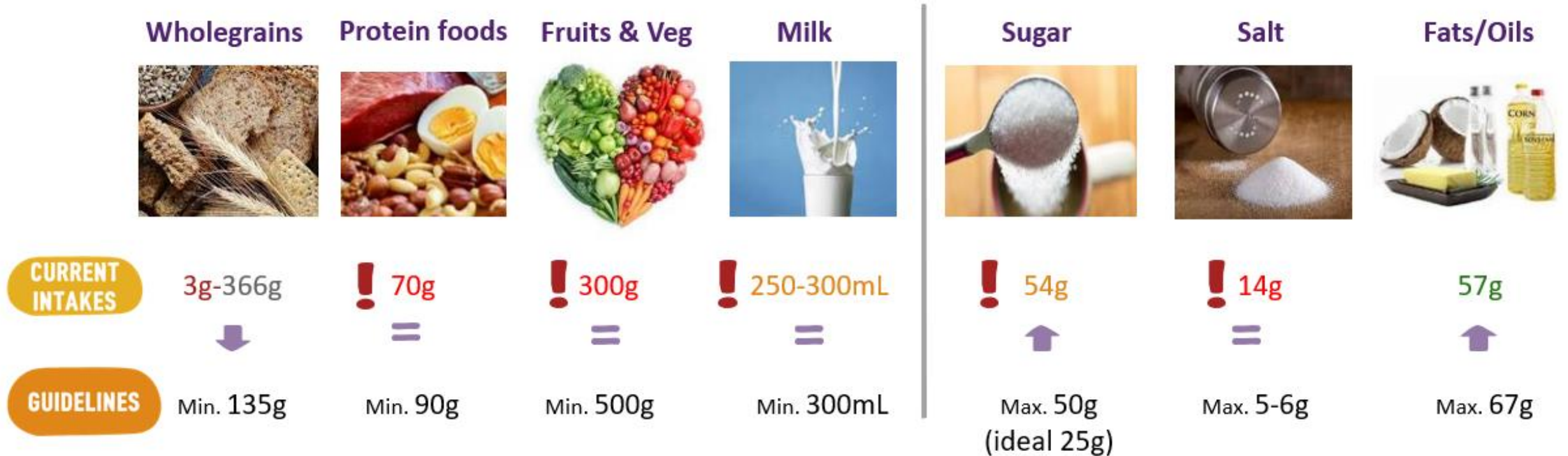
Age Group	Category of work	Body Wt	Protein	Dietary Fiber*	Calcium	Magnesium	Iron	Zinc	Iodine	Thiamine	Riboflavin	Niacin	Vit B6	Folate	Vit B12	Vit C	Vit A	Vit D
		(kg)	(g/d)	(g/d)	(mg/d)	(mg/d)	(mg/d)	(mg/d)	(mg/d)	(µg/day)	(mg/d)	(mg/d)	(mg/d)	(mg/d)	(µg/d)	(µg/d)	(mg/d)	(µg/d)
Men	Sedentary	65	54.0	30	1000	440	19	17	140	1.4	2.0	14	1.9	300	2.2	80	1000	600
	Moderate			40						1.8	2.5	18	2.4					
	Heavy			50						2.3	3.2	23	3.1					
Women	Sedentary	55	46.0	25	1000	370	29	13.2	140	1.4	1.9	11	1.9	220	2.2	65	840	600
	Moderate			30						1.7	2.4	14	1.9					
	Heavy			40						2.2	3.1	18	2.4					
	Pregnant woman	55 + 10	+9.5 (2 <sup>nd</sup> trimester) +22.0 (3 <sup>rd</sup> trimester)	-	1000	440	27	14.5	220	2.0	2.7	+2	2.3	570	+0.25	+15	900	600
	Lactation 0-6m		+17.0	-	1200	400	23	14.1	280	2.1	3.0	+5	+0.26	330	+1.0	+50	950	600
	7-12m		+13.0	-							2.9		+0.17					
Infants	0-6 m*	5.8	8.0	-	300	30	-	-	100	0.2	0.4	2	0.1	25	1.2	20	350	400
	6-12m	8.5	10.5	-	300	75	3	2.5	130	0.4	0.6	5	0.6	85	1.2	30	350	400
Children	1-3y	12.9	12.5	15	500	90	8	3.3	90	0.7	1.1	7	0.9	120	1.2	30	390	
	4-6y	18.3	16.0	20	550	125	11	4.5	90	0.9	1.3	9	1.2	135	2.2	35	510	600
	7-9 y	25.3	23.0	26	650	175	15	5.9	90	1.1	1.6	11	1.5	170	2.2	45	630	
Boys	10-12y	34.9	32.0	33	850	240	16	8.5	100	1.5	2.1	15	2.0	220	2.2	55	770	600
Girls	10-12y	36.4	33.0	30	850	250	28	8.5	100	1.4	1.9	14	1.9	225	2.2	50	790	600
Boys	13-15y	50.5	45.0	43	1000	345	22	14.3	140	1.9	2.7	19	2.6	285	2.2	70	930	600
Girls	13-15y	49.6	43.0	36	1000	340	30	12.8	140	1.6	2.2	16	2.2	245	2.2	65	890	600
Boys	16-18y	64.4	55.0	50	1050	440	26	17.6	140	2.2	3.1	22	3.0	340	2.2	85	1000	600
Girls	16-18y	55.7	46.0	38	1050	380	32	14.2	140	1.7	2.3	17	2.3	270	2.2	70	860	600

