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Lebanon NUTRITION SECTOR

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REPUBLIC OF LEBANON MINISTRY OF PUBLIC HEALTH

AMERICAN UNIVERSITY OF BEIRUT

GroundWork FOR NUTRITION & HEALTH

Mercy-USA Mercy-USA for Aid and Development

Policy Brief

Nutrition and micronutrient status of displaced Syrians in Lebanon

Program and policy implications of the LIMA survey

ACRONYMS

IFA: Iron and folic acid

LIMA: Lebanon integrated micronutrient, anthropometry, and child development survey 2023

WHO: World Health Organization

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KEY POINTS

- About 96% of the Syrian informal settlement households are food insecure, compared to approximately 82% of Syrian households located among the settled population and 50% of non-Syrian households.
- About half of Syrian children in informal settlements suffer from severe food poverty, compared to one-third of Syrian children living in the settled population and one-quarter of non-Syrian children.
- Nearly 40% of Syrian children under 5 years of age living in informal settlements are stunted, 4% are wasted and 16% are underweight, reflecting a significant deterioration in their nutritional status since 2021.
- Among children aged 6-59 months, anemia affects 29% of Syrian children in informal settlements, compared to 18% in the settled population and 14% in the non-Syrian population.
- Vitamin A deficiency is most prevalent in Syrian children in informal settlements and least prevalent in non-Syrian children, while iron deficiency rates are similar across all groups, ranging from 34% to 38%.
- Among adolescent girls, 24.0% in informal settlements are overweight or obese, compared to 26.9% in the settled population and 31.4% of non-Syrian girls.
- Short stature affects 13.5% of girls in informal settlements, compared to 8.6% in the settled population and 4.2% in non-Syrian girls. Thinness is also more common in the informal settlements at 6.4%, compared to 5.2% in the settled population and 2.1% in non-Syrian girls.
- Vitamin D insufficiency or deficiency is alarmingly high among adolescent girls and women, affecting approximately 9 out of 10 Syrian girls and women in both informal settlements and settled areas.
- Among non-pregnant women in informal settlements, 4.5% are underweight, and 56% are overweight or obese, slightly higher than the 51.6% combined rate in the settled population and 54.1% in non-Syrians.
- Vitamin B12 deficiency affects 42.5% of Syrian women in informal settlements, significantly higher than the 30.9% in settled areas and 17% in non-Syrians.

INTRODUCTION

The Syrian civil war began in 2011, and this protracted civil war resulted in an ongoing refugee crisis that has lasted more than a decade. As of 2023, there are approximately 6.3 million Syrian refugees that are currently residing outside Syria (1). While Syrian refugees have relocated to more than 125 countries (1), the vast majority —approximately 5.5 million —live in the five neighboring countries of Syria, Turkey, Lebanon, Jordan, Iraq, and Egypt (2).

The number of Syrian refugees currently residing in Lebanon is frequently changing. According to UNHCR, in early 2024, an estimated 1.5 million Syrian refugees, including approximately 815,000 registered with UNHCR, resided in Lebanon (1). While the majority of Syrians live amongst Lebanon's settled population, approximately 300,000 Syrian refugees resided in informal settlements. As a consequence of the airstrikes on Lebanon by Israel in 2024, there was an increased emigration of Syrians back to Syria. However, this movement was counteracted by the ongoing political crisis in Syria and the fragile security situation, which led to an influx of 120,000 displaced individuals seeking refuge in makeshift shelters and host communities in the Bekaa and Baalbek-Hermel governorates. By the end of January 2025, an estimated 540,000 Syrians had fled the country, with approximately 210,000 immigrating to Lebanon, resulting in a net emigration of over 300,000 Syrians. (3,4). These recent displacements highlight the precarious security situation faced by Syrian refugees and others in Lebanon.

Whether residing among the settled population or in informal settlements, Syrian refugees in Lebanon experience high levels of poverty and poorer health (5), which is often coupled with malnutrition. In early childhood, malnutrition not only heightens the risk of stunted growth, developmental delays, and adverse health outcomes but also reinforces a cycle of poverty that can persist across generations. Without timely interventions, malnourished children are more likely to face reduced educational achievements, limited future employment opportunities, and continued socio-economic challenges. The SMART 2021 survey reported a wasting prevalence of 2.4% among children aged 6–59 months residing in informal settlements. Additionally, 13.4% of children were underweight, and 25.8% suffered from chronic malnutrition, the latter being classified as a public health problem of high significance according to WHO criteria (6). Given the ongoing crisis in Lebanon, it is crucial to assess the current nutritional situation of Syrians and take targeted measures to address their precarious circumstances.

METHODOLOGY

The Lebanon Integrated Micronutrient, Anthropometry and Child Development (LIMA) Survey is a cross-sectional survey comprised of 10 strata, which included Lebanon's eight governorates, a Palestinian Camps stratum, and a Syrian informal settlement stratum. The LIMA also collected data related on individual-level nationality so that displaced Syrians residing outside of the informal settlement stratum could be identified.

The LIMA survey collected comprehensive information on the nutrition and micronutrient status of children under 5 years of age, adolescent girls 10-19 years of age, and non-pregnant women 15-49 years of age. An individual's general nutrition status was made using age and sex data along with measurements of weight and height, which enabled the classification and estimation of stunting, wasting, underweight in children, and undernutrition, overweight, and obesity in

adolescent girls and non-pregnant women. Blood samples were used to measure individuals' anemia and micronutrient status. More details about definitions and thresholds used in this policy brief for all indicators are found in the LIMA report (7).

