

CENTRE FOR SCIENCE AND ENVIRONMENT



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JUNK FOOD – LABELLING IT RIGHT

**February 10, 2020
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What are junk foods?

- “Junk food is the food that contains little or no protein, vitamin or minerals but is rich in salt, fat and energy” (as per NIN, ICMR)
 - also now called as **HFSS food** - i.e. food high in fat, sugar and salt - as industry did not like its food to be called as ‘junk’
 - At times referred as **calorie dense** food or food with **empty calories** (e.g. SSBs)
 - These are **ultra-processed** foods with several **chemicals** and preservatives
- **Growing in popularity, they are often cheap, aggressively marketed - specially targeted at children, and are easily available almost everywhere**

Why is it important to label junk foods right?

- Junk foods have been globally linked with bad health
- Strongly associated with **non-communicable diseases (NCDs)**
 - hypertension, diabetes, heart diseases (and even certain cancers); through precursor conditions like obesity, high blood sugar and high cholesterol
 - disease burden due to unhealthy diet and these precursor conditions has increased from 10% to 25% since 1990 (ICMR, 2016)
- Linked with **double burden** of malnutrition and obesity, specifically in poor countries
- **Labelling** – recognised as an important regulatory tool, apart from restricting marketing and availability in schools and universities

Current and proposed labelling law

As of today, even salt is not required to be labelled, though hypertension is recognized as a household phenomenon

PROVISIONS



CURRENT LAW

FSS (Packaging & Labelling) Regulations, 2011



PROPOSED REGULATION

Draft FSS (Labelling and Display) Regulations, 2019

NUTRITION LABELLING

- Energy (in Kcal)
- Protein (in g)
- Carbohydrate with sugar (in g)
- Total fat (in g)
- Trans fat (in g) [included after law was amended in 2016]
- Saturated fat (in g) [included after law was amended in 2016]

These nutrients are to be declared at the back of pack per 100 g or ml or per serve

Serving size only in case of per serve declaration of nutrients

- Energy (in Kcal)
- Carbohydrate with sugar
- Trans fat
- Cholesterol
- Added sugar
- Protein
- Total fat
- Saturated fat
- Sodium

These nutrients are to be declared at the back of pack per 100 g or ml or per serve

Their per serve contribution to RDA*, considering 2,000 Kcal, 67 g of fat, 22 g of saturated fat, 2 g of trans fat, 50 g of added sugar, and 2,000 mg of sodium will also be declared

Serving measure and number of servings

FRONT-OF-PACK LABELLING

No provision

It has two parts

Upper part declares the amount of energy, saturated fat, trans fat, added sugar and sodium per serve

Bottom part declares per serve percentage contribution to RDA (this block to be coloured red if nutrients, except calories, exceed the defined threshold)

Menu
labelling

No
provision

Calorific value on the menu or display boards (food service establishments with outlets at 10 or more locations)

FoP proposed in the draft Food Safety and Standards (Labelling and Display) Regulations, 2019

Front of pack label



Part 1 declares the amount of energy, saturated fat, trans fat, added sugar and sodium per serve

Part 2 declares per serve percentage contribution to RDA (this block to be coloured red if nutrients, except calories, exceed the defined threshold)



Will be **RED** if quantity in g/ml per 100g/ml of the product exceeds the threshold

Thresholds – conditions for marking red

Sodium	Savoury snacks such as chips and namkeens, and instant noodles – 0.25g/100g, soups and prepared foods such as burger, pizza, fries, sandwiches – 0.35g/100g
Added sugar	Value of energy (kcal) from added sugar is more than 10% of the total energy provided by the 100 g/ml of the product
Trans fat	Value of energy (kcal) from trans-fat is more than 1% of the total energy provided by the 100 g/ml of the product

The proposed FoP of 2019 is a diluted version of what was proposed in 2018

Analysis of salt, total fat, trans fat and carbohydrates in junk food – by EML (CSE's lab); released in Dec 2019

- In 2012, a CSE lab study found high levels of fat, salt and sugar in junk foods; we pushed for strong labelling regulations thereafter
- But regulations not there yet. The proposed red label has been a point of contention and a reason for delay

