



INTERNATIONAL ORTHODOX CHRISTIAN CHARITIES

Analysis on Stunting Among Syrian Refugee Children

March 2022 – (Finalized July 2022)

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Declaration

The team declares no conflict of interest related to conducting this assignment.

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ACRONYMS

ANC	Antenatal Care
BFHI	Baby-Friendly Hospital Initiative
BMS	Breast Milk Substitutes
CHW	Community Health Workers
C-MAM	Community-based Management of Acute Malnutrition
ENN	Emergency Nutrition Network
FGDs	Focus Group Discussions
GAM	Global Acute Malnutrition
HAUS	Health Access and Utilization Survey
HIS	Health Information System
IGAs	Income Generating Activities (IGAs)
INGOs	International Non-Governmental Organizations
IOCC	International Orthodox Christian Charities
ISs	Informal Settlements
IYCF	Infant and Young Child Feeding
KIIs	Key Informant Interviews
MHPSS	Mental Health and Psychosocial Support
MMUs	Medical Mobile Units
MoPH	Ministry of Public Health
MUAC	Mid-Upper Arm Circumference
NGOs	Non-governmental Organizations
NIE	Nutrition in Emergencies
OB-GYN	Obstetrician- gynecologist
PLW	Pregnant and Lactating Women
PNC	Postnatal Care
SAM	Severe Acute Malnutrition
SMART	Standardized Monitoring and Assessment of Relief and Transition
SOPs	Standard Operating Procedures
SQLNS	Small Quantity Lipid-based Nutrient Supplements
UN	United Nations
UNESCWA	UN Economic and Social Commission for Western Asia
USDA	United States Department of Agriculture
VASyR	Vulnerability Assessment of Syrian Refugees in Lebanon
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization

EXECUTIVE SUMMARY

Background: In Lebanon, the nutrition and health of vulnerable populations, including Syrian refugee children, are at risk. This is especially the case following the recent series of financial and economic crises in the country that majorly affected livelihood conditions, increased poverty rates, and decreased the consumption of adequate diets. Particularly, stunting is a major nutrition issue among under-5 Syrian refugee children residing in informal settlements (ISs) in Lebanon, as revealed by the results of the recent 2021 Standardized Monitoring and Assessment of Relief and Transition (SMART) survey with a prevalence of 25.8%. Childhood stunting creates serious consequences including increased levels of morbidity and mortality as well as poor child growth and development.

Objectives: This assignment aims to present an in-depth analysis to understand the perceived risk factors of poor nutrition, namely stunting, among Syrian refugee children living in informal settlements, and consequently provide recommendations for the design of effective both preventive and curative interventions to address and prevent malnutrition.

Methods: An exploratory approach was conducted in which information was collected from a desk review, interviews with relevant stakeholders, focus group discussions with mothers of Syrian refugee children, and online survey questionnaires with individuals from sector working groups. Eleven key informant interviews and eight focus group discussions with mothers were conducted, 16 members of different sector working groups responded to the online questionnaire. The World Health Organization (WHO) Conceptual Framework on Childhood stunting was used as a guide to determine the factors contributing to high stunting levels.

Results: Findings showed that risk factors perceived to be contributing to stunting levels among Syrian refugee children included those at the individual and household level with poor maternal nutrition, household food insecurity and inadequate complementary feeding practices as the factors perceived to be contributing the most to stunting among Syrian children. On the other hand, at the institutional and community level, market food prices, poverty, income, employment and livelihoods were the factors perceived to be contributing the most to stunting levels. Other factors such as inadequate access to healthcare, inadequate water and sanitation services and infrastructure, low caregiver education and awareness, unsafe storage and preparation of food, and beliefs and norms were also highlighted/ perceived as contributing factors to stunting levels.

Conclusion: Given the multi-level/multi-sectoral nature of factors contributing to stunting, actions needed to prevent and address stunting should ensure an integrated and multi-system approach that engages different sectors including nutrition, health, food security, Water, Sanitation and Hygiene (WASH) and social protection.

