

Current Health Event

Heart diseases with a focus on Trans fats

Increased trans fat consumption is associated with increased risk of coronary heart disease morbidity and mortality. Estimates suggest that 500,000 premature deaths per year from coronary heart disease due to trans fat intake worldwide, mostly in low- and middle-income countries ([WHO, 2018](#)).

Editorial note:

Trans fats or trans fatty acids are a type of unsaturated fatty acids that can be present naturally in food products (mainly derived from ruminant animals) or industrially produced (partially hydrogenated oils). Some of these oils may contain more than 50% of trans fat. Industrially produced trans fatty acids can be found in baked and fried foods, pre-packaged snacks, etc.

Diets high in trans fat increase heart disease risk by 21% and deaths by 28%. Trans fats consumption increases LDL-cholesterol levels and decreases HDL-cholesterol levels. While LDL is a biomarker for cardiovascular disease risk, HDL is the one responsible of transporting cholesterol away from arteries for secretion through the liver. Industrially produced trans fat can cause coronary heart disease while having no necessary value in food. Thus, healthier alternatives can be used without affecting taste or cost. Thus, limits on the amount of trans fat that can be contained in packaged food have been legally imposed in several high-income countries.

The average intake of trans fats in the Eastern Mediterranean Region is estimated at 1.9% of the total energy intake, which is almost double the recommended limit of 1%, placing the Region as one with the highest intake globally ([WHO, 2019](#)). In Lebanon, a study in 2016 showed the mean trans fat consumption to be at least double WHO recommendations of 1% of total energy, with men significantly consuming more

Figure 1: Trans fat preliminary results of food samples analysis (WHO, 2019) (L=low; H=High; % DV= % of daily value)

Name	Trans fat %	Trans fat %DV	Name	Trans fat %	Trans fat %DV
Baklava (mixed)	0.5	L	Meat Shawarma	2.24	H
Halawet El Jibn	2.4	H	Rice and chicken	2.92	H
Katayef Kashta	0.9	H	Mosakaa	3.12	H
Knefe cheese with Kaak	0.6	H	Batinjen		
Maakaroun	0.2	L	Stuffed potato	1.98	H
Maamoul Dates	0.4	L	Stuffed squash	1.26	H
Maamoul pista-chio	0.7	H	Okra stew	1.55	H
Maamoul Walnut	1.7	H	Chicken Shawarma	0.4	L
Nammoura	1.5	H	Hindbe b zeit	0.3	L
			Sayadiyah	0.36	L

trans fat than women (7.2 ± 1.9 and 6.8 ± 2.0 % of total fat) ([Farhat et al., 2016](#)). In addition, it is estimated that the proportion of coronary heart disease death due to trans fat intake in Lebanon is 9.4% ([WHO, 2019](#)).

In 2019, WHO Lebanon in collaboration with the Lebanese University supported the updating of food composition tables for the most common composite dishes as well as other market foods, with a focus on identifying sources of trans fat mostly consumed in the country. Thirty composite dishes (such as rice and lamb), Arabic sweets, desserts and bakery products, as well as local and imported market foods and coffee and nuts were analyzed. Preliminary results of some dishes are found in figure 1.

Almost 75% of the composite dishes analyzed contain amounts between 0.1 and 2% of trans fat. Also, 27% of the Arabic sweets contain more than 0.5% of trans fat. One of the explanations behind this is the type of oil used in the cooking, which is high in trans fat. In terms of labels, around 80% of the products' labels match the results in terms of fat percentage. However, more than 90% of the products' labels do not report the correct value for saturated fat and do not report a value for trans fat.

Based on these findings, WHO is supporting the MOPH in developing a national nutrition strategy.

WHO response

WHO launched the [REPLACE package](#) with the aim of eliminating industrially-produced trans fats from the food supply. The package provides 6 strategic actions:

- * **REview** dietary sources of industrially-produced trans fats.
- * **Promote** the replacement of industrially-produced trans fats with healthier fats & oils.
- * **Legislate** or enact regulatory actions to eliminate industrially-produced trans fats.
- * **Assess** and monitor trans fats content in the food supply and changes in consumption in the population.
- * **Create** awareness of the negative health impact of trans fats.
- * **Enforce** compliance of policies and regulations.

Notifiable Diseases in Lebanon [Cumulative n° of cases among all Residents (among Syrians)] as of 1 June 2019				
Disease	2018	2019	April	May
Vaccine Preventable Diseases				
Polio	0 (0)	0 (0)	0 (0)	0 (0)
AFP	88 (33)	39 (8)	9 (2)	3 (0)
Measles	952 (156)	1149 (153)	426 (87)	159 (46)
Mumps	121 (41)	48 (12)	8 (2)	6 (2)
Pertussis	64 (26)	24 (9)	3 (1)	5 (1)
Rabies	3 (1)	0 (0)	0 (0)	0 (0)
Rubella	11 (4)	3 (2)	0 (0)	0 (0)
Tetanus	2 (1)	0 (0)	0 (0)	0 (0)
Viral Hep. B	253 (28)	103 (12)	16 (1)	24 (2)
Water/Food Borne Diseases				
Brucellosis	242 (26)	61 (7)	13 (0)	10 (0)
Cholera	0 (0)	0 (0)	0 (0)	0 (0)
Hydatid cyst	8 (2)	13 (1)	4 (0)	2 (0)
Typhoid fever	237 (4)	88 (1)	8 (0)	15 (0)
Viral Hep. A	899 (152)	172 (45)	19 (5)	20 (3)
Other Diseases				
Meningitis	420 (82)	138 (31)	34 (3)	9 (4)
Viral Hep. C	103 (7)	29 (3)	6 (0)	3 (0)