We decided to check if junk foods would be **RED based on the thresholds set**



Analysis of salt, total fat, trans fat and carbohydrate in junk food

Investigators

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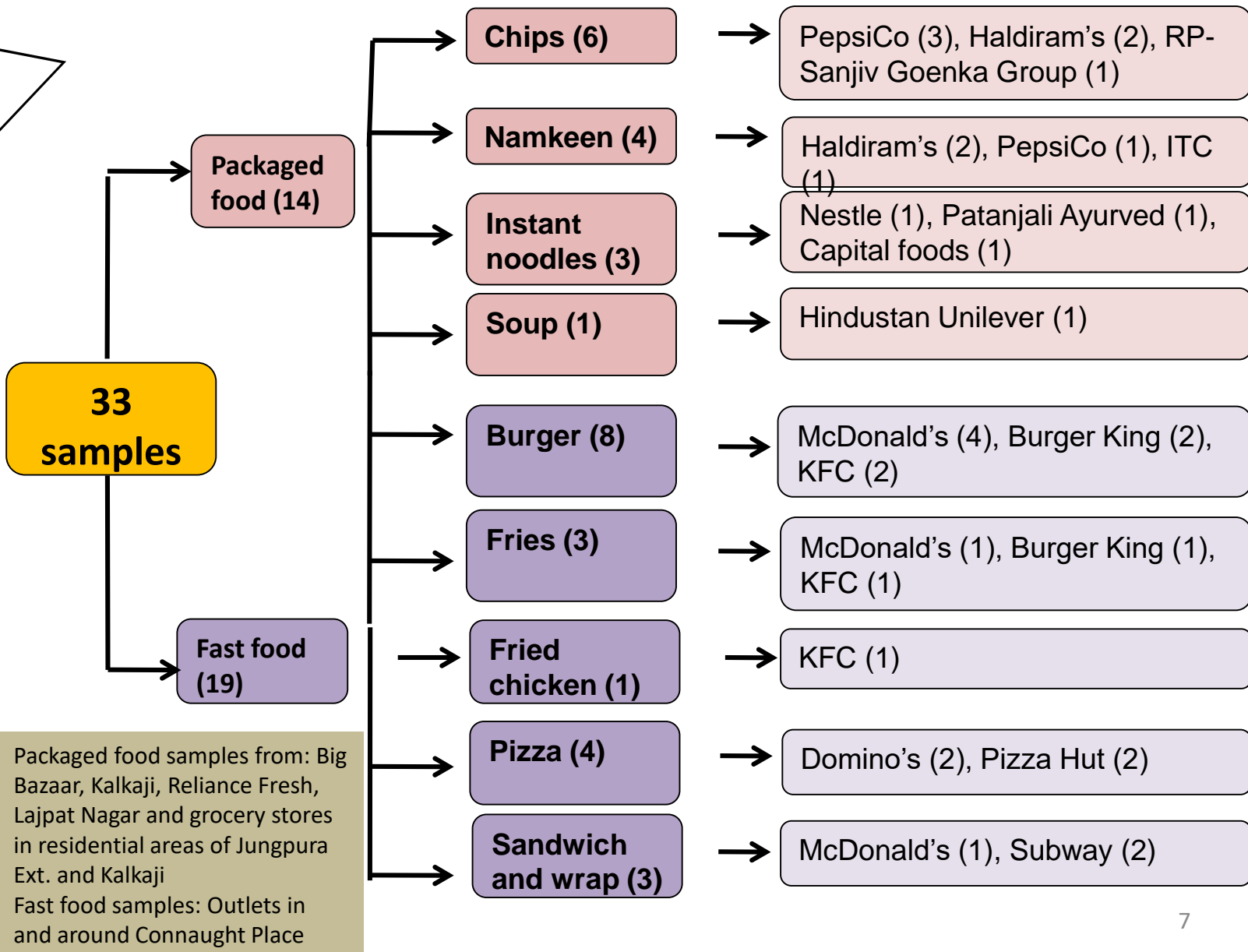
(A unit of Centre for Science and Environment, New Delhi)

No. 2151/2036 & 2037/2083

Nimli, Tijara, Alwar

Rajasthan 301019

We tested popular packaged and fast food samples from Delhi which are also sold across the country



Lab results for packaged foods

Sample	Measured weight (g)	Salt (g/100g)	Total fat (g/100g)	Trans fat (g/100g)	Carbohydrate (g/100g)
Chips					
Lay's India's Magic Masala by PepsiCo	51.75	1.94	32.5	0.21	51.53
Lay's American Style Cream and Onion Flavour by PepsiCo	52.75	1.55	29.19	0.27	48.96
Uncle Chipps Spicy Treat by PepsiCo	55.25	2.81	35.04	0.17	51.81
Classic Salted Chips by Haldiram's	61.2	1.38	36.52	0.33	52.19
Pudina Treat Chips by Haldiram's	16.38	2.28	36.70	0.23	52.93
Too Yumm Multigrain Chips Chinese Hot and Sour by RP-Sanjiv Goenka Group	89	3.23	17.17	0.08	64.85
Namkeen					
Classic Nut Cracker by Haldiram's	231.65	4.99	44.79	0.56	17.66
Aloo Bhujia by Haldiram's	231.14	3.05	43.48	0.33	34.69
Bingo! Mad Angles Delight Achaari Masti by ITC	80.7	1.69	42.94	0.22	53.71
Kurkure Masala Munch by PepsiCo	49.97	2.49	34.03	0.20	54.90
Instant noodles					
Maggi Masala by Nestle	71.20	3.69	14.93	NT*	62.18
Atta Noodles Chatpata by Patanjali Ayurved	60.40	3.95	22.06	NT	51.23
Ching's Secret Schezwan by Capital Foods	60.35	4.25	17.82	NT	53.80
Soup					
Knorr Classic Thick Tomato Soup by Hindustan Unilever	51.90	10.44	8.43	NT	64.61

