



Knowledge, evidence
and learning for
development

Nutrition in Syria

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Question

What is the current situation with regard to nutrition in Syria?

- *What is the best method to address undernutrition?*
- *How should longer term malnutrition (stunting) in a humanitarian crisis be addressed?*

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1. Overview

The nutritional situation in Syria is serious, with high levels of food insecurity and rising malnutrition. Key findings are as follows:

- The UN estimates that seven million people inside Syria are food-insecure, or unable to meet basic food needs, while an additional two million are at risk of becoming food-insecure (USAID, 2017).
- 70 per cent of the population in and around Damascus have had no access to safe drinking water since December 2016 (ibid). Rural Homs only received safe drinking water at the end of April 2017 (Medair, 2017).

The K4D helpdesk service provides brief summaries of current research, evidence, and lessons learned. Helpdesk reports are not rigorous or systematic reviews; they are intended to provide an introduction to the most important evidence related to a research question. They draw on a rapid desk-based review of published literature and consultation with subject specialists.

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- Iron deficiency anaemia is highly prevalent in pregnant or lactating women (PLW) (24.5 per cent) (Kern, 2017)) and children under five years of age (25.9 per cent) (FAO, 2015; Kern, 2017).
- Acute malnutrition is reported as 7.8 per cent in women of child bearing age (CBA) (Kern, 2017).
- In children, the level of acute malnutrition amongst under 5s is found to be within “acceptable levels” with a Global Acute Malnutrition (GAM) rate of three per cent (UNICEF, 2017a). However, three governorates reportedly have GAM rates above 10 per cent (FAO Representation in Syria, 2016:14). Prevalence rate of stunting (due to chronic malnutrition) in under 5s is 12.7 per cent (UNICEF, 2017a; Kern, 2017).
- Among adolescents, significant gender differences were found in amount and type of food items consumed; this finding could be applied to nutritional interventions aimed at all school-aged children.
- The crisis has reversed development gains for Syria that had been poised to achieve the Millennium Development Goals.
- A number of current programmes exist to treat malnutrition, but the need for Community-based Management of Acute Malnutrition (CMAM) programmes remains “very critical”, especially in besieged (BSG) areas, where many children have been suffering from severe acute malnutrition (SAM).
- As well as providing therapeutic foodstuffs and access to treatment centres, lessons learned in reducing malnutrition include combating anaemia in CBA women, and infections in under 5s.

Most of the evidence concentrates on the nutrition of vulnerable groups - mainly very young children and CBA. The little data available on nutritional status of the elderly is for those living in residential homes. For men, published evidence relates to Syrian refugees in neighbouring countries and is therefore not given here. The report includes findings from BSG areas such as Damascus, Deir-ez-Zor, Hama, Homs, Madaya in Rural Damascus, as well as hard-to-reach (HTR) areas, e.g. Al-Hassakeh. Data from newly accessible areas in Aleppo, Latakia, and Tartous governorates is also included.

Women

- **Acute malnutrition** amongst women of child bearing age (CBA) is reported at 7.8 per cent (Kern, 2017).
- Almost a quarter (24.5 per cent) of CBA women have **iron deficiency anaemia** (ibid). Anaemia in CBA women is linked to stunting and low-birthweight of subsequent children (WHO, 2012).
- The health of pregnant and lactating women (PLW) is directly linked to that of their children. Risk of malnutrition in these groups is high as food prices have increased, and women may not have access to fresh food such as dairy products and vegetables (Kern, 2017).
- In 2016, over 182,000 PLW were screened for malnutrition, of whom 1,400 received treatment (UNICEF, 2017a).
- Over 658,000 PLW were counselled on proper breastfeeding and complementary feeding in 2016 (UNICEF, 2017a); however, latest results for 2017 show that this number decreased to 308,000 (UNICEF, 2017b). This may be due to escalation of fighting, especially against ISIL and Jabhat Fatah al-Sham¹, and the general non-compliance with the Cessation of Hostilities which continues to limit access to address humanitarian needs in HTR and BSG areas (ibid).