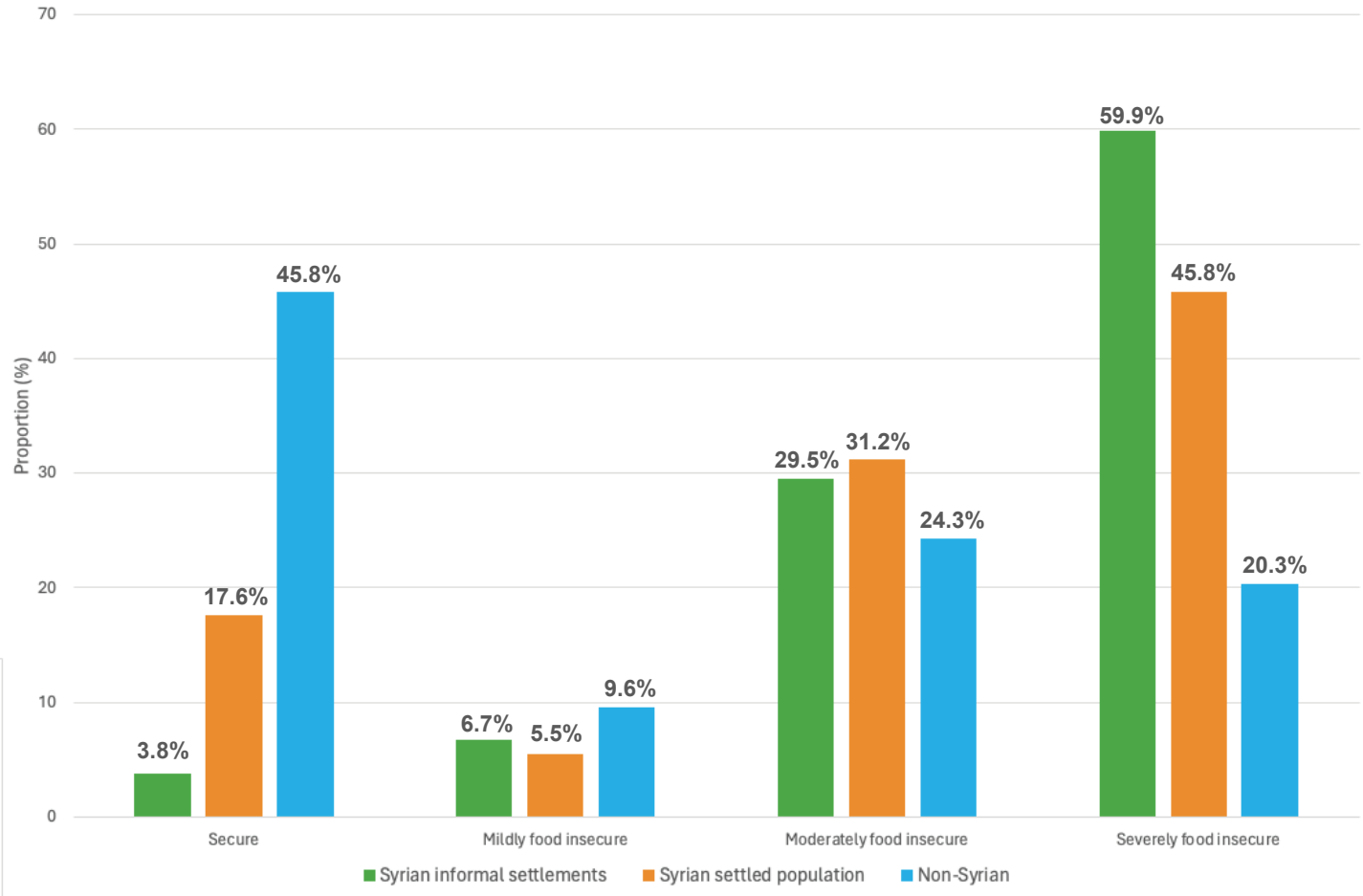
This policy brief examines the prevalence of various nutrition and micronutrient indicators among Syrians living in informal settlements and Syrians living among the host community. To provide a comprehensive local context, the analysis also includes data from non-Syrian populations for comparison. The nutrition and micronutrient status of children, adolescent girls, and non-pregnant women is also explored. The goal is to identify the various forms of malnutrition that disproportionately affect Syrians residing in Lebanon, enabling the country's nutrition stakeholders to implement targeted, multisectoral actions to address these challenges.

KEY FINDINGS

HOUSEHOLDS

Only 3.8% of the Syrian in informal settlement households are food secure, compared to 17.6% of Syrian households in the settled population and almost half of the non-Syrian households. The prevalence of severe food insecurity is highest among Syrian households in informal settlements at approximately 60%, followed by Syrian households in the settled population at about 46%. Only 1 out 5 non-Syrian households experience severe food poverty (Figure 1).

Figure 1. Prevalence of food insecurity among Syrian and non-Syrian households, Lebanon 2023



CHILDREN UNDER 5 YEARS OF AGE

Figure 2 illustrates the significant deterioration in the nutritional status of Syrian children living in informal settlements compared to 2021. Nearly 40% of these children are stunted, and approximately 16% are underweight, denoting a significant increase from the 25.8% and 13.4%, respectively, reported in SMART 2021. Although wasting remains relatively uncommon, the current rate of under 4% is still slightly higher than the 2.7% reported in 2021.

The level of malnutrition faced by children in informal settlements is considerably higher than that faced by Syrian children residing in the settled population and the non-Syrian population. For all anthropometric indicators except small head circumference, a dose-response relationship was shown, with the prevalence increasing from the non-Syrian population to Syrians in the settled population to Syrians in informal settlements.

Figure 3 presents the anemia and micronutrient status of children 6-59 months of age. Nearly 29% of Syrian children in informal settlements are anemic in comparison to 18% of Syrian children in the settled population and 14% of non-Syrian children. Similarly, vitamin A deficiency is highest in Syrian children in informal settlements and lowest in non-Syrian children. In contrast, the prevalence of iron deficiency in all three groups is similar, and ranges from 34% to 38%. Vitamin D status, primarily influenced by sun exposure and supplement intake, is highest among Syrian children in settled population and lowest among those in informal settlements.

Figure 2. Anthropometric status of Syrian and non-Syrian children <5 years of age, Lebanon 2023

