1- **What are the WHO recommendations based on?**

The WHO recommendations stem from the fact that breastfeeding is the ideal feeding pattern for infants according to the Updated Position paper from the Academy of Nutrition and Dietetics entitled “Promoting and Supporting Breastfeeding”.

In support of this, Dean Hwalla provided an overview of the health benefits of breastfeeding and human milk for infants and mothers. She highlighted the unique composition of human milk in terms of: low protein content and high bioavailability of essential minerals (suitable for immature digestive system of infant); maternal immune factors, appetite-regulating hormones and milk oligosaccharides (for the development of healthy infant gut microbiome); and mammary-gland derived stem cells (which have a great potential on infant health), as opposed to infant formula, based on cow’s milk, which composition is inferior: it is linked to iron-deficiency anemia (loss of blood into the stools), it is associated with a high risk for Cow’s Milk Protein Allergy (CMPA); it is low in vitamin E, iron and essential fatty acids, and high in protein, sodium and potassium which pose stress on the infant’s kidneys. Hence, human milk is a living biological fluid with many qualities and components that cannot be manufactured in infant formula.

The recommendations are also derived from the health risks of not breastfeeding, which include increased rates of infant and maternal morbidity and mortality, increased health care costs, and significant economic losses to families and employers.

2- **What are the reasons behind the low rates of breastfeeding in Lebanon?**

The latest research findings show low rates of breastfeeding among infants (0-2 years) in Lebanon: 5.2% of exclusively breastfeeding in the first 6 months of life and 21% of breastfeeding up to 1 year of life.

The main reasons behind these low rates of breastfeeding in Lebanon are: insufficiency of milk supply; accustoming the baby to eating solid food; and age of baby. Other reasons include: effects of breastfeeding on breast...
shape; breastfeeding in public; and the convenience of breastfeeding for a working mother (Hamadeh et al., 2014).

3- In your opinion, is a national campaign for the promotion of breastfeeding needed in Lebanon?
Definitely, as it is imperative to correct the above-mentioned misconceptions in knowledge, attitude, and perceived behavior among mothers. In addition, breastfeeding should be an integral component of the public health strategy for Lebanon in order to alleviate the health risks associated with low rates of breastfeeding in the country.
The national campaign to promote breastfeeding should recommend the following actions:

- Hospital personnel should be trained on the importance of breastfeeding and that its initiation should begin immediately after birth
- Work with hospital policies to ensure delivery and post-delivery environments that are conducive to and supportive of women’s decision to breastfeed
- Hospital regulations must be developed to encourage rooming-in, early breastfeeding initiation, use of breast milk as first food, and assistance with breastfeeding
- WHO Baby-Friendly Hospital Initiative (BFHI) must be revived and evaluated to explore methods for strengthening its recommendations within hospitals
- Educate women on complementary feeding (timely, nutritionally-adequate and safe) for their babies
- Limit formula marketing
- Extend mandatory paid maternity (>70 days)
- Endorse policies that encourage breastfeeding in the workplace and in public
4- Is breastfeeding associated with obesity, type 2 diabetes, hypercholesterolemia and hypertension?

Research show that breastfeeding is negatively correlated with obesity and type 2 diabetes. Children who are exposed to a longer duration of breastfeeding are less likely to become overweight or obese in all stages of life, whether in childhood, adolescence, or adulthood. In Lebanon, in contrast, exclusive breastfeeding for less than 4 or 6 months was associated with a high risk of overweight and obesity among infants and children aged 0 to 2 years.

In addition, meta-analyses have shown a significant protective effect of breastfeeding against type 2 diabetes, particularly among adolescents, and a small and modest beneficial effect on total cholesterol and blood pressure in adulthood.

5- Why are hospitals warning against the promotion of infant formula? Is it because they contain dangerous or carcinogenic compounds?

Human milk is a living biological fluid with many qualities and components that cannot be manufactured in infant formula: antibodies, hormones, anti-viruses, anti-allergies, anti-parasites, growth factors, and enzymes.

On the other hand, formula milk contains synthetic and dangerous compounds, such as:

- High sugar content, mostly from High Fructose Corn Syrup which, in turn, contains high levels of mercury (30-50%)
- Melamine, a chemical which is used to fake a higher protein content in milk containing foods. This chemical has caused havoc in China in 2008 when it was found in high quantities in infant formula and led to sickening children with kidney stones
- Fortification with synthetic vitamins and minerals
- Plant-sourced Decosahexaenoic acid (DHA) and arachidonic acid (ARA) which are extracted from fungus and algae via a process requiring the use of the neurotoxin chemical Hexane. These are
cheaper than fish oils, taste better and can be pulverized for better product consistency. According to the Cornucopia Institute, these DHA and ARA’s are causing some babies to suffer unexpected deaths and other morbidities including diarrhea, flatulence, jaundice, and apnea among infants who consumed formula supplemented with these compounds. Their safety has not been affirmed yet by the Food and Drug Administration (FDA).