Men

- Most published evidence relates to Syrian refugees based in neighbouring countries and is therefore not listed here.

Elderly

- There is limited evidence available on nutritional status of the elderly.
- The only available data is for residents of homes for the elderly in the city of Lattakia. A total of 103 elderly people in three residential homes were assessed. Two-thirds of residents were either “at risk of malnutrition” (39.8 per cent; score 17-23 on the Mini Nutritional Assessment or MNA) or “malnourished” (19.4 per cent; score < 17 on the MNA). However, mean body mass index was 22.0 (SD 4.7) kg/m², which is within the “normal” range (Hallaj, 2015).

3. Children and adolescents

Under 5s

- According to a Standardised Monitoring and Assessment of Relief and Transitions (SMART) Nutrition Survey conducted by UNICEF and partners in 11 of 14 governorates, the level of **acute malnutrition** amongst boys and girls aged under 5 years is found to be “within acceptable levels” with a Global Acute Malnutrition (GAM) rate of three per cent

¹ Formerly known as Nusra Front.

(UNICEF, 2017a). However, three governorates (Hama, Al-Hassakeh and Deir Ezzor) reportedly have GAM rates above 10 per cent (FAO Representation in Syria, 2016:14).

- The stunting prevalence rate (due to **chronic malnutrition**) is 12.7 per cent (UNICEF, 2017a; Kern, 2017). Data from BSG East Ghouta in Rural Damascus reports “serious” prevalence of stunting among children (30 per cent or 1 in 3), revealing chronic deprivation of quality diet and poor infant and young child feeding practices (UNICEF, 2017b).
- **Iron deficiency anaemia** is widespread, with a prevalence of 25.9 per cent (FAO, 2015; Kern, 2017). This prevalence indicates “a moderate public health concern” (Nkunzimana et al., 2016: 78).
- There has also been an increase of the occurrence and spread of **water-borne diseases**, especially acute bloody diarrhoea, in this age group (FAO, 2015; UNICEF, 2017c: 1). Infection resulting from drinking contaminated water, or the consumption of food that is infected, contributes to stunted growth (WHO, 2012: 2).

Adolescents

- It is strongly believed that the current conflict in Syria may increase stress in schoolchildren, and may greatly impact their dietary habits and lifestyles (Musaiger & Kalam, 2014: 419).
- A study carried out on 15 to 18 year-olds from Damascus observed significant gender differences in the frequency of intake of vegetables, milk and dairy products, red meat, sugary beverages and fast foods. For example, females were more likely to skip breakfast than males; males were significantly more likely to consume larger portions of fast foods and soft drinks, and there were significant gender differences in **emotional eating** (Musaiger & Kalam, 2014: 417-8).

4. Current programmes and future plans

Child malnutrition treatments

- In 2016, UNICEF reached over 350,000 children in HTR and BSG locations with therapeutic nutrition supplies, complementary food, and micronutrient supplements through crossline convoys and airdrops (UNICEF, 2017a).
- Over 936,000 children were screened for malnutrition, of whom 18,946 children received treatment for SAM² and MAM³ (UNICEF, 2017a). In the same year, WFP provided Nutributter and Plumpy’Doz - specialised ready-to-use nutritious therapeutic products - to 240,000 children to fight malnutrition and prevent micronutrient deficiency (WFP, 2016).

² Severe acute malnutrition: the most dangerous form of malnutrition. If left untreated, SAM can result in death. It can manifest in two ways: severe wasting and oedema.

³ Moderate acute malnutrition: also known as wasting, it is defined by a weight-for-height indicator between -3 and -2 z-scores (standard deviations) of the international standard, or by a mid-upper arm circumference (MUAC) between 11 cm and 12.5 cm. MAM is caused by the same factors that contribute to stunting (WHO, 2012).

- 560 children identified with SAM when screened for malnutrition in January to April 2017 were admitted to treatment centres in 12 governorates (UNICEF, 2017b).