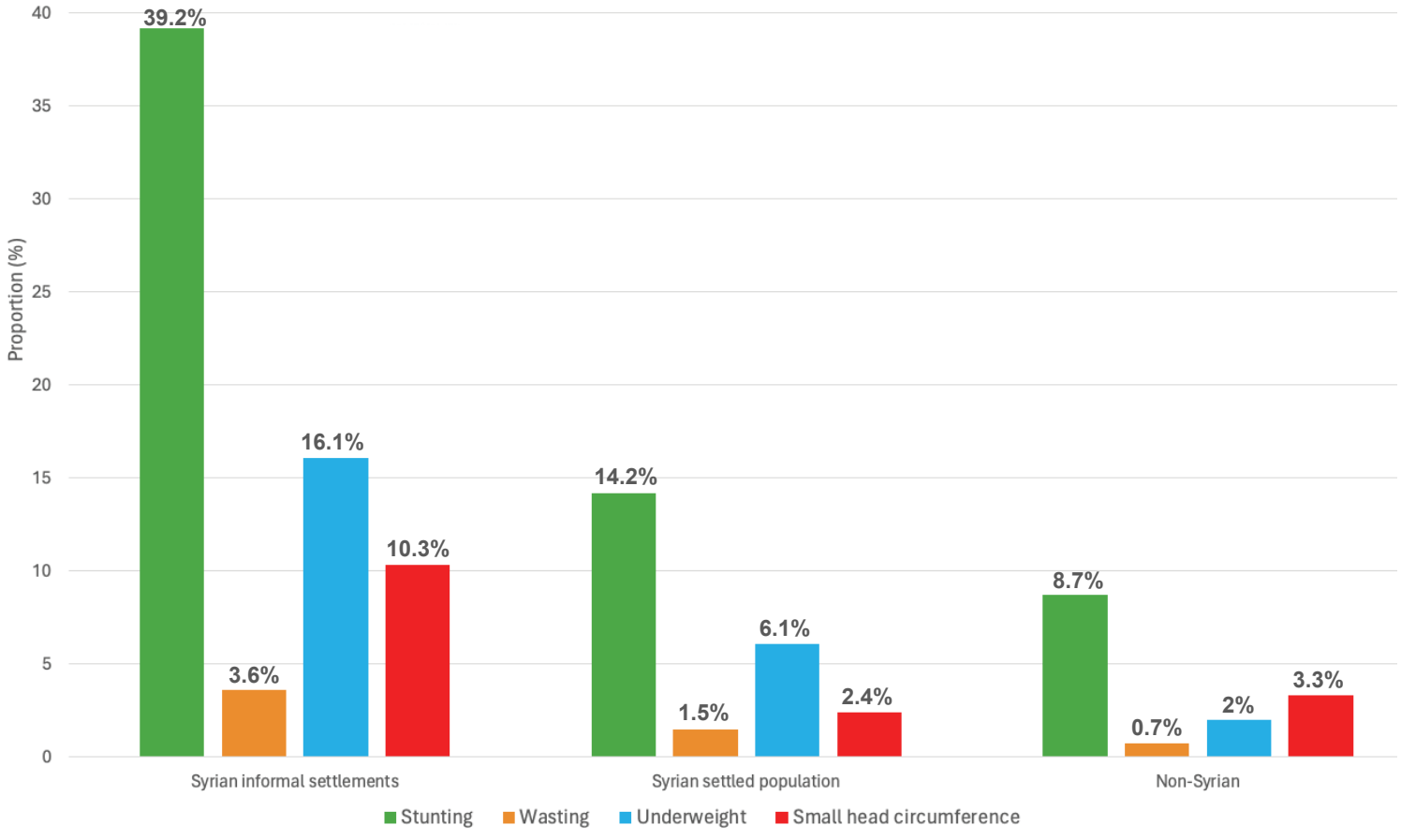
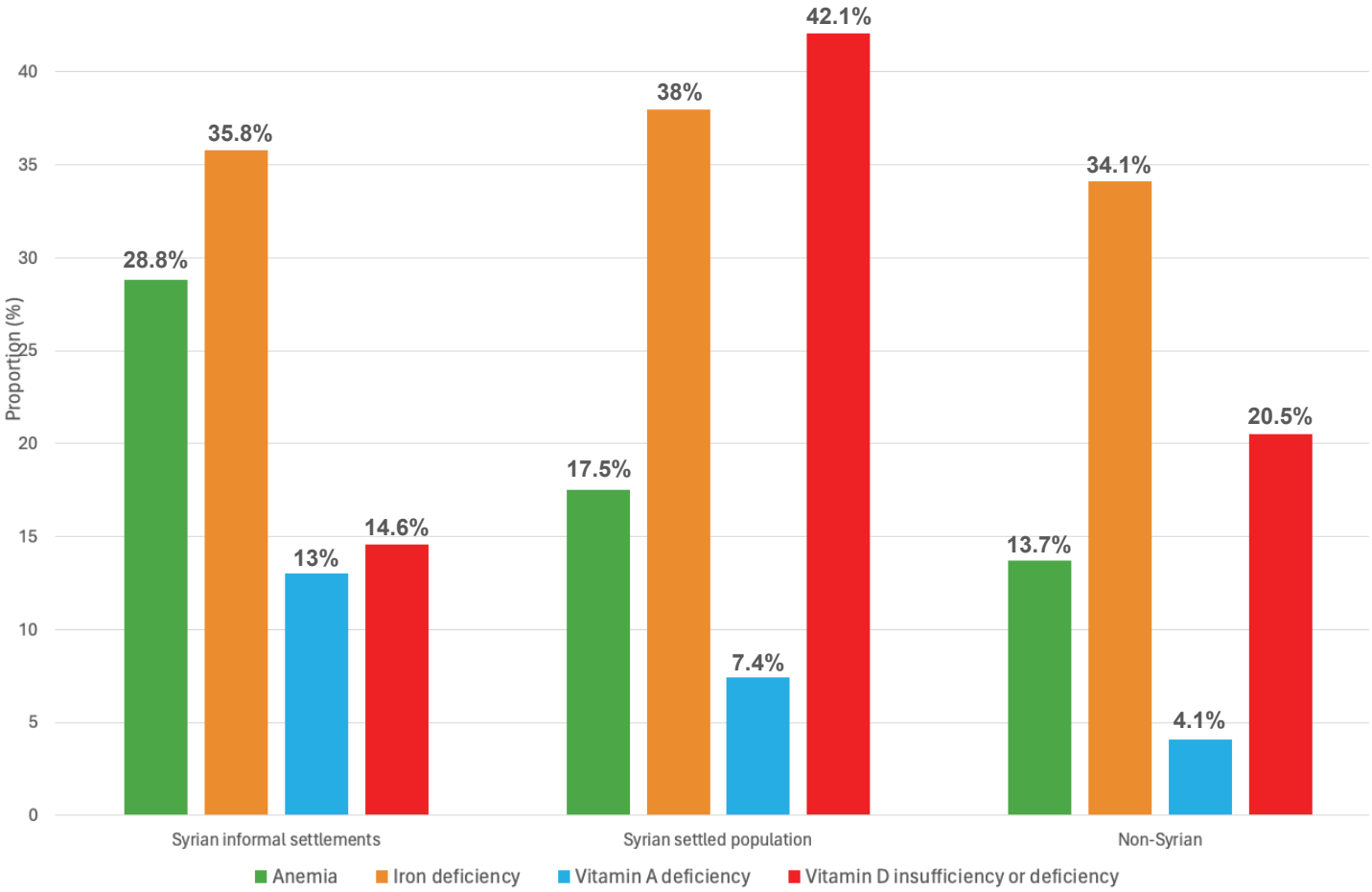


Figure 3. Micronutrient status of Syrian and non-Syrian children 6-59 months of age, Lebanon 2023



The proportion of children with minimum dietary diversity is low across all population groups, declining from about 39% among non-Syrian children to approximately 6% among Syrian children living in informal settlements. While roughly equal proportions of children in all groups suffer from moderate food poverty, a considerably larger proportion of Syrian children in informal settlements suffer from severe food poverty (51.1%) compared to Syrian children living in the settled population (31.1%) and non-Syrian children (24.0%, Figure 4). As shown in Figure 5, approximately 59% of Syrian children in informal settlements are breastfed, compared to less than 40% of non-Syrian children. While there is little difference in the proportion of children consuming fruits and grains between Syrian and non-Syrian children, substantial disparities can be observed for foods of animal origin and other protein-rich foods, with a considerably larger proportion of non-Syrian children consuming dairy products, flesh foods, and pulses, nuts and tubers.