Packaged food labels also mention information in 100g – difficult to understand

Lab results for fast foods

Sample	Measured weight (g)	Salt (g/100g)	Total fat (g/100g)	Trans fat (g/100g)	Carbohydrate (g/100g)
Burger					
Cheese Whopper Veg by Burger King	259.47	1.36	13.88	0.19	20.22
Cheese Whopper Chicken by Burger King	258.08	1.35	10.65	0.16	12.51
Veg Zinger (with cheese) by KFC	250.31	1.54	10.89	0.10	19.69
Chicken Classic Zinger (with cheese) by KFC	252.84	1.22	19.47	0.20	16.41
McVeggie Burger by McDonald's	153.95	1.22	9.95	0.08	33.16
McAloo Tikki Burger by McDonald's	141.25	1.02	9.11	0.08	29.16
McChicken Burger by McDonald's	145.31	1.11	9.51	0.08	27.68
Chicken Maharaja Mac by McDonald's	317.40	1.45	10.05	0.05	20.25
Fries					
Fries (regular) by Burger King	92.26	0.85	13.6	0.12	25.98
Fries (medium) by KFC	91.76	0.47	14.9	0.15	25.94
Fries (medium) by McDonald's	79.25	0.71	14.48	0.15	44.77
Fried chicken					
Hot Wings (4 pieces) by KFC	88.91*	1.44	21.42	0.14	10.51
Pizza**					
Peppy Paneer Cheese Burst (regular) by Domino's	342.57	1.34	9.55	0.21	20.40
Non-veg Supreme (regular) by Domino's	355.01	1.41	12.31	0.22	26.53
Classic Tomato Margherita (personal) by Pizza Hut	221.78	1.18	7.4	0.23	35.81
Chicken Supreme (personal) by Pizza Hut	306.74	1.70	10.32	0.23	26
Sandwich and wrap					
Big Spicy Paneer Wrap by McDonald's	255.14	1.58	17.71	0.24	21.12
Paneer Tikka (6 inch) by Subway	263.61	1.38	18.27	0.23	16.83
Chicken Seekh Kabab (6 inch) by Subway	280.48	1.88	13.9	0.22	16.95

Fast foods, if at all, mention on the websites which is of limited use

Analysis

But these are numbers – they confuse consumers

We wanted to know what this means for our health; our intake of nutrients – salt, sugar and fat



Two ways:

1. **What does it mean in terms of Recommended Dietary allowance (RDA)**
2. What does it mean in terms of the thresholds -- limits given by FSSAI – beyond which food is to be marked **RED**



Approach to the analysis based on RDA

To know: **How much of salt, sugar, fat you are allowed to consume in day is taken up by eating this food as a snack or a meal?**

- Lab results in g per 100 g for salt, total fat, trans fat and carbohydrate used to **calculate intake based on the serving size (packaged food)** or weight of the product (fast food) in g
 - Serving size means an amount of food customarily consumed per eating occasion
- 
- Intake per serve is compared with RDA / upper limit for a day of a nutrient and expressed as a percentage of it.
 - RDA considered for a person requiring 2000 Kcal is 5g for salt, 60 g for fat and 300g for carbohydrate; 2.2 g limit is considered for trans fat (WHO, NIN and expert groups)
- 
- Considering three meals and two main snacks in a day, RDA from each meal and a snack is considered 25% and 10% of RDA for the day, respectively

Example:

Sample	Serving size /weight (g)* A	Lab result fat (g/100g) B	Intake (g) as per single serving $C = (A * B) / 100$	Day's RDA exhausted $D = C / 60g (\%)$	Times the snack/meal RDA (6g for snack 15g for meal)
Classic Nut Cracker by Haldirams (considered a snack)	35	44.79	15.68	26.1	2.6 times
Cheese Whopper Chicken by Burger King (considered a meal)	258.1	10.65	27.49	45.8	1.8 times

*Serving size declared on packaged food and weight of fast food measured at the CSE lab is used for analysis

Results of the analysis based on RDA

Packaged foods typically consumed as snacks lead to high intake of salt and fat; noodles exhaust maximum RDA of salt

Chips

- All chips provide more salt, fat or both than one can have from a snack
- One serve (30 g) of Too Yumm Multigrain Chips had maximum salt (1 g) which is double the allowance of salt from a snack

Namkeens

- All namkeens provide salt as well as fat more than what could be sourced from a snack
- One serve (35g) of Haldiram's nut cracker exhausts 35% salt RDA and 26% fat RDA—much higher than one can have from one full meal

Noodles

- Nestle Maggi Masala's one serve (70 g) exhausts over **50%** salt RDA (day); others lead to similar salt intake
- Noodles due to relatively bigger serving lead to highest salt intake among packaged foods

Soup

Knorr Classic Thick Tomato soup exhausts **~28%** of salt RDA (day)