Food assistance programmes

- The WFP “has its largest and most complex operation worldwide” in Syria (WFP, 2016). It launched a cash-based transfer (CBT) nutrition support to improve the dietary diversity of vulnerable PLW in July 2014. Eligible women receive two vouchers per month, which can be used to purchase only fresh food items (dairy, meat, fruits and vegetables) from designated retailers. At present the programme is implemented in Homs, Lattakia, Rural Damascus and Tartous governorates. Monitoring data indicates vastly improved dietary diversity (Kern, 2017).
- USAID’s Office of Food for Peace (FFP) partners (WFP and non-government organisations or NGOs) provide flour to Syrian bakeries, monthly household food parcels, smaller ready-to-eat rations for recently displaced populations, and food vouchers (USAID, 2017). As of March 2017, WFP has completed its immediate response to cover the food needs of the IDPs (FSC, 2017).
- To address acute malnutrition in PLW and under 5s, WFP in partnership with UNICEF and WHO, and in close coordination with the Syrian Ministry of Health, is implementing a Community-based Management of Acute Malnutrition (CMAM) programme in BGS areas (Kern, 2017).
- As part of the School Meals Programme, which is implemented in cooperation with the Ministry of Education and UNICEF, pre-primary and primary school children are provided with a daily fortified date bar and 200 ml of milk during morning sessions (Kern, 2017). The programme is currently operational in more than 830 schools in ten governorates.

Future plans

- Throughout 2017, the WFP CBT-programme will target 65,000 PLW, compared to 20,000 in 2016.
- Later this year a small WFP pilot will be launched at two schools in Aleppo for fresh, on-site prepared snacks for children. In addition to the regular programme objective of improving enrolment and attendance, the pilot aims to improve nutritional intake of 750,000 children, as well as support community food production and local women’s employment (Kern, 2017).
- The Food and Agriculture Organisation of the United Nations (FAO) regularly monitors and analyses food security data. It intends to undertake a nutritional assessment of crisis-affected households in target areas to identify malnourished men, women and children (FAO Representation in Syria, 2016: 46). Their ‘Plan of Action’ also aims to improve “household knowledge and adaptation of optimal nutrition practices, good agricultural practices and good hygienic practices through awareness campaigns” (ibid). There will be training in, and provision of, basic equipment and containers for household food preparation and storage. This guidance will be merged with education modules of women-based FFSs and farmer business schools (ibid).

5. Lessons learned

The main lessons learned from research and food assistance programmes are summarised below:

Best methods to address undernutrition

- Undertake SMART surveys/ nutritional assessments of all age groups of men and women (FAO, UNICEF).
- Improve screening and access to treatment centres for malnutrition in BSG and HTR areas (UNICEF).
- Use and monitor CBT support and voucher schemes, but prioritise “family farming” to offer displaced and host families the means to produce eggs, milk, vegetables and other nutrient-rich foods, with quick results (FAO).
- Provide therapeutic foodstuffs, but recognise gender differences in eating practices when designing interventions in schoolchildren (FAO; Musaiger & Kalam).
- Promote nutrition through school programmes to create benefits that extend beyond the classroom and playground, and improve the health and nutritional well-being of households and communities (FAO).
- Use knowledge transfer for both women and children to teach optimal nutrition, farming practices and sanitation, so as to improve food security (FAO; WFP)

How to address longer term malnutrition (stunting) in humanitarian crises

- Monitor CMAMs - which are “very critical”, especially in BSG areas where many children have been suffering from SAM (UNICEF, WFP).
- Include teaching on improving health and decreasing infection (WHO).
- Provide complementary feeding advice, in addition to promoting breastfeeding for children aged 6–23 months, to address both stunting and MAM (FAO, WHO).
- Improve nutrition for PLWs, and reduce rates of anaemia in CBA women (FAO, WHO).