Figure 4. Minimum dietary diversity and food poverty among Syrian and non-Syrian children 6-23 months, Lebanon 2023

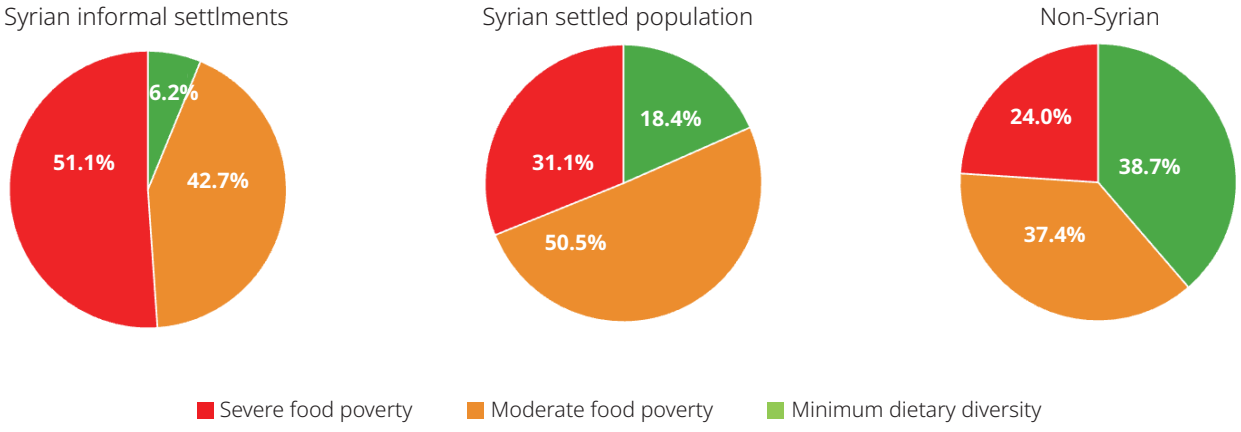
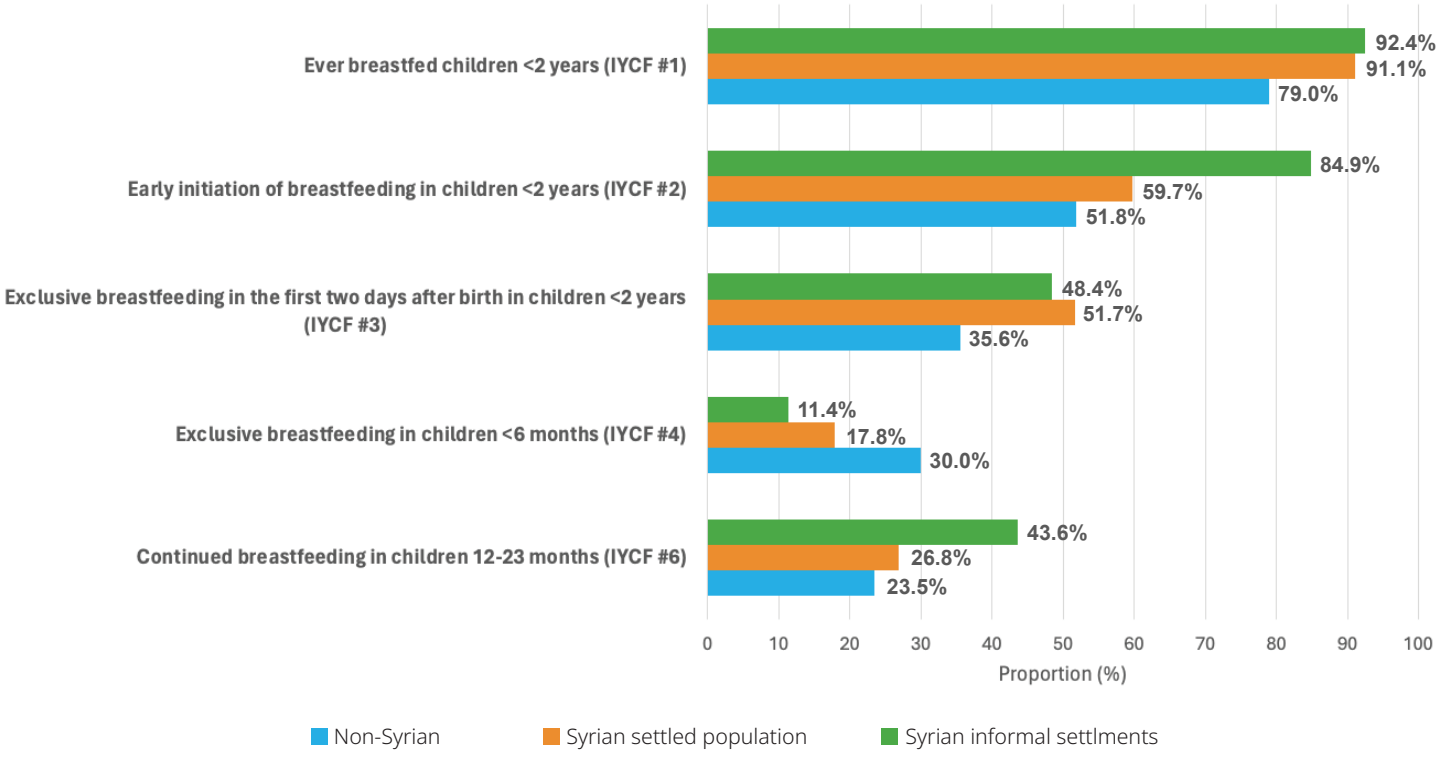


Figure 5. Proportion of Syrian and non-Syrian children 6-23 months per food group consumption, Lebanon 2023

	Breastmilk	Grains, roots, and tubers	Vitamin A-rich fruits and vegetables	Other fruits and vegetables	Pulses, nuts and seeds	Dairy products	Eggs	Flesh foods
Syrian informal settlements	58.9%	84.0%	33.3%	56.3%	9.4%	48.6%	13.7%	6.9%
Syrian settled population	46.8%	82.5%	29.8%	58.6%	16.5%	62.1%	29.1%	19.0%
Non-Syrian	39.4%	83.4%	33.8%	61.7%	18.0%	74.1%	25.3%	38.7%

The prevalence of various breastfeeding indicators is present by nationality in Figure 6. The proportion of children ever breastfed was significantly lower in Non-Syrian children (79%) compared to Syrian children in informal settlements and the settled population (91-92%). Early initiation of breastfeeding was significantly higher in children from informal settlements (85%) compared to Syrian (60%) and Non-Syrian children in the settled population (52%). For the other breastfeeding indicators, the observed differences were not statistically significant.

Figure 6. Breast feeding indicators among Syrian and non-Syrian children 6-23 months, Lebanon 2023



ADOLESCENT GIRLS

Approximately 24% of adolescent girls in informal settlements are overweight or obese, with a lower prevalence of overweight and obesity observed in the Syrian informal settlement population (24.1%) compared to Syrian children in the settled population (26.9%) and non-Syrian children (31.4%) (Figure 7). Short stature affects 13.5% of girls in informal settlements, a higher rate than the 8.6% seen in Syrian girls outside informal settlements and the 4.2% in non-Syrian girls. Thinness is more common in adolescents from Syrian informal settlements (6.4%) compared to those in the settled population (5.2%) and non-Syrian girls (2.1%). While the rates of overweight and obesity are high in all groups, the prevalence of short stature and thinness is disproportionately higher in the Syrian informal settlement population, reflecting a concerning trend in malnutrition compared to other groups (Figure 7).

