

SCIENTIFIC FACTS AND DATA ON  
FLUORIDE AND ITS ADVERSE EFFECTS

ON  
HUMAN HEALTH  
AND

Compelling Reasons for Discontinuation of  
Fluoridation of Community Water Supply.

Presented to :

- Water Fluoridation Committee ( WFC ). Region of Peel
- Councillors of Municipalities of various Towns
- Canadian Government Officials.

By

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DRINKING WATER QUALITY STANDARD FOR FLUORIDE  
GLOBAL SCENARIO

1. SENEGAL ( WEST AFRICA ) - 0.6 ppm ( mg / L ) [ LANCET 1988]
2. CHINA - 0.5 ppm
3. THAILAND - 0.5 ppm
4. INDIA - 1.0 ppm. MAXIMUM LIMIT WHICH BODY MAY  
TOLERATE; LESS THE BETTER AS F<sup>-</sup> IS INJURIOUS TO HEALTH ( BIS 2012 )  
( HIGHEST F<sup>-</sup> IN GEOLOGICAL CRUST ) + FOOD & BEVERAGES AS  
ADDITION OF BLACK ROCK SALT – F<sup>-</sup> = 157 ppm. From 1987 – till date  
INDIA DEFLUORIDATING WATER )
5. US EPA - 0.7 ppm MAXIMUM CONTAMINANT LEVEL  
DWQ STANDARD OF US, 1962 ACT- AMENDED 52 years later in  
April 2015
6. ALL EUROPEAN NATIONS STOPPED FLUORIDATION – 30 YEARS AGO  
DUE TO HEALTH PROBLEMS
7. WHO GUIDELINE - 1.5 ppm F<sup>-</sup> desirable. ( NOT STANDARD )
8. PROBLEM NATIONS ( As of 2016 ) :
  - AUSTRALIA - FLUORIDATES Drinking Water
  - BRITAIN - FLUORIDATES Drinking Water
  - CANADA - FLUORIDATES Drinking Water

2

WHY DRINKING WATER WAS / IS BEING FLUORIDATED ?

- Reasons :
- It was thought to be preventing Dental Caries.
    - How ? F<sup>-</sup> kills the bacteria breeding in oral cavity
    - Dental Caries was popularized since 1940s as  
F<sup>-</sup> deficiency disorder. [ In fact, in this Universe there is  
no disease due to F<sup>-</sup> deficiency ]
  - Water was then fluoridated to correct the deficiency.
  - Medication without consent; side effects occurred. Population in  
distress.
    - F<sup>-</sup> being an electronegative element, it was thought  
that it will bind with positively charged Calcium ++ Ions  
and make teeth stronger.
    - It is a myth and no science
  - Ample scientific evidence NOW available for prevention of  
Caries through promotion of Oral Hygiene & Health.
  - Good nutritive diet with high calcium to have strong teeth.
  - In 1940s, there was hardly any Scientific Evidence on the  
harmful effects of F<sup>-</sup>; research was in primitive stages.
  - Times have changed. F<sup>-</sup> is a deadly chemical.

**HEALTH PROBLEMS EMANATING FROM FLUORIDE CONSUMPTION**

1. CLASSICAL
  - NON-SKELETAL FLUOROSIS ( 1970s )
  - DENTAL FLUOROSIS ( 1930s )
  - SKELETAL FLUOROSIS ( 1930s )
2. FLUOROSIS LINKED DISEASES :-
  - ♦ Irritable Bowel Syndrome ( Earliest signs )
  - Tendency to visit the Urinal / Toilet more frequently (Though not Diabetic) Polyuria / Polydipsia.
  - Severe muscle weakness : unable to walk even short distances.
  - Anaemia ( Low Haemoglobin )  
[ Anaemia in pregnancy ; Anaemia in School Children, Anaemia in General Population – not responding to IRON + FOLIC ACID Supplementation ]
  - Pre-term delivery, Low Birth Weight Babies, Still birth, Abortions, Intra-uterine deaths
  - ❖ **Blood Vessel Blockage** : High BP, High Cholesterol → Angiogram → Angioplasty; Multiple Vessels blocked → Bypass Surgery
  - ❖ **Kidney Failure** : Dialysis, Renal Transplant
  - ❖ **Stroke**
  - ❖ **Cancer**
  - ♦ Earliest complaints;
  - ❖ Later Stages

