

Module 6

Understanding and managing dietary restrictions

Module coverage



Topic	Sub-topics covered	Learning objectives
5) Understanding and managing dietary restrictions	• Various types of food allergies & intolerances • Public health sensitive nutrients (including health conditions to restrict these)	✓ Understand special health conditions that require food restrictions and management.

Food allergies vs. intolerances

Food allergies involve an immune system response to a food, potentially causing severe reactions, while food intolerances are digestive issues, not immune responses, and usually cause less severe symptoms.

Aspect	Food Allergy	Food Intolerance
Definition	An immune system response to a food intake.	A digestive system issue with a particular food.
Cause	Immune system mistakenly identifies food as harmful substance and produces antibodies against it.	Lack of specific enzymes and becoming sensitivity to food.
Reaction type	Immune-mediated (involves IgE antibodies).	Non-immune mediated (e.g., Enzyme deficiency).
Onset of symptoms	Immediate (minutes to hours after consumption).	Gradual (hours to days after consumption).
Symptoms	Severe: hives, swelling, difficulty breathing, anaphylaxis.	Mild: bloating, gas, diarrhoea, abdominal pain.
Severity	Can be life-threatening (e.g., anaphylaxis).	Rarely life-threatening.
Examples	Peanut allergy, shellfish allergy, egg allergy.	Lactose intolerance, gluten sensitivity.
Diagnosis	Blood tests (IgE), skin prick test, oral food challenge.	Elimination diet, breath tests (e.g., lactose).
Management	Strict avoidance, epinephrine for emergencies.	Avoiding trigger foods or consuming in moderation.
Cross-reactivity	Common (e.g., latex allergy with fruit allergens).	Rarely observed.

Common food allergies

List of common food allergies

Food allergies involve an immune system response and can cause severe reactions like anaphylaxis.

1. **Milk** (Cow's milk allergy)
2. **Eggs**
3. **Peanuts**
4. **Tree Nuts** (e.g., almonds, walnuts, cashews)
5. **Fish**
6. **Shellfish** (e.g., shrimp, crab, lobster)
7. **Soy**
8. **Wheat** (Different from gluten intolerance)
9. **Sesame** (Increasingly recognized as an allergen in many countries)



Common food intolerance

Tolerances	Examples	Mechanism
Lactose Intolerance	Milk and dairy products.	Enzyme deficiency (lactase).
Gluten Intolerance	Wheat, barley, rye.	Digestive sensitivity to gluten.
Fructose Malabsorption	Fruits, honey, high-fructose corn syrup.	Malabsorption of fructose in gut.
Histamine Intolerance	Aged cheeses, smoked fish, fermented foods.	Reduced breakdown of histamine.
Caffeine Sensitivity	Coffee, tea, chocolate, energy drinks.	Nervous system overstimulation.
Food Additives	Sulfites (wine), MSG (processed foods).	Chemical sensitivity.
FODMAP Intolerance	Certain vegetables, legumes, and sweeteners.	Poor fermentation of carbohydrates.

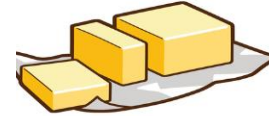
Public health-sensitive nutrients



Salt is a major source of **sodium** in our diet. Salt consumption above WHO recommended limit of 5g a day predisposes an individual to heart problems.



High intake of **added sugars** is a risk factor for obesity and predisposes the individual to diabetes and other diseases.



Excess of **saturated fat** intake is a risk factor for obesity and diseases like diabetes, cardiovascular ailments etc.



Trans fat are unhealthy fats which should be limited in diet.



For packaged food & beverages, the nutritional label has to declare the contribution to Recommended Dietary Allowance calculated on the basis of 2000kcal energy, 67 g total fat, 22 g saturated fat, 2 g trans fat, 50 g added sugar and 2000 mg of sodium (5 g salt) requirement for average adult per day on packaged food labels

Sodium and its impact on diet

Sources: Table salt, natural sodium in fruits, vegetables, processed foods (pickles, papads, snacks).

Impact:

- High sodium intake increases the risk of hypertension and stroke.
- The recommended daily intake (less than 5g/day).

Key takeaways:

- Reducing salt in home-cooked meals and maintaining portion control from packaged foods can help manage sodium intake.



The Eat Right Movement
#AajSeThodaKam
Namak Kam

 Salt is the main source of sodium in our diet. High sodium is a risk factor for high blood pressure, which leads to heart problems. The average Indian consumes nearly double the recommended amount of salt everyday.

Thoda Kam - Simple tips

1. Gradually reduce the use of salt in your daily diet.
2. Track & monitor the consumption of salt at home– buy & use only a fixed quantity every month.
3. Do not add salt to rice or to atta while cooking chapattis.
4. Avoid sprinkling salt on salad, cut fruits, curd and even cooked food.
5. Enjoy, in moderate quantities, foods such as papads, pickles, sauces, ketchups, salted biscuits, etc. that are high in sodium.
6. Limit intake of foods described as pickled, brined, barbecued, cured or smoked as they tend to be high in sodium.
7. Switch from salted namkeens and snacks to fresh fruits and vegetables.
8. Drink plenty of water everyday to flush out toxins and excess of sodium from the body.
9. Eat fruits and vegetables, which are rich in potassium, to neutralize the effect of sodium in the body.