Fast foods due to big portion size eat up almost all RDA for the day

Burger

- Burgers with big portion size exhaust a significant portion of salt and fat RDA
- One KFC Chicken Classic Zinger with cheese will exhaust **~62% salt RDA and 82% fat RDA**; Chicken classic zinger meal box (combo – burger and fries) exhausts **83% salt and 120% fat RDA**.
- Burger King 'Cheese Whopper veg' has 3.5g salt and exhausts **~70% of salt RDA and 60% fat RDA**. Its chicken option will exhaust **~70% of salt RDA and ~46% fat RDA**

Pizza

- Non-veg Supreme (Regular) by Domino's and Chicken Supreme (Personal) by Pizza Hut leave no scope of salt for the day (**exhaust 99.9% and 104% RDA**). Similar is the case with Peppy Paneer cheese burst (Regular) by Domino's (**exhaust 92% RDA**).
- Non-veg Supreme (Regular) also exhausts **over 70% fat quota** and Chicken Supreme (Personal) has over 50% of daily fat quota

Sandwich and wraps

- Sandwiches and wraps are also loaded with salt and fat.
- A 6 inch Chicken Seekh Kabab by Subway exhausts all salt limit (**105%**) and about **65% of fat**. Paneer Tikka (6 inch) by Subway also exhausts over **70% and 80% of salt and fat intake**.

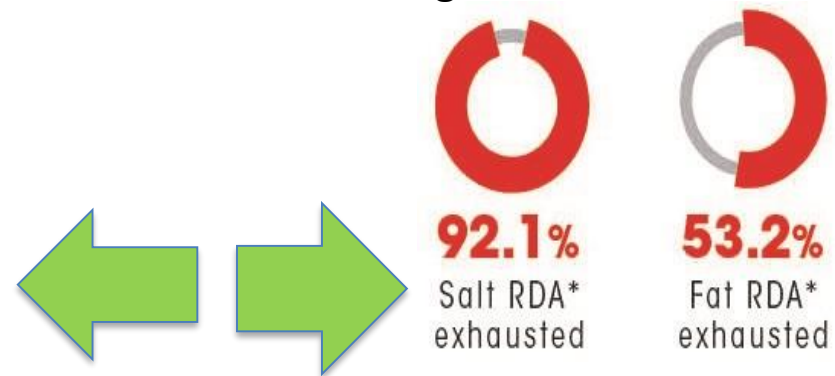
McDonald's - reality check !



“Stuck with ghiya-tori again? Make the 1+1 combo you love”

Encouraging substitution with healthy meals

RDA exhausted by Chicken Maharaja Mac with 4.6g salt 31.9g fat in it



- With a combo of **McChicken**, one loses nearly half of the daily quota of salt and fat in just one meal. It's the same situation for the **McVeggie meal**
- Big Spicy Paneer Wrap exhausts over **80%** and **75%** of salt and fat RDA

Analysis

Two ways:

1. What does it mean in terms of Recommended Dietary allowance (RDA)
2. What does it mean in terms of the thresholds -- limits given by FSSAI – beyond which food is to be marked **RED**



Approach to analysis based on thresholds

To know: To know if nutrients in a food cross the thresholds set by FSSAI – as a condition to label **RED**

- Lab results in 100g used to check if values exceed thresholds for salt and total fat set by FSSAI as per 100 g/ml
 - **0.25 g sodium** per 100 g: savoury snacks and instant noodles
 - **0.35 g sodium** per 100 g: soup and fast foods
 - **8.0 g of total fat** per 100 g: savoury snacks, instant noodles, soup and fast foods
 - If it does, the food is to be labelled **RED**
 - Further, the quantity as times of the threshold was also calculated (depicted inside the warning label)
- Draft (Labelling and Display) Regulations, 2019**
- Draft (Labelling and Display) Regulations, 2018**

Example:

	Sample	Lab result salt (g/100g)	Times threshold	Label RED
Salt	Pudina Treat Chips by Haldirams	2.28 (0.90 sodium)*	0.90/0.25 =	3.6
Fat	Classic Nut Cracker by Haldirams	44.79	44.79/8.0 =	5.6

*Salt (g)/2.54 is sodium (g)

Adapted from a black octagon warning sign in Chile and few other countries – a new global best practice



All chips would be red for salt and fat

Threshold
Sodium: 0.25 g / 100 g
Fat: 8 g / 100 g



- Serving size not mentioned on both Haldiram's chips; Too Yumm refers to a pictorial reference for serving suggestion (which depicts 4 chips). In fact, these attract consumers by offering extra chips

All namkeens would be red for salt and fat

Threshold
Sodium: 0.25 g / 100 g
Fat: 8 g / 100 g



Classic Nut
Cracker by
Haldiram's

SALT
7.9

FAT
5.6



Highest
salt and fat



Aloo Bhujia
by
Haldiram's

SALT
4.8

FAT
5.4



Bingo! Mad Angles
Delight Achaari
Masti by ITC

SALT
2.7

FAT
5.4



Kurkure Masala
Munch by
PepsiCo

SALT
3.9

FAT
4.3

- Bingo! Mad Angles and Kurkure Masala Munch declare sodium; Haldiram's namkeens do not declare sodium or salt
- Haldiram's mentions serving size on the website and not on pack but provide extra namkeen; serving size not mentioned on Bingo! Mad Angles