Anemia affects 22.1% of adolescent girls in Syrian informal settlements, which is slightly lower than the 23.4% observed in Syrian girls outside the informal settlements, but higher than the 19.1% seen in non-Syrians (Figure 8). Iron deficiency is most prevalent in Syrian girls living outside informal settlements (34.5%), followed by those in informal settlements (30.2%), and is lowest in non-Syrian girls (27.6%). Folate deficiency affects 4.5% of adolescent girls in Syrian informal settlements, a significantly lower rate than the 7.7% seen in Syrian girls in settled areas, and much lower than the 17.4% among non-Syrian adolescent girls. Vitamin B12 deficiency is most common among girls in Syrian informal settlements (24.3%), followed closely by those in the settled population (22.6%), and is less common in non-Syrian girls (15.5%). Vitamin D insufficiency or deficiency is alarmingly high in both Syrian populations, with 90.7% of girls in informal settlements and 91.6% of girls outside informal settlements affected, compared to just 72.9% in the non-Syrian group (Figure 8).

Overall, deficiencies in iron, folate, vitamin B12, and vitamin D are more prevalent among Syrian adolescent girls, particularly those in informal settlements, compared to non-Syrian girls, highlighting the significant nutritional challenges faced by adolescent girls in these settings.

Figure 7. Anthropometric status of adolescent girls 10-19 years of age by nationality, Lebanon 2023

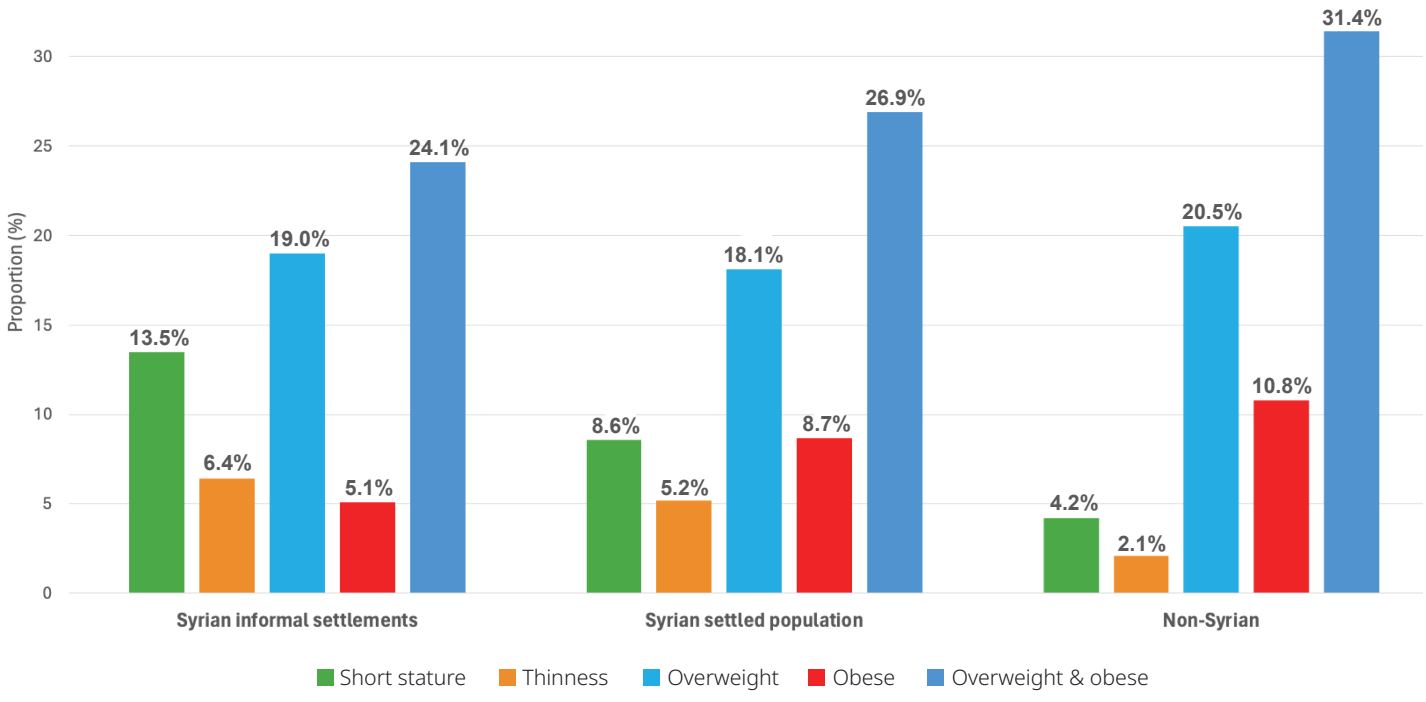
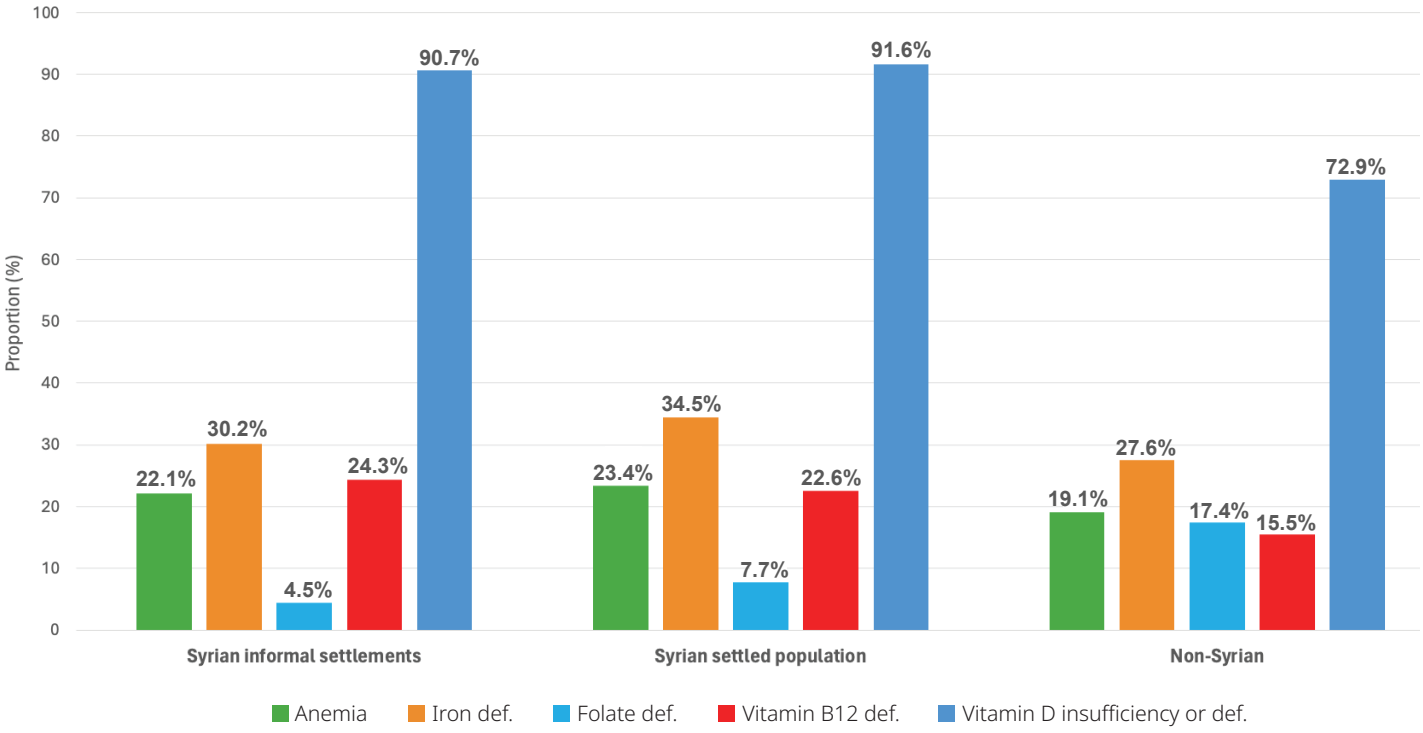