**IRRITABLE BOWEL SYNDROME****REASONS**

$F^-$  is a **Neurotoxin** ( Damages Nerve Cells / Nerves )

$F^-$  is a **Hormone Disruptor** ( Hormone – Life line Disruptor)

$F^-$  is an **Enzyme Inhibitor** ( Inactivation of Chemical Reactions )

**Results in Damages to the Gastro-intestinal system : Both Structural and Functional**

- The microvilli – the fine structural entity – " hair like " structures lining the surface – " fall off " leading to :
  1. Non- absorption of nutrients from Diet
  2. Non- absorption of orally administered Drugs
  3. No mucus production by "Goblet Cells"
  4. Cell surfaces are cracked and one **feels pain** in the Stomach
  5. No appetite for food; nausea
  6. Peristaltic movement of the Gastro-intestinal track disappears  
Leads to constipation.

Upon withdrawal of  $F^-$  : GI Mucosa Regenerates **within a couple of days**

- Signs of **Irritable Bowel Syndrome** due to  $F^-$ , disappears (Drugs not required)
- **Haemoglobin** Improves. Individual feels **NORMAL** and **ACTIVE**

**FOR DETECTING FLUORIDE TOXICITY ( POISONING ) / FLUOROSIS****TWO ESSENTIAL TESTS TO BE DONE.**

**TEST I** : Fluoride levels to be tested in :

	Normal Range
• Blood (Serum)	0.02 – 0.05 ppm
• Urine	0.1 – 1.0 ppm
• Drinking Water	Less the better not to exceed 1.0 mg / L.

**TEST II** : An X-Ray Radiograph

Best Option : FOREARM – X-Ray

Membrane covering bones – A soft tissue would transform into Bone-like structure. Hard – visible in X-rays ie. **Ectopic Calcification**.

**TEST I & II RESULTS POSITIVE.** Confirmation of  $F^-$  poisoning /  $F^-$  Toxicity / FLUOROSIS.

**Fluoride test Report of Patients to differentiate Skeletal Fluorosis vs. Skeletal Fluorosis with Renal Failure**

	Age	Sex	Serum $F^-$ (mg/L)	Urine $F^-$ (mg/L)	Drinking Water $F^-$ (mg/L)	Interosseous Membrane Calcification
Patient 1 Sk. Fluorosis	26	M	0.289 ( x 5.7 times more )	13.90 (Kidneys functional)	9.770	✓
Patient 2 Sk. Fluorosis + Renal Failure	45	F	0.370 ( x 7.4 times more )	0.960 Normal (Kidneys non-functional)	2.310	✓
Patient 3 Sk. Fluorosis + Renal Failure	40	M	0.290 ( x 5.81 times more )	0.587 Normal (Kidneys non-functional)	Sample unavailable	✓

Normal reference range: Serum : 0.02 – 0.05 mg/L Urine 0.1 – 1.0 mg/L

The Clinicians confirmed Kidney Function Tests not normal, for patients 2 & 3



# FLUOROSIS / FLUORIDE POISONING / FLUORIDE TOXICITY

## HOW TO IMPROVE HEALTH

- No Drugs / Medicines
- Complete Recovery is achieved if the Disease suspected and confirmed at Early Stages, through 2 DIETARY INTERVENTIONS.

### INTERVENTION I : DIET EDITING

( Withdraw  $F^-$  intake through all sources, including the use of Fluoridated toothpaste )

Urine  $F^-$  should be : 0.1 – 1.0 mg / L

### INTERVENTION II : DIET COUNSELLING

( Promotion of Nutrients through diet )

- Essential Nutrients
- Vitamins
- Anti-oxidants
- Micronutrients & minerals & trace elements  
( through consumption of vegetables, fruits, dairy products )

Through :

- Fruits / Fruit Juice fresh ( No carton juice ) for **Breakfast**
- Vegetables & Fruits mixed salad with home made dressing for **Lunch**
- Home made soup with vegetables for **Dinner**

## TAKE AWAY MESSAGE

### BENEFITS TO THE NATION :

- ❖ Economic benefit
- ❖ Hospital visits of the public reduce
- ❖ Drug purchase reduce
- ❖ Better health to prevail
- ❖ Infants & Children grow-up as intelligent citizens
- ❖ The general public enjoy life
- ❖ Earning capacity to improve
- ❖ The NATION TO PROSPER.