All noodles would be red for salt and fat

Threshold
Sodium: 0.25 g / 100 g
Fat: 8 g / 100 g



Maggi Masala
by Nestlé

SALT
5.8

FAT
1.9

Atta Noodles
Chatpata by
Patanjali Ayurved

SALT
6.2

FAT
2.8



Ching's Secret
Schezwan by
Capital Foods

SALT
6.7

FAT
2.2

- All noodles have very high salt content
- Among the tested packaged foods, the salt intake is higher with noodles because of the bigger portion size (60g-70g) as well as higher per 100 g values

Soup otherwise considered healthy can lead to high salt intake

Threshold
Sodium: 0.35 g / 100 g
Fat: 8 g / 100 g



Knorr Classic
Thick Tomato
Soup



Knorr Classic Thick Tomato soup has high content of salt

Burgers tested would be red for both salt and fat

Threshold
Sodium: 0.35 g / 100 g
Fat: 8 g / 100 g



Cheese Whopper Veg by Burger King

SALT
1.5

FAT
1.7



Cheese Whopper Chicken by Burger King

SALT
1.5

FAT
1.3



Veg Zinger (with cheese) by KFC

SALT
1.7

FAT
1.4



Chicken Classic Zinger (with cheese) by KFC

SALT
1.4

FAT
2.4

Highest salt

Highest fat

- Burgers due to their portion size (weight) lead to high intake of salt and fat

Even smaller burgers will be red for salt and fat

Threshold
Sodium: 0.35 g / 100 g
Fat: 8 g / 100 g



McVeggie
Burger by
McDonald's

SALT
1.4

FAT
1.2



McAloo Tikki
Burger by
McDonald's

SALT
1.1

FAT
1.1



McChicken
Burger by
McDonald's

SALT
1.3

FAT
1.2



Chicken
Maharaja Mac
by McDonald's

SALT
1.6

FAT
1.3

- Despite similar values, big burgers like Chicken Maharaja Mac lead to much higher intake

Fries would be red for fat

Threshold
Sodium: 0.35 g / 100 g
Fat: 8 g / 100 g



Fries (regular)
by Burger
King

SALT
1.0



Fries
(medium) by
KFC

SALT
0.5



Fries (medium)
by McDonald's

SALT
0.8



Fries from all three fast food restaurants
have high fat

Fried chicken would be red

Threshold
Sodium: 0.35 g / 100 g
Fat: 8 g / 100 g



Fried chicken sold by KFC is high in both salt and fat and will be Red for both.