\* Adequate Intake (AI)

Note: For adequate intake of Biotin and Pantothenic acid, refer to the text on summary of recommendations.

# ACTUAL INTAKES ARE FAR FROM RECOMMENDATIONS

INDIANS ARE NOT CONSUMING ENOUGH FRUIT, VEG AND MILK BUT TOO MUCH SALT AND SUGAR



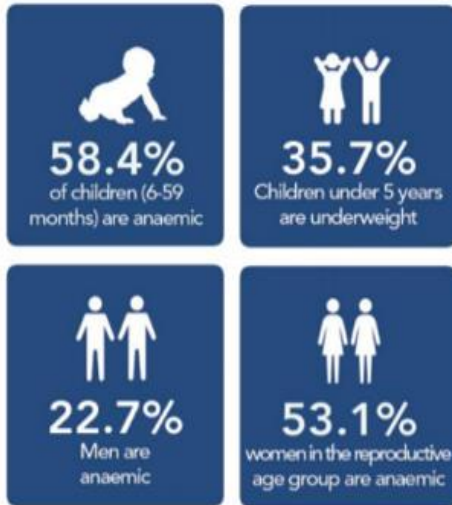
Dietary Guidelines for Indians, 2011  
FSSAI Expert Committee Report on HFSS, 2017  
NNMB 2017, Sharma 2020  
Radhika et al, PPHN 2010; Narasimhan et al, IJMR 2016  
Adv Nutr March 2014 (Rekha Sharma ILSI Prstn)

# HEALTH STATUS OF INDIANS: HIDDEN HUNGER IS PREVALENT AMONG ALL

## MALNUTRITION IS SEVERE IN INDIA: 2 IN 3 INDIANS ARE DEFICIENT IN ESSENTIAL NUTRIENTS

### 4 Major Public Health Concerns

- Iron Deficiency Anaemia (IDA)
- Iodine Deficiency Disorders (IDD)
- Vitamin A Deficiency (VAD)
- Vitamin D Deficiency (VDD)



National Family Health Survey (NFHS-4), 15-16

	Pre-school Children (1-4 years) Percentage	School-age Children (5-9 years) Percentage	Adolescents (10-19 years) Percentage
Vitamin A	18	22	16
Vitamin D	14	18	24
Vitamin B12	14	17	31
Folic Acid	23	28	37

CNNS, 2019



**'HIDDEN HUNGER' IS A LACK OF VITAMINS AND MINERALS.**

- LOWER INTAKE OF FOOD
- LOWER QUALITY OF FOOD: LACK OF NUTRIENTS

Proteins Deficiency

**32%** children (<6y) deficient

**80%** adults intake below guideline

We may not feel hungry but our bodies feel this hidden hunger and our health suffers regardless