- The Scientific Information presented by Prof. (Dr.) A.K. Susheela, is from her personal research experiences in the Fluoride and Fluorosis front extending over a period of 4 decades ( 1974 – 2016 ).

- All the Scientific peer reviewed Publications, Books, Chapters published since 1974 until 2016 are available in the website of the Foundation :  
<http://www.fluorideandfluorosis.com>

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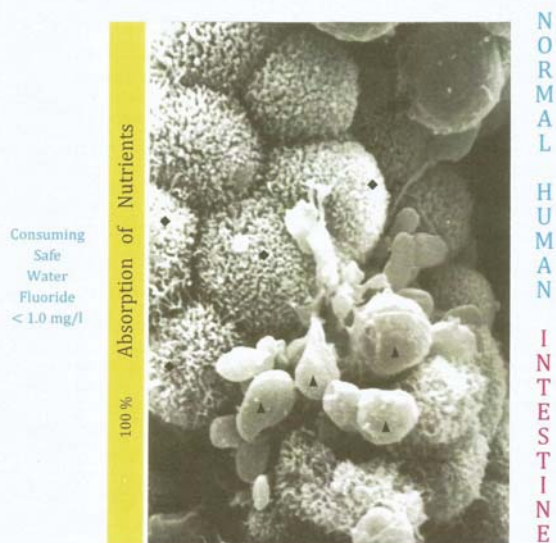
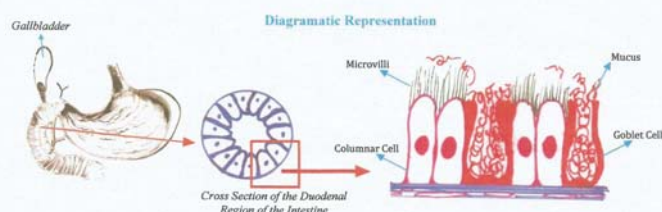


Fig 2: Scanning Electron micrograph of GI mucosa with normal columnar cells lining the Mucosa. The columnar cells are studded with microvilli besides mucus droplets produced in abundance by Goblet cells are seen. The microvilli / brush boarder is the structure responsible for absorption of nutrients. (◆ microvilli studded columnar cell, ▲ mucus droplets)





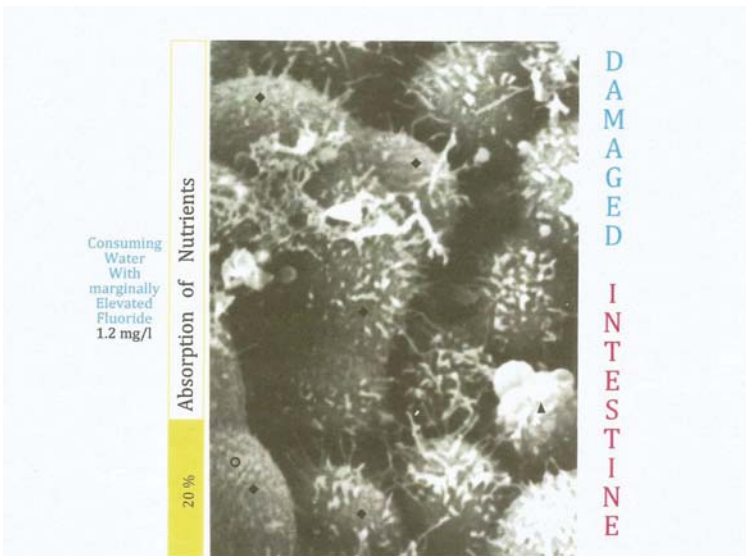


Fig.3: Note the Columnar Cell Surfaces, loss of microvilli is evident as cell surfaces are exposed with scanty microvilli or no microvilli. Mucus droplets are also reduced. The cell surfaces are bald with no microvilli at all (◆), some have scanty microvilli compared to Figure 2. No flowery appearance as microvilli are fallen off. Cell surfaces are fully exposed (○).