All pizzas would be red

Threshold
Sodium: 0.35 g / 100 g
Fat: 8 g / 100 g



Peppy Paneer cheese burst
(regular) by Domino's



Non-veg Supreme (regular)
by Domino's



Highest fat



Classic Tomato Margherita
(personal) by Pizza Hut



Chicken Supreme
(personal) by Pizza Hut

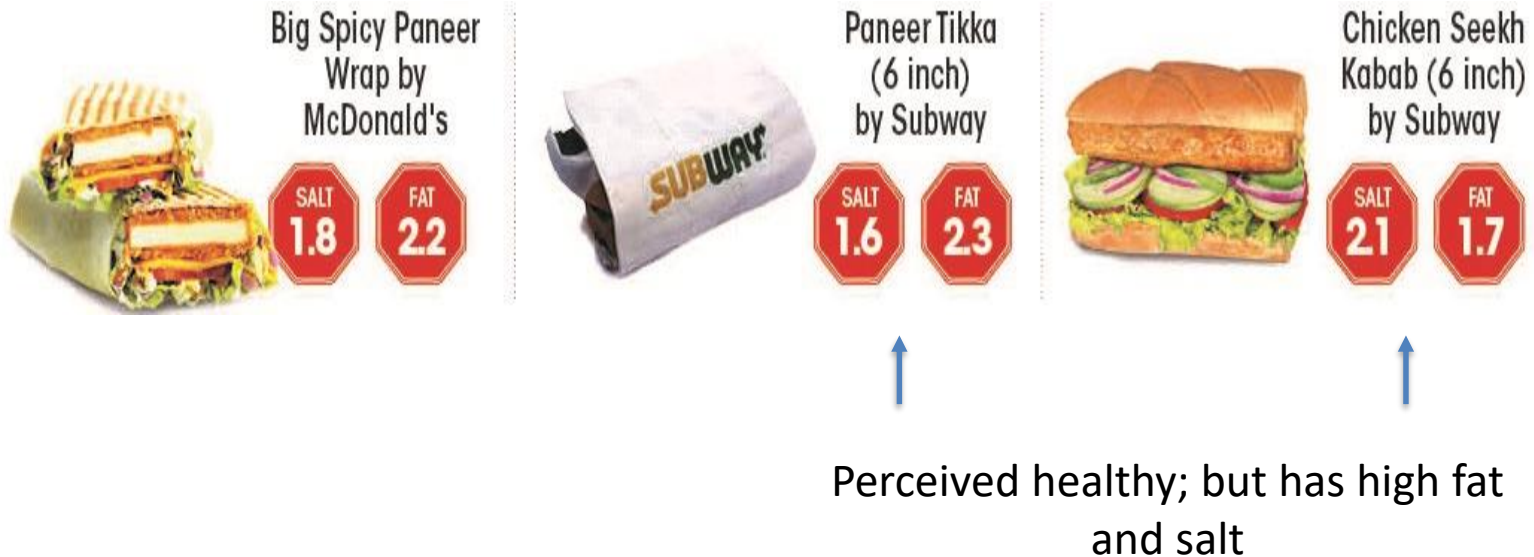


Highest salt

- The actual intake of salt and fat is very high because of the big portion size

All sandwiches and wraps would be red for both salt and fat

Threshold
Sodium: 0.35 g / 100 g
Fat: 8 g / 100 g



- Portion size results in very high intake of salt and fat

Analysis

Trans fat labelling



Analysis revealed misleading labels of trans fats in packaged foods

Samples tested for trans fat	Declared value (g/100g)	Lab result (g/100g)	Deviation (%)
PACKAGED FOODS			
Lay's India's Magic Masala by PepsiCo	0.1	0.21	111.6
Lay's American Style Cream and Onion Flavour by PepsiCo	0.1	0.27	168.8
Uncle Chipps Spicy Treat by PepsiCo	0.1	0.17	69.5
Classic Salted Chips by Haldiram's	0.1	0.33	230.0
Pudina Treat Chips by Haldiram's	0.1	0.23	127.6
Too Yumm Multigrain Chips Chinese Hot and Sour	0.2	0.08	(-)61.6
Classic Nut Cracker by Haldiram's	0.1	0.56	460.1
Aloo Bhujia by Haldiram's	0.1	0.33	232.1
Bingo! Mad Angles Delight Achaari Masti by ITC	0.1	0.22	120.0
Kurkure Masala Munch by PepsiCo	0.1	0.2	100.0

Almost all packaged foods were found to have much higher trans fats than declared on package by companies

Highest deviation

High trans fat intake through most fast foods; but few mention correctly or declare at all

Samples tested for trans fat	Declared value (g/100g)	Lab result (g/100g)	Deviation (%)
FAST FOODS			
Cheese Whopper Veg by Burger King	0	0.19	-
Cheese Whopper Chicken by Burger King	0	0.16	-
Veg Zinger (with cheese) by KFC	0	0.10	-
Chicken Classic Zinger (with cheese) by KFC	0	0.20	-
McVeggie Burger by McDonald's	0.06	0.08	33.3
McAloo Tikki Burger by McDonald's	0.07	0.08	14.3
McChicken Burger by McDonald's	0.12	0.08	(-)33.3
Chicken Maharaja Mac by McDonald's	0.07	0.05	(-)28.6
Fries (regular) by Burger King	0	0.12	-
Fries (medium) by KFC	0	0.15	-
Fries (medium) by McDonald's	0.09	0.15	66.7
Hot Wings (4 pieces) by KFC	0	0.14	-
Peppy Paneer cheese burst (regular) by Domino's	ND*	0.21	-
Non-veg Supreme (regular) by Domino's	ND*	0.22	-
Classic Tomato Margherita (personal) by Pizza Hut	<0.1	0.23	-
Chicken Supreme (personal) by Pizza Hut	0	0.23	-
Big Spicy Paneer Wrap by McDonald's	0.22	0.24	9.1
Paneer Tikka (6 inch) by Subway	ND*	0.23	-
Chicken Seekh Kabab (6 inch) by Subway	ND*	0.22	-