Figure 8. Micronutrient status of Syrian and non-Syrian adolescent girls 10-19 years of age, Lebanon 2023



NON-PREGNANT WOMEN

Among non-pregnant women in Syrian informal settlements, 4.5% are underweight, while 26.8% are overweight and 29.2% are obese, resulting in a combined overweight and obesity rate of 56.0% (Figure 9). In comparison, 8.8% of Syrian women in the settled population are underweight, with 24.2% being overweight and 27.4% obese, leading to a combined overweight and obesity rate of 51.6%. Non-Syrian women show the lowest prevalence of underweight (3.5%) and the highest rate of overweight (30.0%), with a relatively lower obesity rate of 24.1%. The overall rate of overweight and obesity in non-Syrian women stands at 54.1% (Figure 9).

In summary, while underweight is more common in Syrian women in settled areas, the rate of overweight and obesity is slightly higher in Syrian women in informal settlements compared to those outside informal settlements and non-Syrian women. This indicates a concerning trend of both undernutrition and overnutrition in the Syrian informal settlement population.

Among non-pregnant women in Syrian informal settlements, 32% are anemic, with iron deficiency affecting 37.5% (Figure 10). Folate deficiency is seen in 15.7%, and vitamin B12 deficiency is prevalent in 42.5% of women. Vitamin D insufficiency or deficiency is alarmingly high, affecting 94.3% of Syrian women in informal settlements. For Syrian women outside informal settlements, anemia affects 35%, iron deficiency is present in 44.2%, and folate deficiency is observed in 18.9%. Vitamin B12 deficiency is less common at 30.9%, while 88.8% of these women suffer from vitamin D insufficiency or deficiency. Among non-Syrian women, anemia affects 35.5%, iron deficiency is at 36.9%, and folate deficiency is 17.8%. Vitamin B12 deficiency is significantly lower at 17%, and vitamin D insufficiency or deficiency affects 62.4% (Figure 10).

Figure 9. Anthropometric status of non-pregnant women 15-49 years of age by nationality, Lebanon 2023