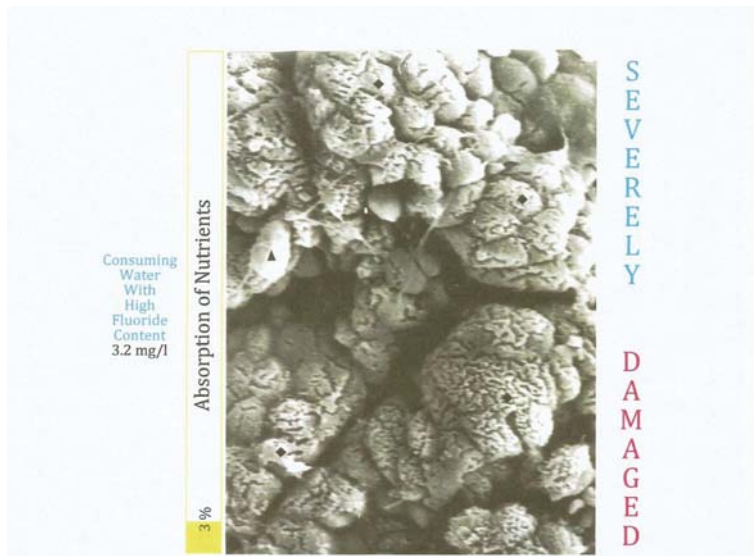
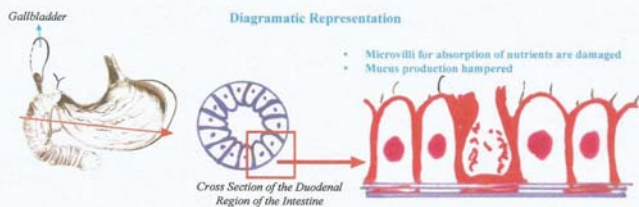
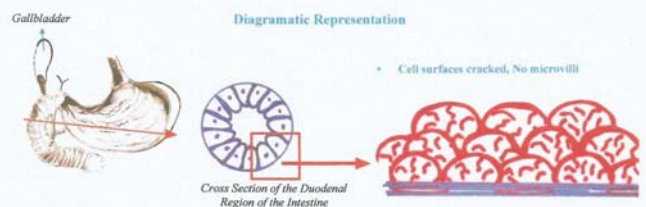


Fig.4: Note the columnar cell surfaces totally devoid of microvilli. The cell surfaces are cracked and no mucus droplets. Figures 3 & 4 are showing the devastating effects of fluoride on the GI mucosa which would prevent absorption of nutrients. However, upon withdrawal of fluoride from consumption, the mucosa would regenerate to normal within a few days, setting the Gut into normal mode of functioning enhancing absorption of nutrients.



**RECTIFICATION OF ANEMIA IN PREGNANCY**  
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**Background**

**ANEMIA** : Highly Prevalent In Asia + African Nations

Anemia Prevalence In spite Of Iron (100 Mg) + Folic acid (500 µg) supplementation.

Millennium Development Goals MDG 5 & 4, could not be achieved by 2015.

MDG 5 - Reduction in Maternal Mortality Rate (MMR)

MDG 4 - Reduction in Infant Mortality Rate (IMR)

Major Factor responsible for the issue ?

Environmental Toxin i.e. Consumption of Fluoride

**OBJECTIVE**

To correct ANEMIA in Pregnancy and improve birth weight of new born to achieve MDG 5 & 4

**FLUORIDE TOXICITY**

F<sup>-</sup> Toxicity responsible for:

Anemia In Pregnancy / High Maternal Mortality Rate (MMR)

Low Birth Weight Babies / Pre-term deliveries

Disabilities in infants and children

Fluoride is consumed / used through :

- Untreated ground water
- Food and beverages
- Consumption of Rock Salt in India; Magadi in African Nations, same volcanic origin with high F<sup>-</sup> = 157 ppm
- Consumption of Black / Red Tea with Lemon and / or without milk.
- Consumption of a home made chewing gum like substance "Churans" laced with Rock salt
- Use of Dental products with fluoride (1000 - 4000 ppm)
- Industrial emission and inhalation of fluoride dust and fumes

**Role of F<sup>-</sup> in Systemic Circulation**

F<sup>-</sup> a highly toxic, corrosive chemical :

Major damages caused :

- Destroys microvilli; hampers mucus production; destroys muscle fibers.
- Due to loss of microvilli, non-absorption of nutrients and iron & Folic acid orally administered.
- Non-production of mucus, non-contraction of muscle fibres in the wall of intestine (lack of peristaltic movement) lead to Constipation

F<sup>-</sup> interferes with Thyroid hormone production ( )

Due to less of Thyroid hormones, lack stimuli on bone marrow, less number and abnormal RBCs produced.