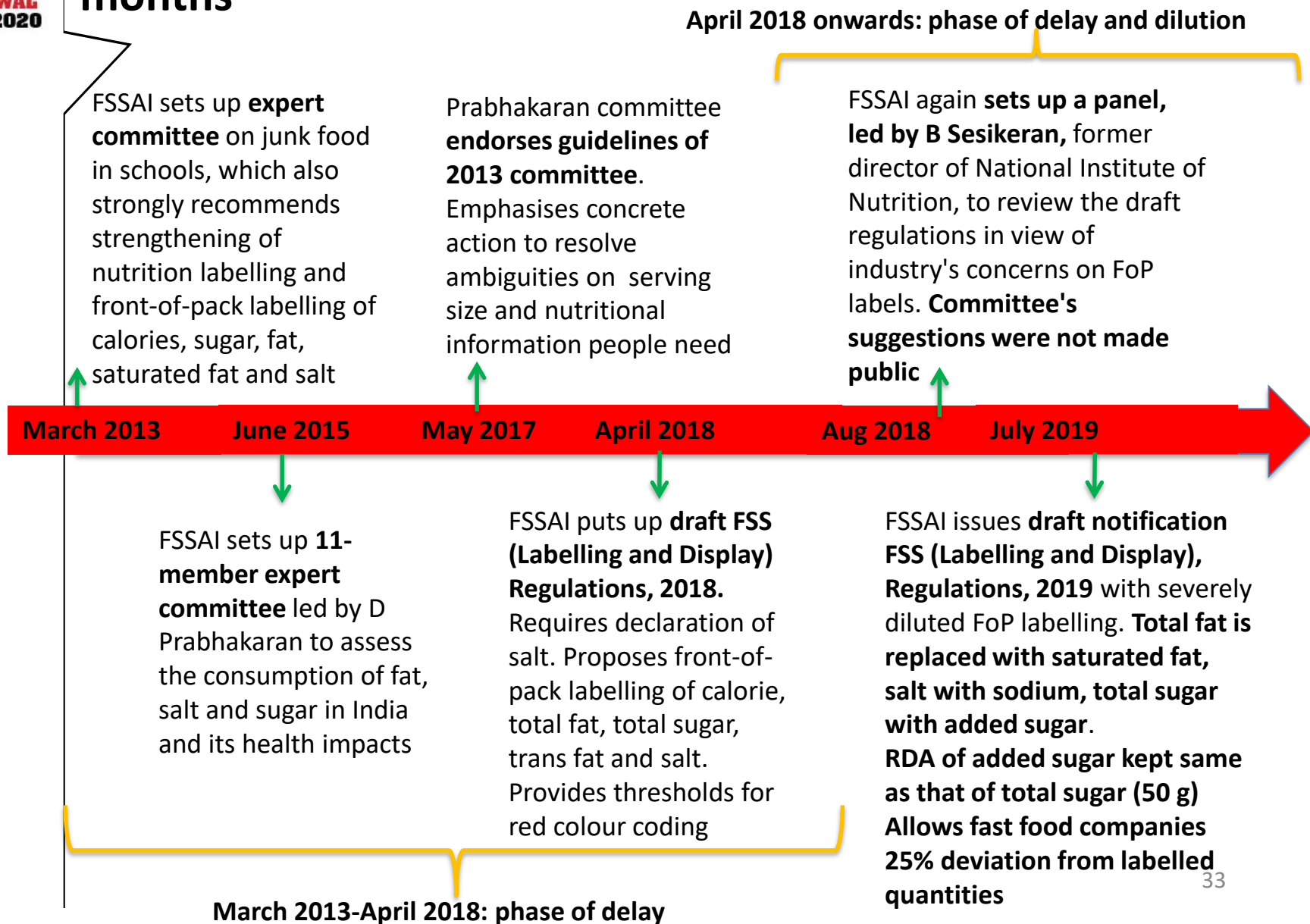
- Burger King and KFC mention '0g' but Cheese Whopper veg and Classic Chicken Zinger with cheese lead to high trans fat intake (>20% of daily limit).
- Domino's and Subway do not mention. But both pizza sold by Domino's exhaust over 30% limit along with the Chicken Supreme pizza of Pizza Hut.
- Both Subway sandwich cross 25% of the limit along with Paneer wrap by McDonalds.