INTRODUCTION

Since 2019, Lebanon has been assailed by compounded crises—specifically, an economic and financial crisis, followed by the COVID-19 pandemic, and then the massive explosion that shook the capital Beirut in August 2020. According to the World Bank (2021), the rates of poverty and extreme poverty in Lebanon have increased by 45% and 22% respectively in one year (2020-2021). This has imposed severe challenges on both Lebanese communities and Syrian refugees. The latter were already socially and economically disadvantaged in Lebanon, where 1.5 million Syrian refugees have lived in the years since the Syrian crisis, which started in 2011 (UNHCR, 2020)

The nutrition, health, and wellbeing of vulnerable populations, including Syrian refugee children, are at risk especially that access to basic livelihood conditions including food, medication, income resources and shelter continue to deteriorate. Chronic malnutrition is expected to increase as well due to multiple determinants including food scarcity, low consumption of adequate diverse diets, low consumption of nutrient-dense foods and suboptimal Infant and Young Child Feeding (IYCF) practices. A national SMART survey was conducted between July and September 2021 by a joint collaboration between UNICEF, the Ministry of Public Health (MoPH), and Action Against Hunger Canada SMART team to determine the health and nutrition status of children under five and women of reproductive age (15 to 49) in Lebanon (SMART 2021). According to this recent SMART survey, there is an increasing trend of stunting prevalence among Syrian refugee children living in ISs of 25.8% as compared to 8.9% in 2013 (SMART 2021). While around 21% of Syrian refugees (equivalent to 300,000 individuals) live in ISs in Lebanon, as per UNHCR, the selected sample size of Syrian refugee children is representative of the ISs context (SMART, 2021). The assessment also revealed high levels of anemia among women and children in IS, with percentages of 31.4% and 32.8% respectively (SMART 2021). These results reflect the chronic vulnerabilities of Syrian refugee children and present a concern.

Childhood stunting leads to both short-term and long-term consequences. These include increased levels of morbidity and mortality, poor child growth and development, impaired cognitive development and poor learning capacity, decreased working capacity later in life, and increased risk of infections and non-communicable diseases (De Sanctis et al. 2021). Stunting is largely irreversible (WHO 2015) and can lead to severe physical as well as neurocognitive development issues. It creates a self-perpetuating cycle in that women who were stunted in childhood are more likely to give birth to stunted children leading to increases in social inequalities (de Onis and Branca 2016).

Since 2011, the Lebanese government and relevant agencies have been providing support for vulnerable Syrian refugees in the country. A nutrition assessment conducted in 2012 showed an acceptable prevalence of global acute malnutrition (GAM) (4.4%). At that time, the area of acute malnutrition management was very new to and uncommon in Lebanon. Yet, many organizations attended the Nutrition in Emergencies (NIE) training courses, and scaled up their work, including UNICEF and International Orthodox Christian Charities (IOCC), and supported capacity building of healthcare providers for detection, treatment and management of malnutrition (Rizkallah 2022). Additionally, many activities have been implemented to enhance the nutritional status among refugees including the distribution of supplies such as micronutrient

supplementation, as well as the development of awareness messages and dissemination of materials on nutrition and related IYCF practices (Rizkallah 2022).

Recently, with the financial and economic crisis, the nutrition sector working group has been heavily engaged in both nutrition sensitive and nutrition specific interventions targeting Syrian refugees. However, in the context of the recent SMART survey, and in response to the alarming prevalence of stunting based on the SMART survey data, the need to understand the main drivers leading to poor nutrition status has arisen, to in return develop suggestions and clear plans to address them. Therefore, in order to contribute to improving the nutritional status of vulnerable Syrian refugees, an in-depth analysis was conducted to understand the risk factors that were perceived to be contributing to stunting, among Syrian refugee children, and consequently provide suggested recommendations for the design of effective interventions to address and prevent malnutrition.

In other words, this analysis serves as a supporting document to the SMART survey in order to bring additional evidence, mainly by exploring the determinants of poor nutrition as perceived by stakeholders including mothers living in this context. Moreover, the analysis primarily targets the local humanitarian community involved in the design and implementation of interventions as well as the nutrition sector working group, to plan and coordinate nutrition priorities to address and prevent stunting among Syrian refugees in Lebanon. The analysis focuses on ISs hosting the most vulnerable Syrian refugees given the extremely high rates of stunting that have been reported in them. Accordingly, this research report, which is an evidence-generating product, serves as a reference paper for international and domestic NGOs as well as donor community, and relevant Lebanese authorities, to advocate for and respond to identified risks, needs, and gaps in assistance to Syrian refugees with intention to improve the living situation of the most vulnerable population in Lebanon.