6. References

FAO - Food and Agriculture Organisation of the United Nations (2015). *Key concepts for nutrition and food security, and current situation in Syria – Nutrition Cluster North Syria. Workshop on “Multisectoral programming for nutrition and nutrition-sensitive agriculture” in Gaziantep, Turkey. 23-25 November 2015. Powerpoint presentation.*
http://www.fao.org/fileadmin/user_upload/food-security-capacity-building/docs/Nutrition/Gaziantep_Workshop/Session1_Basic_concepts.pdf

FAO - Food and Agriculture Organisation of the United Nations (2017). *Counting the cost: Agriculture in Syria after six years of crisis.* <http://www.fao.org/3/b-i7081e.pdf>

FAO Representation in Syria (2016). *Plan of Action for Syria. Towards Resilient Livelihoods for Sustainable Agriculture, Food Security and Nutrition. 2016-2017.* Cairo, Egypt, January 2016.
http://www.fao.org/fileadmin/user_upload/rne/docs/plan_of_action_syria_2016_2017.pdf

FSC - Food Security Cluster (2017). *Menbij Food Security Sector (FSS) Situational Update #3 as of 20 March 2017*. <http://fscluster.org/syria/document/menbij-fss-situational-update-3-20032017>

Hallaj, F.A. (2015). Assessment of the nutritional status of residents in homes for the elderly in Lattakia, Syrian Arab Republic. *East Mediterranean Health Journal*, 21(10), 753-761.

Kern, J. - World Food Programme Syria (2017). *Nutrition Interventions - Syria 2017*. <http://documents.wfp.org/stellent/groups/public/documents/communications/wfp290774.pdf>

Lambers, W. (2017). "Save the Syrian Peace Talks, End the Starvation." 9 February 2017. *Huffington Post – The Blog*. http://www.huffingtonpost.com/william-lambers/save-the-syrian-peace-talk_b_9193890.html

Medair (2017). *Syria: Safe drinking water at last, after four years*. 31 May 2017. <http://reliefweb.int/report/syrian-arab-republic/syria-safe-drinking-water-last-after-four-years>

Musaiger, A.O., & Kalam, F. (2014). Dietary habits and lifestyle among adolescents in Damascus, Syria. *Annals of Agricultural and Environmental Medicine*, 21(2), 416-419. DOI: 10.5604/1232-1966.1108616

Nkuzimana, T., Custodio, E., Thomas, A.C., Tefera, N., Perez Hoyos, A., & Kayitakire, F. (2016). *Global analysis of food and nutrition security situation in food crisis hotspots*. March 2016. EUR 27879. ISBN 978-92-79-57814-4. DOI: 10.2788/669159

UNICEF - The United Nations Children's Fund is a United Nations (2017a). *Whole of Syria (WoS). Nutrition Facts and Figures, January – December 2016*. http://reliefweb.int/sites/reliefweb.int/files/resources/unicef_wos_facts_figures_nutrition_jan-dec_2016.pdf

UNICEF - The United Nations Children's Fund is a United Nations (2017b). *Whole of Syria (WoS). Nutrition Facts and Figures, January – April 2017*. 30 May 2017. http://reliefweb.int/sites/reliefweb.int/files/resources/unicef_facts_and_figures_nutrition_jan-apr2017.pdf

UNICEF - The United Nations Children's Fund is a United Nations (2017c). *Syria Crisis January 2017 Humanitarian Results*. http://webcache.googleusercontent.com/search?q=cache:ngZai_GM6TIJ:data.unhcr.org/syrianrefugees/download.php%3Fid%3D13168+&cd=8&hl=en&ct=clnk&gl=uk

USAID (2017). *Food Assistance Fact Sheet – Syria*. 21 April 2017. <https://www.usaid.gov/syria/food-assistance>

WFP - World Food Programme (2016). *10 Facts about Hunger in Syria*. 14 March 2016. <https://www.wfp.org/stories/10-facts-about-hunger-syria>

WHO – World Health Organisation (2012). *WHA Global Nutrition Targets 2025. Stunting Policy Brief*. http://www.who.int/nutrition/topics/globaltargets_stunting_policybrief.pdf

Key websites

- Action Against Hunger/Action Contre La Faim: <http://actioncontrelafaim.ca/what-is-acute-malnutrition/types-of-acute-malnutrition/>

- FAO Food Security Capacity Building Workshop: <http://www.fao.org/in-action/food-security-capacity-building/events/detail-events/en/c/380127/>

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About this report

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