Abnormal RBCs (Echinocytes) are phagocytosed, eliminated from Blood stream Reduction in RBC leads to Low haemoglobin.

F<sup>-</sup> Destroys Gut bacteria & Vitamin B12 production reduced, essential for Hb production.

Withdrawal of F<sup>-</sup> consumption - reverses the 3 harmful effects of F<sup>-</sup> listed above.

**INTESTINAL MUCOSA**

Normal & upon F<sup>-</sup> consumption

Scanning Electron Micrographs Intestinal Mucosa - showing normal and damaged surface

Figure 1

Figure 2

**Interventions Practised**

- Diet Editing [For removal of F<sup>-</sup>]
- Diet Counselling [For enhancing nutrient intake]

Withdrawal of F<sup>-</sup> consumption - corrects damages ; Regeneration of microvilli leads to absorption of nutrients + orally administered Iron + Folic acid

To ensure :

By (1) Re-testing Urine F<sup>-</sup> - reduced

(2) Hemoglobin content - enhanced

[UFL & Hb has Inverse relationship] MMR & IMR would stand corrected.

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**RECTIFICATION OF ANEMIA IN PREGNANCY**  
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**Results of out-reach programme**

Addressing Pregnant Women attending Antenatal Clinic in hospitals in New Delhi, India

Proposed to Follow in Antenatal Clinics, (Anemia control and correction of the birth weight babies)

Test 1: To Test Haemoglobin, show the result to the pregnant women. ( Explain implications ) - Haemoglobinometer preferred (HemoQ)

Test 2: To Test Urine Fluoride (Collect urine samples in plastic bottles, 30 ml only) - test at the laboratory using Ion Meter

Test 3: To Test Drinking Water Fluoride, if Urine Fluoride is more than 1.5 mg/l. Drinking water collected in plastic bottle, 20ml) and test for Fluoride in the laboratory

Test 4: Anemia pregnant women having, Hb < 10.5 g/dl, High Urine Fluoride > 1.5 mg/l, High drinking water Fluoride > 1.5 mg/l

To Withdraw (1) oral counselling, (2) oral counselling, (3) oral counselling, (4) oral counselling, (5) oral counselling, (6) oral counselling, (7) oral counselling, (8) oral counselling, (9) oral counselling, (10) oral counselling

Test 5: During visits to ANC, to check UFL & Hb until delivery. Maximum contact 120 days

ANC - will continue to provide iron (100 mg) and Folic acid (500µg) as per hospital guidelines

**Results Of Pregnant Women In Sample & Control Groups**

Sample : 2 Interventions Introduced

(1) Diet Editing

(2) Diet Counselling; Iron + Folic Acid Supplemented

Control : (1) No Diet Editing; Iron + Folic Acid supplemented

Table 1: The pregnant women in sample and control groups. Production in urine fluoride levels during initial visit to ANC and prior to delivery

Group	Mean ± SD	Median	Range	Max	Min
Sample	0.00 ± 0.00	0.00	0.00 - 0.00	0.00	0.00
Control	0.00 ± 0.00	0.00	0.00 - 0.00	0.00	0.00

Table 2: The impact of interventions on the body mass index (BMI) of the pregnant women in sample and control groups

Group	Mean ± SD	Median	Range	Max	Min
Sample	22.5 ± 0.5	22.5	22.0 - 23.0	23.0	22.0
Control	22.5 ± 0.5	22.5	22.0 - 23.0	23.0	22.0

**Table 3: The birth weight of the babies in the sample and control groups**

Group	Mean ± SD	Median	Range	Max	Min
Sample	3.28 ± 0.16	3.28	3.08 - 3.48	3.48	3.08
Control	3.28 ± 0.16	3.28	3.08 - 3.48	3.48	3.08

\* p value < 0.001 (significantly)

\* Stop uric acid at 40 µg ± 1.0 µg. \*\* 2 pre-term still births at 38.2 and 39.0 weeks of gestation. † oral uric acid at 38 and 40 weeks of gestation.