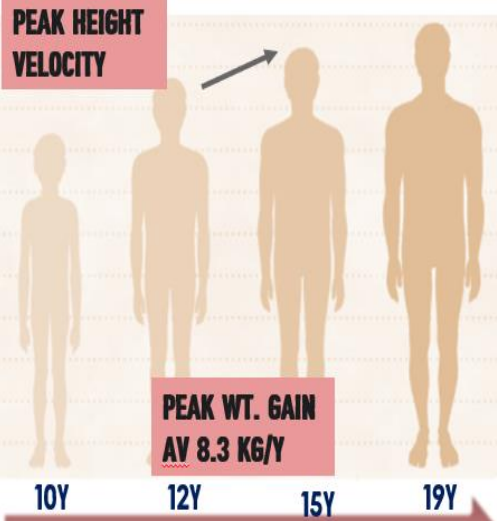
# EXAMPLE: ADOLESCENTS IS STAGE WITH HIGH DEMANDS

## CHANGES DURING ADOLESCENCE

### 2<sup>ND</sup> GROWTH SPURT

- PHYSIOLOGICAL
- SEXUAL
- NEUROLOGICAL
- BEHAVIORAL/EMOTIONAL
- SOCIAL

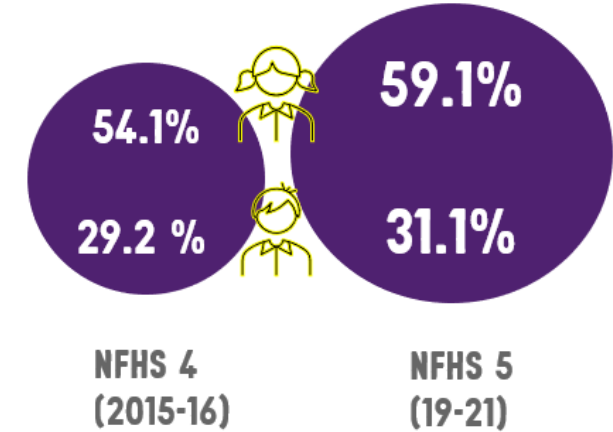
### MARKED INCREASE IN HEIGHT AND WEIGHT



Corkins et al, 2016

- **HEIGHT:** Bone mass, BMD/BMC
- **WEIGHT:** 50% ADULT WEIGHT. Reference body weight is **34.9-64.4kg.** (ICMR, 2020)
- **INCREASE IN BLOOD VOLUME**
- **INCREASE IN ORGAN SIZE-** heart, brain lung liver kidney

## ANAEMIA CONTINUES TO WORSEN



### 15-19 YEARS

**FORTIFICATION IS NECESSARY TO MEET THE RDAS FOR SOME NUTRIENTS**

## ENERGY AND NUTRIENT REQUIREMENTS ARE EQUAL OR MORE THAN ADULTS

### ESTIMATED AVERAGE REQUIREMENTS

- ENERGY: EAR 2060-3320 KCAL/D
- FAT: 25%E (TOTAL FAT), 35-50G VISIBLE FATS/D

### RDAS FOR MACRO AND MICRONUTRIENTS

Age Group	Category of work	Body Wt (kg)	Protein (g/d)	CHO (g/d)	Cal cium (mg/d)	Magne sium (mg /d)	Iron (mg/ /d)	Zinc (mg /d)	Iodine (µg/ /day)	Thiamine (mg /d)	Ribo flavin (mg /d)	Niacin (mg /d)	Vit B6 (mg/ /d)	Folate (µg /d)	Vit B12 (µg/ /d)	Vit C (mg/ /d)	Vit A (µg/ /d)	Vit D (IU/ /d)
Boys	10-12y	34.9	31.8	130	850	270	16	8.5	150	1.5	2.1	15	2.0	220	2.5	54	770	600
Girls	10-12y	36.4	32.8	130	850	255	28	8.5	150	1.4	1.9	14	1.9	225	2.5	52	790	600
Boys	13-15y	50.5	44.9	130	1000	355	22	14.3	150	1.9	2.7	19	2.6	285	2.5	72	930	600
Girls	13-15y	49.6	43.2	130	1000	325	30	12.8	150	1.6	2.2	16	2.2	245	2.5	66	890	600
Boys	16-18y	64.4	55.4	130	1050	405	26	17.6	150	2.2	3.1	22	3.0	340	2.5	82	1000	600
Girls	16-18y	55.7	46.2	130	1050	335	32	14.2	150	1.7	2.3	17	2.3	270	2.5	68	860	600