Delay and Dilution

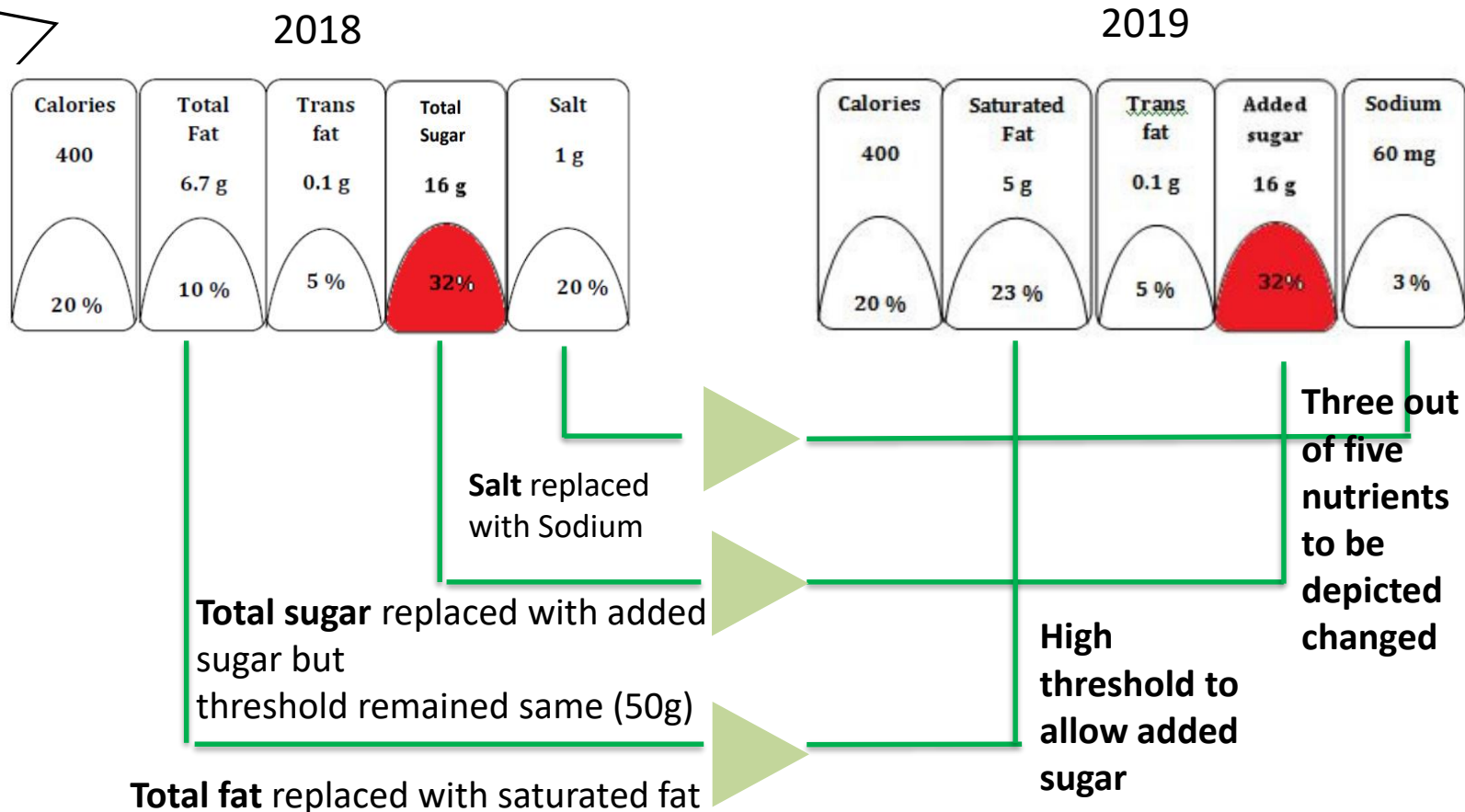
Labelling and Display Regulations



Saga of delay and dilutions: 7 years and 3 committees; what we have today is a weak draft waiting to be notified for 7 months



Dilution from 2018 draft labelling regulations

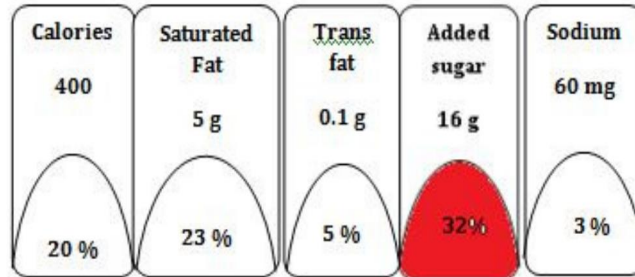


- Compliance to thresholds for FoP extended from two to three years
- Fast foods allowed a deviation of upto 25% in labelled nutrients

Dilution favours the industry

- **Sodium instead of salt**
 - Sodium is **hardly understood** by people in India
- **Saturated fat instead of total fat**
 - Only addresses a part of the problem
 - May develop a wrong perception that other fats are not unhealthy; Ignores that all fats contribute equally to calorie
 - **Does not address obesity among growing children** – resulted by total fats; focuses on people at later stage of lives instead of children (key target group of fast foods)
- **Added sugar instead of total sugar**
 - Only addresses a part of the problem; **added sugar is a subset**
 - High RDA (50g) for added sugar makes **thresholds weak** (along with exemption to beverages offering 80 Kcal per serve will help beverages with added sugar avoid red labelling)

In addition, the proposed FoP in India is not only unfriendly but makes it complicated for consumer – unlike new global best practices of warning symbols



Serious design issues

- Contains **complicated numbers** that makes it difficult to understand
- Gives **mixed message** w.r.t. non-red blocks. FSSAI has also kept the **option of additional colours** – which could be green and make the label ineffective
- Draft **does not specify the size and placement** of the label



- Chile and Peru - **Black octagonal warning labels** with **white outline** that differentiates the label; **Icon-based warning labels** proposed in Israel.
- No complex numbers
- Emphasis laid on making labels noticeable by defining **size of label** and **placement on the upper panel** of the label

CSE recommends warning labels

Junk food is no less than danger; people must be warned about both packaged and fast food through noticeable warning symbols



- **FSSAI must notify the labelling regulations based on the FoP nutrients proposed in the 2018 version i.e. salt, total fat, and total sugar instead of sodium, saturated fat and added sugar**
- **Consider a red octagon 'High in' symbols that are easily interpreted and helps transcend the literacy and language barriers**
- **Red warning labels should also be applicable to fast food**

Thank you

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