**Anemia In Pregnancy**

**Do's**

- Check Hb, Vt B12, Urine F<sup>-</sup> (<1.0 mg / L)
- Attend to Dental problems, if any.
- Practice highest personal hygiene.
- Drink boiled and safe water (F<1.0 mg / L)
- Consume Non-toxic, Nutritive diet, freshly prepared.
- Consume fruits, vegetables and dairy products daily

**Don'ts : (To avoid)**

- Street food
- Clining out
- Refrigerated food
- Egg & Egg products
- Carbonated drinks
- Processed meat / chicken / cold cuts

**Correction of Anemia + Improvement of Birth weight of Babies**

**Conclusion & Take Home Messages**

- No short-cuts for improving iron during pregnancy and birth weight of babies.
- Provision of safe water for drinking & cooking with F<sup>-</sup> as low as possible but not beyond 1.0 mg / L; lesser F<sup>-</sup> the better. Urine F<sup>-</sup> <1.0 mg / L.
- Provision of Nutritive diet, Non-toxic food with fruits, vegetables and dairy products.
- With Iron + Folic acid supplementation - a must.
- Highest personal hygiene practices to be introduced.
- Delivery in Hospitals to be encouraged
- Attend to Dental problems, if any, tartar removed, cavities filled, attend to Gingivitis (inflammation of the gums).

**MAJOR ACHIEVEMENTS**

- Urine F<sup>-</sup> Reduced to <1.0 mg / L = 1.0 - 0.254 mg/L = (55% pregnant women)
- Healthy Mother with Hb > 12.0 - 14.0 g/dL (77% pregnant women)
- Healthy Baby with Birth Weight > 2.5 - 3.89 Kg (82.9% babies born)

Achieved in India Only (2005 - 2010)

**Improvement Upon Fluoride Withdrawal**

FLUORIDE WALL

Figure 1

Figure 2

**Our Babies**

At No. 107

Birth weight: 3.3 Kg

At No. 108

Birth weight: 3.3 Kg

At No. 109

Birth weight: 3.3 Kg

At No. 110

Birth weight: 3.3 Kg

At No. 111

Birth weight: 3.3 Kg

At No. 112

Birth weight: 3.3 Kg

At No. 113

Birth weight: 3.3 Kg

At No. 114

Birth weight: 3.3 Kg

At No. 115

Birth weight: 3.3 Kg

At No. 116

Birth weight: 3.3 Kg

At No. 117

Birth weight: 3.3 Kg

At No. 118

Birth weight: 3.3 Kg

At No. 119

Birth weight: 3.3 Kg

At No. 120

Birth weight: 3.3 Kg

BMJ: International Forum on Quality and Safety in Healthcare in Asia, Hongkong 29-30 September, 2015



TO EMPOWER POPULATION FOR NUTRITIONAL REQUIREMENTS THROUGH DIET FOR BETTER HEALTH  
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**1. BACKGROUND INFORMATION**

IN INDIA 60 – 80% SCHOOL CHILDREN : ANAEMIC

FROM : 1. RURAL & URBAN  
2. RICH & POOR  
3. EDUCATED & UNEDUCATED

IRON & FOLIC ACID SUPPLEMENTED ACROSS THE COUNTRY BY GOVERNMENT  
NO BENEFICIAL RESULTS

REASON : CONSUMPTION AND USE OF FLUORIDE  
[ FLUORIDE IS A NEUROTOXIN, HORMONE DISRUPTOR AND AN ENZYME INHIBITOR ]

**2. OBJECTIVES**

- TO IMPROVE DIET WITH NUTRIENTS THROUGH
  - SIMPLE
  - AFFORDABLE
  - EASY TO PRACTICE RECIPES
- TO EMPOWER MOTHERS AND TEACHERS HOW TO VIEW DIET
- TO INTRODUCE AMPLE FRUITS + VEGIES, DAIRY PRODUCTS
  - JUICE FOR BREAKFAST
  - SALAD FOR LUNCH
  - SOUP FOR DINNER

**3. School activities**  
Anaemic Children explained the link with Fluoride

Bottle being given to collect Urine for testing Fluoride

School Principal Participating : Providing Blood for Hb testing

**4. ESSENTIAL TESTS**

- DEWORMING ONCE A YEAR
- TEST FOR URINE FLUORIDE
- TEST FOR HEMOGLOBIN (using digital portable machine)