AIM AND OBJECTIVES

Aim

This assignment aims to identify key risk factors for poor nutrition among Syrian refugee children living in the most vulnerable ISs in Lebanon by examining perceived factors that may be contributing to the increase in stunting levels. The ultimate aim is to provide programmatic recommendations to address and prevent the stunting among Syrian refugee children living in ISs in Lebanon.

Objectives

The objectives of the assignment are:

- To identify perceived key risk factors that may influence the levels of stunting among Syrian refugee children under five years old living in ISs in Lebanon.
- To suggest key nutrition and other interventions intended to address and prevent stunting among these Syrian refugee children

METHODOLOGY

CONCEPTUAL FRAMEWORK

The World Health Organization (WHO) Conceptual Framework on Childhood Stunting: Context, Causes and Consequences (Annex 1) (Stewart et al. 2013) and the [UNICEF Conceptual Framework on the Determinants of Maternal and Child Nutrition](#) (UNICEF 2020) were used as a guide to determine the multiple factors contributing to poor growth and stunting at the different levels; **proximate causes/ individual and household level** (maternal characteristics; complementary feeding and breastfeeding practices; infections; home environment) and **contextual factors/ institutional and community level** (healthcare services and policies; water, sanitation and hygiene (WASH) services and infrastructure; social protection-related factors, social and cultural determinants such as beliefs and norms).

METHODS

In this mixed-method assignment, an exploratory approach was used to gather information on the factors perceived as contributing to stunting. Information was collected from various sources including a quick desk review of the literature, qualitative data using focus group discussions (FGDs) and key informant interviews (KIIs), and quantitative data using an online survey. A validation meeting was conducted to validate preliminary findings.

DESK REVIEW

The assignment first included a desk review. A request was sent to IOCC to provide relevant documents and new information on the nutrition situation and stunting levels among Syrian refugees in Lebanon, including relevant assessments, reports, and documents that include national policies, nutrition strategies and plans related to the Syrian context in Lebanon. The review was coupled with a relevant search from peer reviewed literature. The documents were reviewed and relevant information was retrieved and triangulated with qualitative and quantitative data.

FOCUS GROUP DISCUSSIONS

Focus group discussions were conducted with mothers of children living in ISs with the highest stunting levels.

The data on stunting was retrieved from the 2021 SMART survey among Syrian refugee children residing in ISs in Lebanon. These are distributed over five governorates (namely Akkar, Baalbek-Hermel, Bekaa, Nabatiye, and North), and six districts (Akkar, Baalbek, Zahle, West Bekaa, Marjaayoun, and Minieh-Danieh). Eight ISs with the highest stunting rates per district were selected as per table 1 below.

TABLE 1: DISTRIBUTION OF SELECTED INFORMAL SETTLEMENTS

Governorate	District	IS	Prevalence of Stunting
Akkar	Akkar	Aarqa - IS Mohamad Naouss	77.8%
Baalbek-Hermel	Baalbek	Haouche Barada	57.1%
		Aarsal - Al Arza al Khadra	50.0%
Bekaa	Zahle	Zahlé Maallaqa Aradi	50.0%
		Qabb Elias - Qab Elias 1	50.0%
	West Bekaa	Kamed El-Laouz	80.0%
Nabatiye	Marjaayoun	Mazraat Sarada - Sarada 2 A	7.1%
North	Minieh-Danieh	Zouq Bhannine - IS Ahmad Hussien Mahfouz	25.0%

Mothers residing in the ISs were selected according to the following criteria: 1) Syrian mothers of under-5 children living in any of the selected IS; 2) Priority was given to mothers with stunted children (if available); 3) Willingness and availability to participate.

The mothers were invited by the IOCC focal point located in each district area to attend a FGD on a particular time and date. FGDs were conducted using a topic guide (Annex 2) to cover topics related to mothers' experiences in relation to children's dietary habits and feeding practices (including IYCF practices), household hygiene and food safety practices, and challenges and barriers they face with regards to children's health and nutrition including access to healthcare services and the implementation of proper and safe practices. The topic guide was first reviewed by the nutrition cluster, and then tested before use.