ICMR RDAs, 2020

# FOOD BASED PUBLIC HEALTH STRATEGIES TO COMBAT MALNUTRITION ARE BEST EFFECTIVE



These approaches should be regarded as complementary, with their relative importance depending on local conditions and the specific mix of local needs

- **DIETARY DIVERSIFICATION**
- **NUTRITION EDUCATION,**
- **PUBLIC HEALTH AND FOOD SAFETY MEASURES**
- **SUPPLEMENTATION**
- **FOOD FORTIFICATION:** *The process whereby nutrients are added to foods (in relatively small quantities) to maintain or improve the quality of the diet of a group a community or a population*
  - **Effective Scalable Affordable** and **Sustainable**
  - **Preventive, Safer** intervention strategy



# FORTIFICATION IS WELL GUIDED AND REGULATED

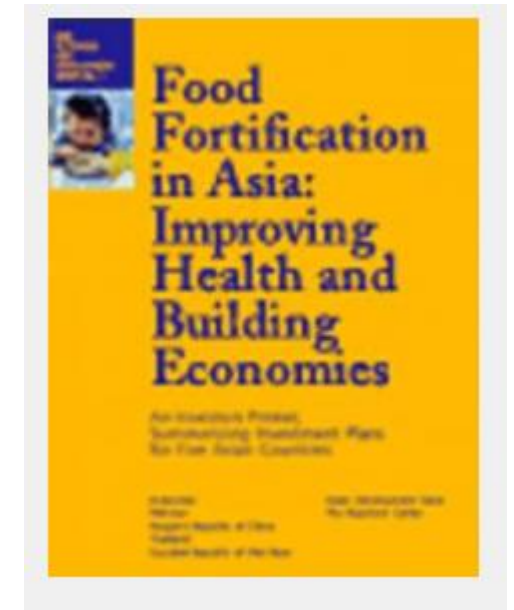
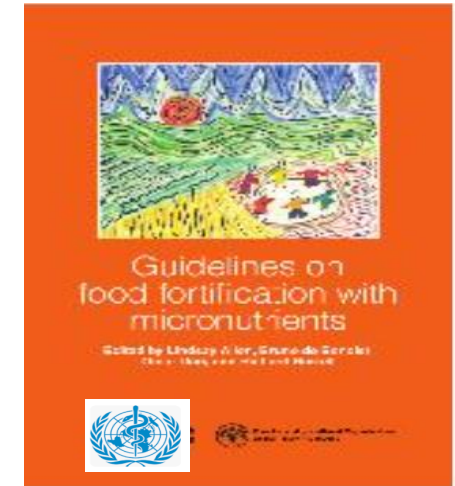
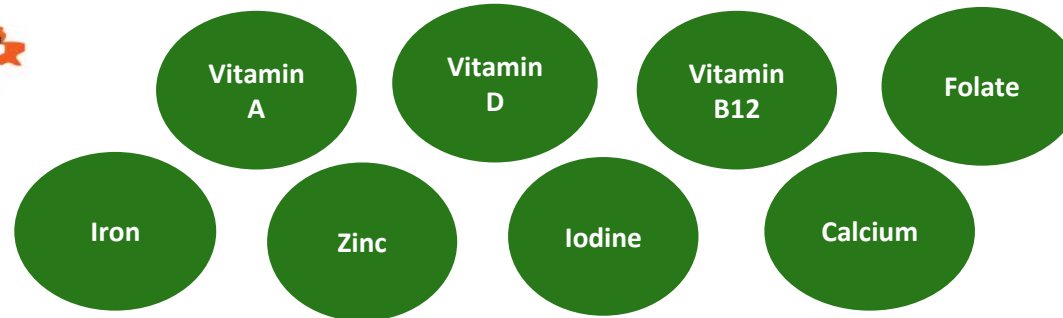