4. TEST FOR DRINKING WATER FLUORIDE

- REVEAL RESULTS
- POINT OUT IMPLICATIONS
- SUGGEST REMEDIES

	Sch. 1	Sch. 2	Sch. 3	Sch. 4	Sch. 5	Sch. 6
	Sam.	Sam.	Sam.	Sam.	Com.	Com.
Baseline (Hb-12.0 g/dl)	None	None	None	None	None	None
Post 1 Month	20%	39%	35%	39%	9%	17%
Post 3 Month	31%	41%	50%	41%	14%	21.4%
Post 6 Month	41%	57%	52.6%	51.4%	27%	-

**6. BETTER HEALTH THROUGH DIET**

JUICES

SALADS

SOUPS

SNACKS

**7. MAIN SPICES FOR COOKING – LUNCH/DINNER**  
Enrich Body with : micronutrients, Antioxidants/Vitamins through use of:

Say Yes to

**8. REMOVAL OF FLUORIDE & ADDITION OF NUTRIENTS**

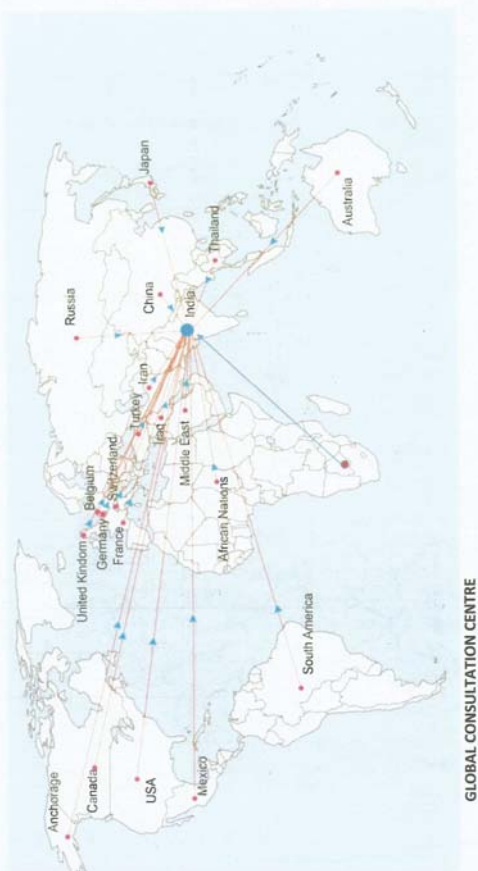
Say NO to

**9. TAKEHOME MESSAGES :**

- To address Anaemia, testing Hb & Urine Fluoride are necessary to identify the cause when non-responding to Iron & Folic acid supplementation
- Results to share with Parents & Teachers in the presence of their wards during Parent Teacher Meetings.
- Consume healthy snacks but no aerated drinks
- Use Fluoride-free toothpaste

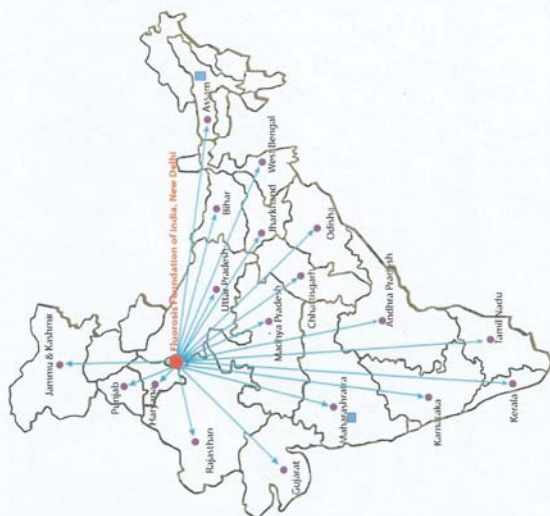
The message conveyed through our Poster (PPS) during this Convention is to ELIMINATE FLUORIDE TOXIN THROUGH DIET EDITING AND PROMOTING NUTRIENTS THROUGH DIET COUNSELLING TO EMPOWER POPULATION