At the beginning of each FGD, an information sheet (Annex 3) was filled out with the participants to gather general socio-demographic information (Annex 4) followed by their oral consent. A research assistant conducted the FGDs in colloquial Arabic, with the presence of a note-taker. The FGDs took an average of 45-60 mins, were audio-recorded, and later transcribed.

A total of eight FGDs with a cumulative of 89 mothers¹ in selected ISs were conducted.

KEY-INFORMANT INTERVIEWS

Key informant interviews were conducted with stakeholders engaged in responding to the needs of children under 5 years of age. A total of 11 semi-structured interviews were conducted with key informants to understand their perceptions of the risk factors related to stunting as well as their recommendations for addressing and preventing stunting in this increasingly complex context. The list of potential relevant interviewees was developed in participation with IOCC Lebanon country office. Several names were identified based on the document review. Fifteen stakeholders who have been engaged in nutrition or nutrition-sensitive programming in the country (such as sector leads or coordinators at relevant international non-governmental

¹ It was not possible to identify whether mothers who participated in the FGDs had children who suffered from stunting due to protection of personal information, however, given the high prevalence of stunting in the selected ISs and given that a number of mothers spoke about their children as 'short' or have poor nutrition, we assume that there were mothers who had children who suffered from stunting.

organizations (INGOs)) were invited to participate in the study, out of which seven contributed through an interview. The remaining 10 either declined, were not available, or did not respond. The interviews with key stakeholders were conducted using an online platform (Zoom, Teams, or Google Meet). In addition, four interviews with health professionals providing care to the target population (such as nutritionists or nurses at Primary Healthcare Centers (PHCs) offering malnutrition management services) from each of the four governorates, were conducted in person at the health facility.

After consent was received from all participants, either verbally or through digital signature, interviews took approximately 45-60 minutes, and were conducted in English or Arabic (as per the preference of the interviewee) using a topic guide (Annex 5). The interviews were audio-recorded and later transcribed.

ONLINE SURVEY QUESTIONNAIRE

An online [survey](#) questionnaire (Annex 6) was designed to further gain insight from other actors on the perceived factors contributing to poor nutritional status. Members of the sectors working within the domains of health, nutrition, WASH, food security and protection were invited to participate. The survey collected data on respondents' perceptions regarding factors that may be contributing to stunting as well as recommendations and priorities to address and manage stunting. The research team sent an email to the sector working group leads of the nutrition, health, WASH, food security, and protection sectors explaining the purpose of the study and asking them to invite their sector members to fill out the survey. These sectors were chosen because they play a vital role in improving the nutrition of vulnerable Syrian refugees through the design and implementation of effective multi-sectoral interventions and programs in the country. In response to the sent invitations, a total of 16 surveys were completed.

VALIDATION MEETING

By the end of this assignment, in May 2022, a validation meeting was held with health and nutrition stakeholders involved in the response plan in Lebanon to review and discuss preliminary findings as well as prioritize efforts/ acts. Feedback informed the formulation of key priority actions around stunting prevention and management in the country.

ANALYSIS

A narrative analysis of the data obtained from surveys, reports, UN-based news/ resources, and peer-reviewed articles was conducted. Relevant data was retrieved from related documents and used to triangulate information collected via the qualitative and quantitative data collection methods.

For the analysis of the qualitative data from FGDs and KIIs, thematic analysis was adopted which consisted of: a) transcribing of KIIs and FGDs, b) familiarization with the information collected, c) data coding and indexing of information, d) grouping and categorizing by themes, e) labelling, and f) writing of results. The approach adopted was exploratory in which themes and concepts were emerging as the data is analyzed.

As for the analysis of surveys, collected quantitative data was analyzed using Microsoft Excel, which then was translated into graphs and tables in order to understand potential determinants of stunting reduction, as perceived by stakeholders and members of relevant sectors.

