

Infant formula in Lebanon: An essential but “luxury” commodity

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Background

The Academy of Nutrition and Dietetics and the World Health Organization strongly advocate exclusive breastfeeding during the first 6 months of an infant's life, recognizing the mothers' milk as the optimal source of nourishment for nearly all babies (1). Extensive research has shown that breast milk is uniquely suited to the infant's nutritional needs, providing the exact balance of proteins, fats, carbohydrates, and essential vitamins and minerals required for healthy growth and development.

Breastfeeding supports physical growth and confers numerous additional advantages, including the regulation of postnatal intestinal function, enhancement of immune system development and facilitation of cognitive growth (2). Breast milk contains bioactive substances such as antibodies, hormones and growth facilitators that are not present in infant formula, which contribute to the infant's immunity against infections and reduce the risk of chronic conditions such as obesity and type 2 diabetes later in life (2). Breastfeeding fosters a unique bond between mother and child, promoting emotional and psychological wellbeing (1,2).

Despite the strong recommendation for breastfeeding, various factors can hinder its feasibility or adequacy (3,4). Medical conditions such as endocrine disorder (e.g. insufficient glandular tissue, polycystic ovary syndrome), infectious disease or anatomical issues (e.g. inverted nipples, breast surgeries) can physically prevent a mother from breastfeeding (4). Some medications and treatments that a mother requires can contraindicate breastfeeding, just as social and personal factors can pose a challenge to breastfeeding (3). Maternal employment status, particularly where there is inadequate or no maternity leave or breastfeeding support; cultural norms and societal pressure; and the absence of family or community support, can significantly impact a mother's ability to initiate and sustain breastfeeding (3,4). Psychological factors such as postpartum depression and anxiety can also hinder breastfeeding (4).

In cases where breastfeeding is not possible, infant formula becomes the only alternative. Formulas are designed to closely mimic the nutritional profile of breast milk, providing essential nutrients required for

infant growth, although formulas do not offer the same immunological, developmental or bonding benefits inherent in breastfeeding (1,2). Unavailability or limited access to infant formula can pose a significant challenge or a health risk to parents and infants when breastfeeding is not feasible. It is therefore essential to ensure that infant formula is accessible to mitigate potential nutritional deficiencies and promote the wellbeing of the infant.

Given the history of war and political instability in Lebanon, socioeconomic unrest has progressively become normalized (5,6). People have become accustomed to unpredictable disasters, loss and trauma. Thus, when the recent economic crisis – followed by the COVID-19 pandemic and the Beirut port explosion – hit Lebanon, it led to several adverse outcomes such as protests, unemployment and poverty (5,7,8). However, what citizens could not predict was the shortage of various types of infant formula and the subsequent increase in their prices due to the following unexpectedly complex network of interrelated factors:

Devaluation of the Lebanese lira and deterioration of the Lebanese Gross Domestic Product

Up until early 2020, US\$ 1 was equivalent to 1500 Lebanese Liras (LL). However, after a massive inflation and shortage of foreign currency, US\$ 1 became equivalent to approximately 90 000 LL at the black market rate that changes daily (6,8). Many Lebanese citizens or immigrants still receive their income in lira, meaning that an employee who used to receive 750 000 LL as salary went from earning US\$ 500 to receiving ≈ US\$ 10 or less per month. Thus, over half of the Lebanese public was pushed below the poverty line (7) and this resulted in substantial decline in the real Gross Domestic Product per capita, amounting to 37.1% (8). Subsequently, there was a change in the minimum wage in Lebanon from 500 000 LL (US\$ 700) to 18 000 000 LL (only US\$ 200) (9). In Lebanon, a 400 g pack of infant formula costs approximately US\$ 7.05–20.08, depending on the brand and formulation (10). If a family earns only the minimum wage and their baby needs, for

example, 6 packs per month of milk, then the total cost could reach ≈ 14,400.000 LL (US\$ 160), which represents approximately 60% of the monthly salary. This situation has rendered even the most fundamental necessities, such as infant formula, unaffordable for many people.

Challenges for manufacturers

With the shortage of foreign currency, manufacturers are unable to import raw materials (8,11) needed for local infant formula production. Simultaneously, Lebanon is facing sanctions, further limiting imports from specific countries and exacerbating the challenges (8). The unstable supply of electricity causes insufficiently refrigerated products and ingredients, the limited availability of fuel impacts transportation and distribution of materials and products (5,11), and there is inadequate regulation, with reported cases of corruption (6). Therefore, some local producers try to cut costs by importing low-quality, unregulated raw materials.