BMJ : INTERNATIONAL FORUM ON QUALITY AND SAFETY IN HEALTHCARE IN ASIA.  
SINGAPORE 26 – 28 SEPTEMBER, 2016



REACH-OUT OF THE FOUNDATION

Field Offices- Pune & Guwahati



91 Editorial  
Fluoride 48(2):91-92  
April-June 2015

A step in the right direction  
Spittle 91

A STEP IN THE RIGHT DIRECTION

**SUMMARY:** The US Department of Health and Human Services Federal Panel on Community Water Fluoridation has made a final recommendation on community water fluoridation that replaces the relevant parts of the 1962 Drinking Water Standards. Whereas the earlier recommendation, based on the outdoor air temperature of geographic regions, involved a range of 0.7–1.2 mg F/L, the new recommendation, for community water systems that currently fluoridate or plan to do so, is for a level of 0.7 mg F/L. While this can be seen as a step in the right direction, the editorial writer considers that, based on the empirical evidence available, no fluoride should ever be added to a community water supply.

Keywords: Recommendation for fluoride in water; Water fluoridation.

In an update to the website of the Centers for Disease Control and Prevention, dated 24 April 2015,<sup>1</sup> it was noted that the US Department of Health and Human Services Federal Panel on Community Water Fluoridation has made a final recommendation on community water fluoridation that replaces the relevant parts of the 1962 Drinking Water Standards.<sup>2</sup> Whereas the earlier recommendation, based on the outdoor air temperature of geographic regions, involved a range of 0.7–1.2 mg F/L, the new recommendation, for community water systems that currently fluoridate or plan to do so, is for an optimal fluoride concentration in drinking water of 0.7 mg/L. The US Surgeon General, Dr V.H. Murthy, endorsed the recommendation and urged that communities adopt it.<sup>3</sup>

The Panel considered comments that a level of 0.7 mg F/L might cause adverse effects involving severe dental fluorosis, bone fractures, skeletal fluorosis, carcinogenicity, IQ and other neurological effects, and endocrine disruption. They stated that, after they thoroughly reviewed the evidence related to these concerns, they did not identify compelling new information requiring them to alter their assessment.<sup>2</sup>

In the discussion on IQ and other neurological agents, only eight references were quoted including the findings of a recent prospective study of a birth cohort in New Zealand which did not support an association between fluoride exposure and adverse effects on IQ.<sup>2,4</sup> However, no comments were made on the limited power of the Broadbent et al. study because of the small size of the group with no exposure to fluoridated water, fluoride tablets or fluoridated toothpaste.<sup>5,6</sup> The panel also noted that a meta-analysis of IQ studies involved drinking water concentrations of up to 11.5 mg/L, without noting that adverse IQ effects were found in a low-iodine group receiving just 0.88 mg F/L in their drinking water.<sup>7</sup> No critique was made of more recent research linking, in 7.1-year-old children drinking water containing 1.12–4.07 mg F/L, the presence of moderate or severe dental fluorosis with cognitive impairment,<sup>8</sup> or of an analysis, of the available empirical evidence, which found that, to protect the whole population against adverse IQ effects, the level of fluoride in drinking water should not exceed 0.1 mg/L.<sup>9</sup>

The Panel noted that while fewer than 1% of the population using fluoridated water in December 2010 received water with 0.7 mg/L, by the summer of 2011, just six months after the publication of the draft notice of the new level of 0.7 mg/

L, the percentage of the fluoridated-water-receiving-population receiving water with 0.7 mg/L had risen to 68%.<sup>2</sup>

Thus, while the recommendation of a drinking water fluoride level of 0.7 mg/L is better than the previous recommended range of 0.7–1.2 mg/L and a step in the right direction, it does not go far enough. Although the World Health Organization set, in 1984 and reaffirmed in 1993, a guideline of 1.5 mg F/L (1.5 ppm) as a “desirable” upper limit, it also allows countries to set Country Standards, their own national standards or local guidelines.<sup>10</sup> The limit of 1.5 mg F/L has been seen to be unsuitable in some countries and lower Country Standards have been set of 1 mg/L in India and 0.6 mg/L in Senegal, West Africa.<sup>11</sup> A rider to the Indian limit is that the “lesser the fluoride the better, as fluoride is injurious to health.”<sup>11</sup>

Hopefully, another 52 years will not have to pass before the 0.7 mg/L recommendation is replaced by a new recommendation that no fluoride should ever be added to a community water supply.

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