A synthesis of findings and results was formulated using data from the different methods of data collection as follows:

1. Following the first two steps of transcribing data and familiarization with collected information, the findings from each of the data collection methods were drafted and grouped based on the levels of the framework: causes vs. context, in the form of individual and household level factors vs. institutional and community level factors.
2. Findings (themes) were joined together and put under sub-sections following the way these determinants are presented in the framework.
3. Finally, a synthesis was conducted to determine the **weight** given to each factor as how much it was perceived to be contributing to stunting.
 - a. The team agreed to provide a scale of weight for the perception ranging from “highly contributing” to “slightly contributing”.
 - b. As factors were identified a relevant weight was given to each depending on the following:
 - i. The priority given to the factor by stakeholders (i.e., was it one of the first factors mentioned or was it mentioned after probing).
 - ii. The number of times the factor was mentioned by stakeholders (frequency).
 - iii. Whether the factors were mentioned/reported in the survey as highly contributing (if yes, then the factor would be given a higher scale).
 - iv. Whether the factors were also mentioned by mothers (if yes, then the factor would be given a higher scale).
 - v. Whether there was additional evidence from the literature to support this factor as a contributing factor amongst Syrian refugee children in ISs in Lebanon.
 - vi. Consensus from all three team members who have examined qualitative data.

Factors were combined into a framework that illustrates an adaptation of the frameworks introduced above (figure 1).

ETHICAL CONSIDERATIONS

Several ethical considerations were maintained throughout this assignment. First, to ensure the confidentiality of participants, individuals were not personally identifiable from the data collected. All data and recordings were stored on a password-protected computer. Participants were informed that the information will solely be used for the assignment and will remain confidential. Third, participants were informed that their participation is voluntary and that they have the right to withdraw at any time if they choose to without any negative repercussions. In addition, an informed consent was obtained from all participants (either oral or digitally-signed). Finally, during meetings, all participants were treated with respect. They were not coerced or led to say anything. The research team did not agree or disagree with what the participants were

saying; they only facilitated the discussion. Participants were given full freedom to express their opinions. Participation in the study will not expose them to any sort of retaliation.

FINDINGS AND DISCUSSION

Findings from this study provide an insight onto the main factors related to stunting among Syrian refugee children in ISs in Lebanon. Below is a synthesis of these findings presented based on the relevant frameworks introduced above.

NUTRITION SITUATION AMONG SYRIAN REFUGEE CHILDREN IN LEBANON

There was general agreement among stakeholders that the nutritional situation of vulnerable Syrian refugees is deteriorating which corresponded to quantitative data from household surveys.

Data from the SMART survey (SMART 2021) show poor nutritional status including wasting, stunting, and anemia among Syrian refugee children (table 2). With the loss of livelihoods and increased poverty coupled with inadequate breastfeeding and complementary feeding practices and inadequate food intake (IOCC 2021), it was reported that the nutritional situation of vulnerable Syrian refugee children is deteriorating, and is expected to continue to deteriorate in the upcoming months.

The most common key nutrition issue reported by interviewed stakeholders and health professionals working at PHCs was poor nutritional status (referring to malnutrition). This was followed by micronutrient deficiency, specifically **anemia**.

A food security and livelihood program manager reported:

“There are such cases [of stunting], definitely but are they predominant cases? No. Okay, you look at children and they are not chubby, they’re skinny somehow but are they sick skinny? No, not to that limit. But it is possible to meet a few cases every now and then, that are this severe, but they are not the predominant cases.”

TABLE 2: NUTRITION INDICATORS AMONG SYRIAN REFUGEE CHILDREN AGED 6-59 MONTHS LIVING IN INFORMAL SETTLEMENTS (SMART, 2021)

Indicator	Value	Classification
GAM (<-2 z scores weight-for-height and/ or oedema)	2.4%	Very low
Severe Acute Malnutrition (SAM) (-3 z scores weight-for-height and/ or oedema)	2.4%	-
Underweight (<-2 z scores weight-for-age)	13.4%	Medium
Stunting (<-2 z scores height-for-age)	25.8%	High
Overweight (WHZ > 2)	1.2%	Very low
Total anemia (HB< 11.0 g/dL)	32.8%	Moderate public health problem

Although a number of key informants did not perceive **stunting** as a prevalent nutrition issue among Syrian refugee children, others highlighted that the issue should have been addressed before. It was also reported that the dissemination of the recent SMART survey results raised stakeholders' awareness on the issue and the need to highlight and address it.