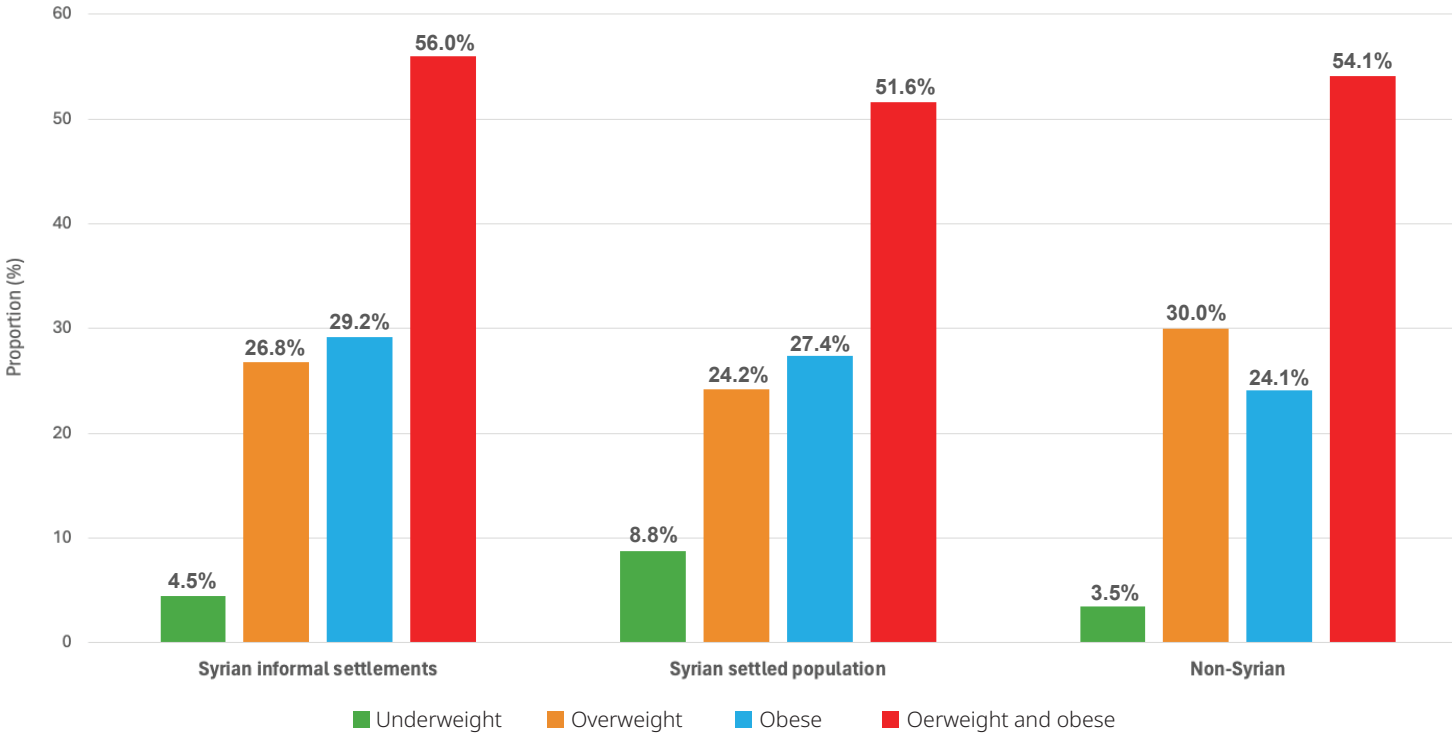
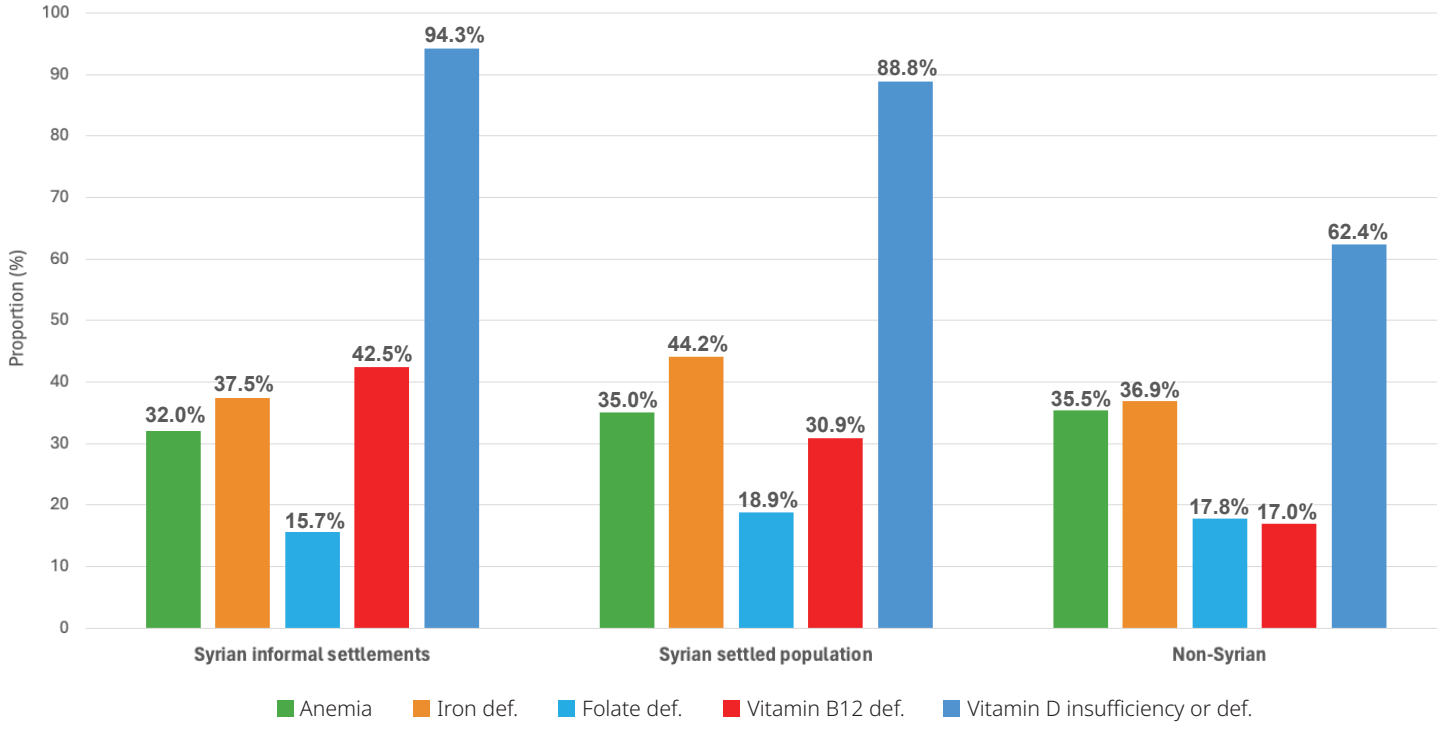


Figure 10. Micronutrient status of Syrian and non-Syrian non-pregnant women 15-49 years of age, Lebanon 2023



POLICY RECOMMENDATIONS

The nutritional challenges faced by Syrians, particularly those in informal settlements, underscore the urgent need for a holistic multisectoral approach to address both immediate and long-term health disparities. Malnutrition among children, adolescents, and women is intricately linked to broader determinants such as poor nutrition, food insecurity, poor access to healthcare, inadequate water and sanitation (WASH), and socio-economic vulnerability. Tackling these issues requires preventative, life-cycle, equity-based, and gender-responsive efforts coordinated across sectors, including nutrition, health, WASH, education, agriculture, and social protection. By integrating resources and expertise from multiple disciplines and sectors, a multisectoral approach can ensure more comprehensive, sustainable, and equitable solutions to improve the nutritional status and overall well-being of vulnerable populations.

Prevention must be prioritized as the first line of defense to address malnutrition and ensure long-term health outcomes. Preventive efforts, including nutritional education, supplementation, and food support, are essential to prevent the development of stunting, underweight, overweight and obesity. However, when prevention fails, timely treatment programs are critical to reduce the risks of prolonged nutritional deficiencies and prevent further nutritional and health deterioration.

ELEMENT 1. IMPLEMENT TARGETED NUTRITION INTERVENTIONS

Element 1.1:
For children under 5 years of age

Support social behavioral changes to promote, protect, and support infant and young child feeding practices. This includes awareness and counseling interventions on exclusive breastfeeding, responsive feeding and care, and age-appropriate complementary feeding practices targeted to children <2 years of age. Those should be complemented by community-based supplementary feeding programs for children under 5 years of age in informal settlements to address stunting, underweight, and micronutrient deficiencies, especially vitamin A and iron. In addition, micronutrient powders should be provided to enhance dietary intake of iron, vitamin A, and other essential nutrients.

Element 1.2:
For adolescent girls

Fortified meals to address deficiencies in vitamin B12, folate, and iron could be provided through school-based nutrition programs. Moreover, routine Multiple Micronutrient Supplementation (MMS)/ iron-folic acid supplementation (IFA) should be offered, and awareness about balanced diets to reduce both thinness and obesity rates must be improved.

Element 1.3:
For non-pregnant women

The access to iron and folate supplementation programs must be expanded and given the alarmingly high prevalence of vitamin D deficiency, vitamin D supplementation efforts need to be strengthened. In addition, healthy eating campaigns that address both undernutrition (underweight) and overnutrition (overweight/obesity) should be promoted.

Element 1.4:
Integrate mental health and psychosocial support into nutrition programs

The mental health challenges faced by refugees, including trauma, stress, and anxiety, can negatively impact nutritional choices and caregiving practices. Incorporating mental health and psychosocial support services into nutrition interventions can help caregivers develop coping mechanisms, improve decision-making related to food and nutrition, and enhance overall family well-being, leading to better nutritional outcomes. Such services include individual counseling, group therapy, and community-based mental health support.