1/3<sup>RD</sup> RDA AS MEANINGFUL FORTIFICATION

MIN. 15-30% RDA OF RESPECTIVE TG TO MAKE CLAIMS

NOT MORE THAN 100%RDA

   
**DAILY RECOMMENDATIONS  
AND FOOD FORTIFICATION**  
A Handbook for States/UTs



# FORTIFICATION IS A KEY STRATEGY TO IMPLEMENT NATIONAL FLAGSHIP PROGRAMME

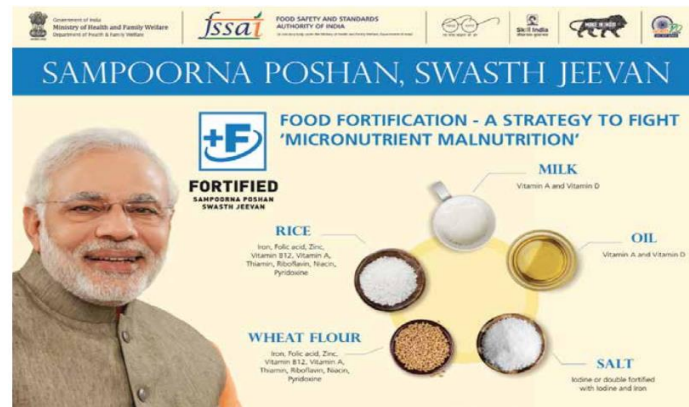


Mandatory/Voluntary Fortification

Goitre



सही पोषण - देश रोशन



Vanaspati 1953



Picture courtesy : Outlook  
<https://www.outlookindia.com/website/story/outlook-spotlight-fortifying-food-fortifying-india/371530>