A community health specialist reported:

"When I used to work in a community-based acute malnutrition program, we were focusing all of our training, material and resources on acute malnutrition. However, it's been 11 years since the Syrian crisis, and now we are thinking of stunting? We should have thought about it way earlier. I understand that it may take one year to work on nutrition in emergencies and acute malnutrition. However, we should've worked on stunting in parallel; if not from the first year, from the second year."

During the FGDs, when women were asked about how they perceive the health and nutrition status of their children, many women said that children suffer from malnutrition, inadequate food consumption, weight loss and loss of appetite. One woman in Baalbeck, Bekaa, touched on stunting in particular, when talking about the children in the IS, by saying:

"Their bodies do not reflect their age. If you see my child, you can notice this. His body structure is weak and he doesn't have the strength to walk. He's not active, he walks two steps and falls down"

Therefore, there is more awareness about nutritional issues, namely chronic malnutrition among Syrian refugee children, as compared to previous years.

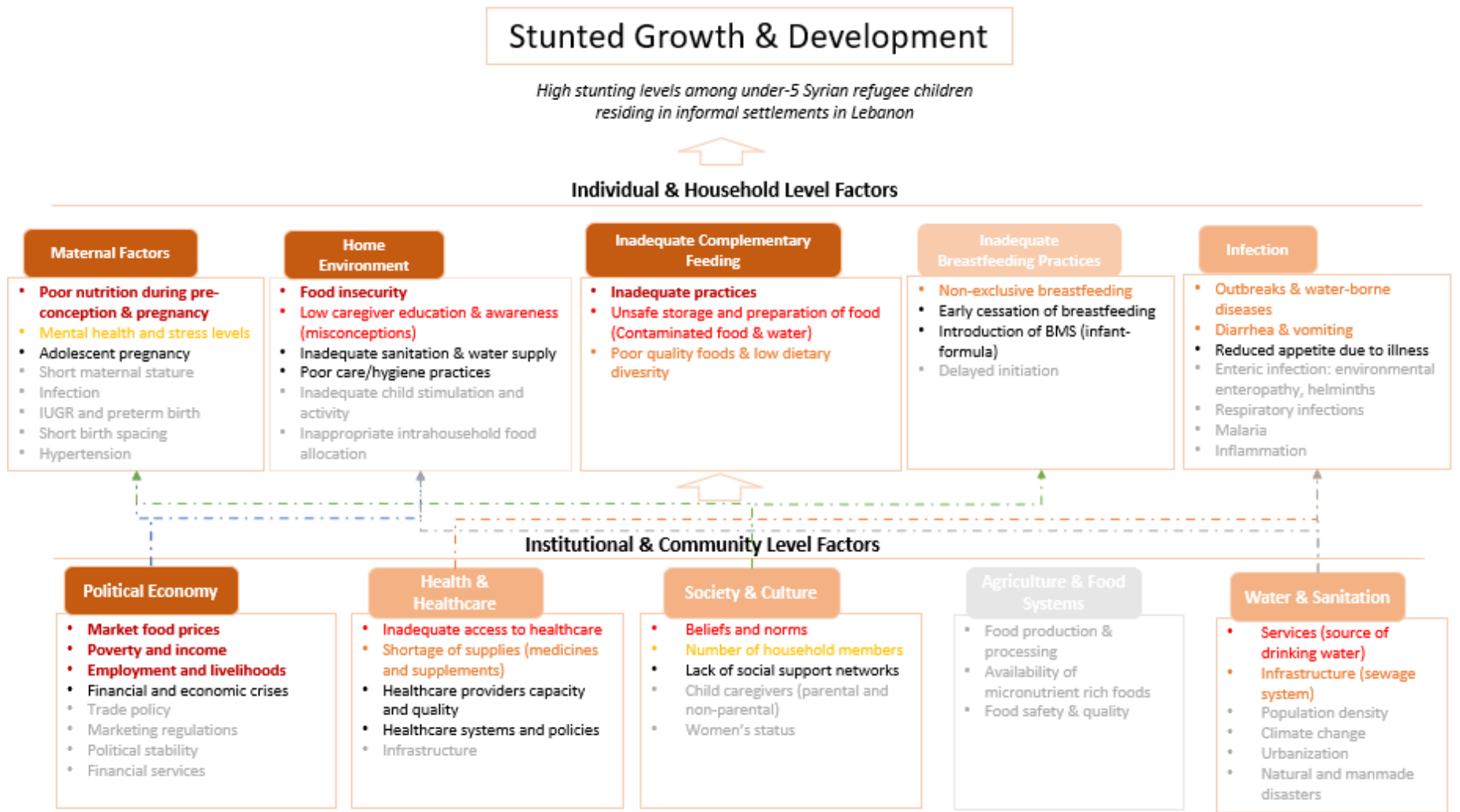
The following sections examine findings related to the 'why' levels of stunting are high based on the different levels as described in the frameworks introduced above.