Challenges for breastfeeding mothers

The economic crisis in Lebanon has created some challenges, directly affecting a significant number of mothers who live below the poverty line and impacting their ability to sustain breastfeeding. One notable consequence of economic hardship is the heightened stress experienced by mothers, which can disrupt the hormonal balance necessary for milk production and cause reduced milk supply (12). Financial strain may result in inadequate nutrition for breastfeeding mothers, further diminishing their ability to produce sufficient milk.

The economic downturn has compelled many mothers to return to work earlier than desired, thereby limiting their ability to exclusively breastfeed for the recommended 6 months duration. In Lebanon, where social taboos surrounding breastfeeding and workplace support for nursing mothers prevail, returning to work can significantly impede breastfeeding continuation. Mothers may encounter challenges in finding appropriate lactation facilities or securing breaks to pump milk while at work, exacerbating their breastfeeding hurdles.

Furthermore, the economic crisis has disrupted access to essential health care services, including lactation support and counselling. With limited resources allocated to health care amidst financial strain, mothers may find it challenging to access professional guidance and assistance for any challenges they encounter with breastfeeding. The restricted access to health care services and escalating health care costs can impede the ability of mothers to seek timely medical assistance for themselves and their infants, thus heightening the risk of health complications.

The outcome

A combination of these challenges in Lebanon is a critical threat to the health and development of newborns (13). Mothers who cannot breastfeed sufficiently have no alternative to infant formula, making infant formula shortages catastrophic (13). Infants receiving inadequate nutrition may suffer from stunted growth, developmental delay, increased risk of infections, and even death (13). Insufficient nutrition during the first years of life causes long-lasting complications, including increased risk of obesity, diabetes and heart disease during adulthood (14). Many uninformed parents have resorted to diluting the formula to make it last longer or to using unsafe alternatives such as cow or goat milk.

On the other hand, breastfeeding mothers who cannot access infant formula or pricy breast pumps are forced to breastfeed for longer periods, which limits their ability to leave home and, thus, their ability to earn income, and this places an added financial burden on families. The guilt, stress and anxiety due to the inability of parents to provide infant formula contribute to unfavourable family dynamics that may predispose members to mental health conditions which only worsen their financial insecurity.

Recommended solutions

The role of government

The inaccessibility of infant formula to all citizens and residents of Lebanon constitutes a health crisis that requires immediate action. To resolve this challenge, the Ministry of Public Health should conduct national studies in collaboration with suppliers and retailers to determine the extent of the scarcity of infant formula in the country. The studies will provide data and evidence crucial for designing and implementing programmes to enhance access. The government should collaborate with distributors to facilitate stable supply (8) and with manufacturers to increase local production. Government can encourage local manufacturing and reduce the country's dependence on imported products by providing incentives. They can collaborate with local and international non-government organizations for funding or technical support to increase access to infant formula, including through formula donations.

The government can implement effective price controls and tax breaks to make infant formula more affordable especially for needy families. They can provide emergency financial assistance to families in need to access infant formula while the problem persists and establish formula hotlines through which families can report shortages and get immediate assistance. A national database should be created to track availability of infant formula and anticipate shortages.

The role of suppliers and retailers

Suppliers and retailers can negotiate lower prices with manufacturers to make infant formula affordable to low-

income families, and collaborate with other healthcare providers and organizations, from paediatricians to community groups, to facilitate access, including stockpiling when there is surplus within the limits of product expiry.

Support and awareness creation

Many parents in Lebanon are unaware of the dangers of insufficient nutrition, or of using animal milk alternatives for infants (13), and many don't know when it is safe to transition from breast milk or formula feeding to solid food. It is therefore important to educate parents on the benefits of breastfeeding over formula feeding, aiming to encourage women who can breastfeed to prioritize breastfeeding and reserving the use of infant formula for exceptional cases where it is practically impossible to breastfeed. National infant and young child feeding programmes can be implemented to ensure adequate nutrition among children in Lebanon, including training for health care providers and counsellors. Support groups should be established to provide emotional and social

support to mothers while helping them to connect and share experiences.

Important considerations

The social and cultural contributors to the shortage of infant formula need to be carefully addressed. Societal pressure and cultural norms that discourage breastfeeding or encourage preference for infant formula should be corrected so that parents can base their infant feeding decisions on tangible evidence and information.

Conclusion

The scarcity of infant formula impacting Lebanon needs to be tackled through a multifaceted, multisectoral cooperative approach. This crisis cannot be remedied in the short term, but immediate targeted effort and commitment are needed to achieve a long-term sustainable solution.

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