# CURRENTLY THERE ARE A WIDE VARIETY OF FOOD PRODUCTS FORTIFIED WITH NUTRIENTS



Biscuits



Breakfast cereals



Dairy



Fruit juices/  
water based  
flavoured drinks



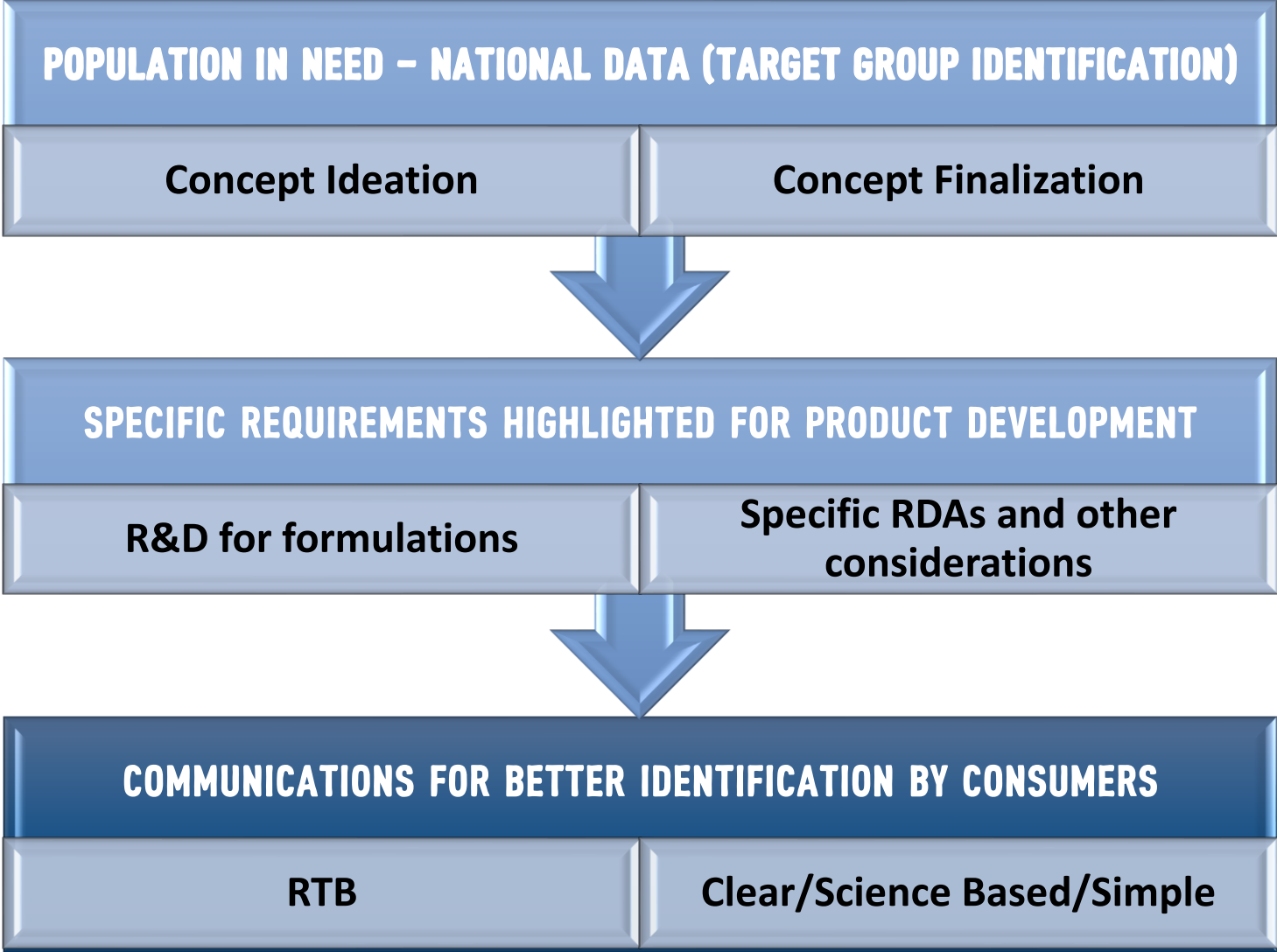
Cereal based  
milk beverage



Instant  
noodles



Snack  
Bars



# PERTINENT CLAIMS RELEVANT TO PRODUCTS TO MAKE THEM RELEVANT TO THE TARGET POPULATION



**FOR CHILDREN 2 YEARS AND ABOVE**

- GROWTH CATCH-UP** (Icon: Upward arrow)
- IMMUNE FUNCTION** (Icon: Plus sign)
- BRAIN DEVELOPMENT** (Icon: Brain)

SPECIFICALLY FORMULATED WITH ESSENTIAL NUTRIENTS TO SUPPORT GROWTH CATCH-UP



- PHOSPHORUS** Building blocks for normal bone development
- VITAMIN D** Helps absorb calcium from various foods
- PROTEIN** Helps in muscle building and muscle repair
- IRON, FOLATE, B12** Essential for blood formation and maintaining a healthy brain and nervous system
- IODINE** Aids normal brain development and functions

- High In Vitamin B1, B2, B3, B6 & Folate
- High In Iron
- High In Vitamin C
- High in Protein
- High in Fibre



SCIENTIFICALLY DESIGNED HIGH PROTEIN DRINK

SOY WHEY CASEIN TRIPLE PROTEIN BLEND



- 7g DIETARY FIBRE
- 26 KEY NUTRIENTS
- 16g PROTEIN

SCIENTIFICALLY DESIGNED NUTRITION FOR PREGNANCY AND LACTATION

- 25 VITAL NUTRIENTS
- PROTEIN FOR HEALTHY BIRTH WEIGHT
- DHA FOR BRAIN DEVELOPMENT
- NO ADDED SUGAR\*

# TAKE AWAY POINTS

- ➔ CONSUMING A **BALANCED DIET** PROVIDING ALL NUTRIENTS PRIMARILY
- ➔ CREATE AWARENESS ABOUT THE **BENEFITS OF FORTIFIED FOODS** AS A MEANS TO FILL IN THE GAPS IN THE INTAKES
- ➔ **MEANINGFUL FORTIFICATION** – AS PER THE REQUIREMENT OF THE TARGET GROUP
- ➔ USAGE OF FORTIFIED FOODS AMONG **ALL AGE GROUPS**
- ➔ ENSURE THE **WIDESPREAD AVAILABILITY** OF FORTIFIED FOODS – **ACHIEVABLE/ACCESSIBLE/AFFORDABLE**
- ➔ ENCOURAGE **VOLUNTARY FORTIFICATION PRACTICES** AND INCREASING DEMAND BY A WELL INFORMED CONSUMER



A man with a beard and a blue hoodie is smiling and looking down at a granola bar he is holding in his hand. A blue water bottle is on the table in front of him. The background is a bright, indoor setting.

**THANKS FOR YOUR  
ATTENTION !**

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