ELEMENT 2. IMPROVE ACCESS TO HEALTH AND NUTRITION SERVICES

Element 2.1:
Expand and strengthen access to health and nutrition services through Primary Health Care Center (PHCC) and mobile clinics

To address the critical health and nutritional needs of Syrians, particularly in informal settlements, the government and humanitarian organizations should prioritize the expansion and strengthening of mobile health and nutrition clinics. These clinics should provide essential services, including nutritional screening, treatment of malnutrition, micronutrient supplementation, immunizations, maternal and child health care, and treatment of common illnesses such as diarrhea and respiratory infections.

Element 2.2:
Strengthen and expand WASH programs

WASH programs should be strengthened and expanded, with a specific emphasis on BabyWASH initiatives, to ensure universal access to clean water, improved sanitation, and better hygiene practices. This should include investments in sustainable water supply systems, improved sanitation infrastructure, community-focused hygiene education, and the integration of WASH interventions with maternal and child health services. These measures are essential for reducing the prevalence of diarrhea, a major contributor to nutrition deficiencies, particularly among young children, pregnant and lactating women, and other vulnerable populations.

Element 2.3:
Integrate nutrition-sensitive services into existing health systems

To address the persistent nutritional challenges among Syrians, the government and humanitarian organizations should expand and strengthen nutrition-sensitive services within existing health systems in refugee settings. This includes enhancing maternal health care, antenatal and postnatal care, breastfeeding support, and nutrition counseling. Efforts should focus on increasing the coverage, quality, and accessibility of these services to ensure they effectively address malnutrition and its underlying causes.

ELEMENT 3. EXPAND AND STRENGTHEN EFFORTS TO ADDRESS FOOD INSECURITY

Element 3.1:
Strengthen and diversify food assistance programs

To address the high prevalence of food insecurity and malnutrition among Syrians, particularly in informal settlements, humanitarian organizations should prioritize the expansion of comprehensive food assistance programs. The focus should be on cash-based transfer programs and voucher systems that allow displaced Syrians to purchase food directly from local markets. This approach is culturally sensitive, providing flexibility to families, and stimulates local economies. Food assistance programs should be designed to address the unique dietary needs of vulnerable groups, particularly young children, adolescent girls, and women, through targeted food baskets or conditional vouchers for nutrient-rich items such as fortified cereals, dairy products, eggs, flesh foods and fresh fruits and vegetables.

Social protection mechanisms, including child grants and targeted cash transfers, should complement food assistance by providing financial stability for vulnerable households. Linking cash support to health checkups and nutrition education can enhance awareness of balanced diets and food choices.

In addition, cash programs can incorporate "soft conditions" to encourage families to participate in regular growth monitoring for children and nutrition counseling sessions to raise awareness about the importance of balanced diets and how to make nutritious food choices within limited resources. By linking cash support to health checkups, the vulnerable population gain essential guidance and support to better understand and meet their nutritional requirements.
These programs should be complemented by social behavior change interventions to empower mothers, who are pivotal to ensuring household food security and improving the nutrition of household members. Engaging mothers in decision-making regarding the use of financial support is essential.

Element 3.2:
Ensure access to nutrient-dense foods

Efforts should also focus on improving access to affordable, diverse, and nutrient-dense foods in refugee settings. Humanitarian organizations and local governments should collaborate with private-sector suppliers, agricultural cooperatives, and food distributors to ensure a stable supply of affordable and high-quality foods in areas hosting refugee populations. This includes subsidies or incentives for local producers and suppliers to prioritize the availability of diverse and nutrient-dense foods, particularly in informal settlements where access to fresh and healthy food is often limited.

Establishing mobile food markets in informal settlements can also increase physical access to essential food items for populations living in remote areas. Additionally, strengthening local food systems through support for small-scale farming and crop diversification can enhance community self-sufficiency, reduce dependency on external aid, and improve dietary diversity over time.

ELEMENT 4. PROMOTE FOOD SYSTEM TRANSFORMATIONS TO ADDRESS OVERWEIGHT AND OBESITY

Element 4.1:
Transform food environments

Create supportive food environments in schools, homes, neighborhoods, and local food outlets to promote healthier food choices. Key actions include improving the nutritional quality of school meals, supporting families in making healthier food choices, and partnering with local food vendors to increase access to nutritious, safe, and affordable food options in refugee settings.

Element 4.2:
Regulate marketing of unhealthy foods and promote responsible food marketing

Develop regulations to restrict the marketing of unhealthy foods, particularly those targeting children, while promoting the marketing of nutritious options. Policies should also encourage transparency in food labeling, enabling families to make informed choices about what they consume.

Element 4.3:
Launch community-wide social and behavior change campaigns

Implement community-based campaigns using various platforms to promote healthier eating habits and positive behavior change. These campaigns should focus on education, community engagement, and awareness-raising to address misconceptions, shift attitudes, and encourage the adoption of nutritious diets among children and families.

ELEMENT 5. STRENGTHEN EARLY CHILDHOOD DEVELOPMENT (ECD)

ECD is a critical foundation for lifelong well-being and ECD programs can help mitigate the effects of child food poverty. Nurturing care, early stimulation, and responsive parenting are essential for children's physical growth, cognitive development, and emotional health. Empowering caregivers through parenting programs and community-based support ensures they have the knowledge and resources to provide proper nutrition and create a nurturing environment. Special attention must be given to vulnerable groups, including street children and those living in extreme poverty, who are often at higher risk of neglect and malnutrition. Prioritizing ECD as part of national strategies to combat child food poverty is crucial to breaking the cycle of poverty.

ELEMENT 6. STRENGTHEN NUTRITION PROGRAMS THROUGH THE EDUCATION SYSTEM

The education system works as a key platform to deliver comprehensive nutrition interventions that address malnutrition and promote healthy eating among Syrian children. Schools can serve as critical hubs for implementing nutrition education, where children learn about balanced diets, food safety, and proper nutritional practices through interactive lessons and practical activities. School feeding programs should be expanded to provide nutrient-dense, culturally appropriate meals that meet children's daily dietary requirements. Also, engaging parents and local communities through school-based initiatives, such as workshops and community events, ensures that children benefit from consistent nutritional support at school and at home.

ELEMENT 7. STRENGTHEN THE MONITORING AND EVALUATION (M&E) SYSTEM AND FEEDBACK MECHANISMS FOR NUTRITION INTERVENTIONS

Developing and enhancing M&E systems can properly track the effectiveness of nutrition interventions, ensuring they reach the most vulnerable populations and achieve intended outcomes. Regular monitoring through nutrition surveys, screenings, and tracking systems is essential for assessing program performance, identifying gaps, and making evidence-based adjustments to improve impact. It is also important to establish feedback mechanisms where displaced individuals can provide input on the quality and effectiveness of nutrition programs, enabling continuous improvement based on their experiences.

Additionally, interventions should be adaptable to changing contexts, such as the arrival of new displaced individuals, seasonal fluctuations, and shifts in the political or security landscape. A flexible approach allows for the timely modification of strategies and resource allocation, ensuring that programs remain relevant, effective, and responsive to evolving needs.

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