Sugar and its impact on the diet

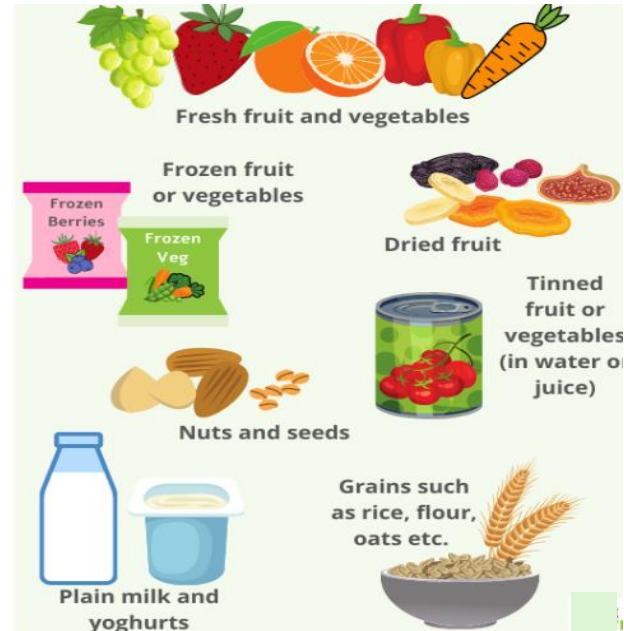
Sources: Sweets, desserts, and sugary beverages

Impact: Directly linked to Type 2 diabetes, obesity, and dental problems.

Key takeaway: Reducing added sugar in the daily diet is important for diabetes prevention.

Natural Sugars

These are found naturally occurring in foods such as fruit, vegetables, dairy, nuts, seeds & grains.



Added Sugars

These are added to foods and beverages during manufacturing, at home while preparing or occur during food processing.



Fats – Trans and saturated fat

Sources: Fats – Trans and Saturated Fats

- Trans fats: Vanaspati ghee and fried foods.
- Saturated fats: Ghee, butter, red meat, coconut oil.

Impact:

- Trans fats: Increase LDL ("bad" cholesterol) and reduce HDL ("good" cholesterol), leading to heart disease.
- Saturated fats: Associated with cardiovascular disease and obesity.

Key takeaways:

- Shift to healthier oils and limit fried and processed foods.



What are trans-fatty acids?

- Industrially produced trans-fatty acids (TFA) are frequently found in **baked and fried foods**, pre-packaged snacks, and cooking oils
- They cost less than animal fats such as butter and increases the shelf life of foods and oils by **lowering their oxidation potential**
- TFA is said to increase risk of **coronary heart disease**
- Globally, increased TFA intake is estimated to be responsible for more than **5,00,000 deaths** per year
- TFA increases levels of LDL (bad) cholesterol and decreases levels of HDL (good) cholesterol
- A survey of street food in Delhi and Haryana found that 25% of snacks had high levels of TFA



SOURCE: WHO

Public health implications and action



- **Government initiatives:**
 - In Jan 2022, FSSAI has limited the use of trans-fat and nutrition labelling.
 - In July 2018, Public awareness campaigns: Reduce salt, sugar, and unhealthy fats.
- **Promote traditional Indian diets:**
 - Declared by the UN, led by India to promote millets for nutrition and sustainability.
- **Key Takeaways:**
 - Educating the public is crucial to curbing lifestyle diseases.
 - Small dietary changes can lead to large health benefits.

Suggested to read: <https://www.mdpi.com/2072-6643/13/5/1638>
<https://www.mdpi.com/2072-6643/13/5/1638>
<https://pmc.ncbi.nlm.nih.gov/articles/PMC9323357/>
https://fssai.gov.in/upload/media/FSSAI_News_Trans_Fat_BusinessToday_10_02_2021.pdf
https://fssai.gov.in/upload/uploadfiles/files/Compendium_Labelling_Display_23_09_2021.pdf
https://fssai.gov.in/upload/media/5b4dc29f3af2bFSSAI_News_ETM_Quint_15_07_2018.pdf
FSSAI Campaign Summary

Conclusion



- This helps to understand special health conditions that require food restrictions and management.
- This expertise will help to pivot complex dietary needs into practical, sustainable meal plans for diverse populations.
- This breaks the challenge of navigating dietary restrictions with creativity and a commitment to evidence-based practice.
- Each individual's dietary restrictions are unique, requiring personalized and compassionate care.
- The field of dietary restriction management is constantly evolving; this learning will be crucial in shaping the new dietary restrictions.

Suggested read: <https://www.mdpi.com/2072-6643/13/5/1638>
<https://pmc.ncbi.nlm.nih.gov/articles/PMC9323357/>

Module 7

Developing healthy eating habits and balanced meal plans