FACTORS PERCEIVED AS CONTRIBUTING TO HIGH LEVELS OF STUNTING AMONG UNDER-5 SYRIAN REFUGEE CHILDREN

The exploratory approach used during this assignment, which involved the desk review, the qualitative research including FGDs and KIIs, and the online survey revealed the multitude of factors contributing to high levels of stunting among Syrian refugee children in Lebanon. These factors are divided into 1) **individual and household level factors** and 2) **institutional and community-level factors**. A summary of these perceived factors is presented in the form of an adaptation of the conceptual framework in figure 1 and detailed in the following sections.

Factors in dark red are those prioritized by key informants, mothers, and survey responders and perceived as highly contributing to stunting. Those lighter in color were less prioritized, black factors were mentioned either by key informant interviewees or mothers, and grey factors were not mentioned as relevant factors within our context.

FIGURE 1: FRAMEWORK ON PERCEIVED RISK FACTORS FOR STUNTING AMONG SYRIAN REFUGEE CHILDREN IN INFORMAL SETTLEMENTS



Note: Adapted from WHO Conceptual Framework on Childhood Stunting: Context, Causes and Consequences

INDIVIDUAL AND HOUSEHOLD LEVEL FACTORS

INADEQUATE BREASTFEEDING PRACTICES

There was a general agreement among stakeholders and survey respondents that inadequate breastfeeding practices **highly contribute** to stunting levels among Syrian refugee children. As per the recommendations of WHO and UNICEF on breastfeeding, infants should start breastfeeding within the first hour of birth, be exclusively breastfed for the first six months, and breastfeeding should be on demand (WHO 2022).

A number of stakeholders reported that in the past, there were lower levels of breastfeeding either due to lack of knowledge about the importance of breastfeeding or due to economic reasons such as having female-headed households.

A community health specialist commented on this:

“They [Syrian refugees] used to breastfeed more in Syria and when they came to Lebanon, breastfeeding rates decreased which was like peer impact or peer influence, but [a] negative [influence]. Other reasons could be that women have to work, because there are female-headed households, there is stress, there is interruption of breastfeeding, maybe it’s not very convenient to breastfeed at IS, there is also maternal malnutrition and how much women are able and capable of breastfeeding”

However, the prevalence of breastfeeding was also perceived to have increased either because of the need to save money and inability to purchase infant formulas, or due to increased awareness.

A social protection, food security, and livelihood specialist reported:

“Actually, we do know that, if there is anything good out of the things happening in Lebanon, is that there were a lot of people who don’t have faith in breastfeeding especially among vulnerable communities, but now, no, it’s not the case anymore. There are a lot of people who are breastfeeding because they don’t have money to afford baby formula. Now, there is a lot of awareness around the importance of breastfeeding and how breastfeeding until 6 months of age provides optimal nutrition for the baby.”

As reported by stakeholders, there are many initiatives implemented with regards to this issue, such as: 1) The national IYCF campaign; 2) Integration of IYCF key messaging in other programs (implementation of nutrition-sensitive activities); 3) IYCF counselling and awareness sessions; 4) Support of lactation specialists and mother-to-mother support groups; and 5) The MoPH hotline that provides the number of an IYCF specialist to discuss issues related to breastfeeding and how women can overcome problems or challenges they face.

Despite improvement in breastfeeding rates, key informants continue to believe that inadequate practices related to breastfeeding highly contribute to stunting levels. The online survey administered to actors in the field support this, as almost half of survey participants reported that inadequate breastfeeding practices, such as delayed initiation of breastfeeding (44%) (n=7), early cessation of breastfeeding (44%) (n=7), and non-exclusive breastfeeding (31%) (n=5), contribute to stunting levels to a high extent as shown in Annex 7.

Although most FGD participating mothers did report breastfeeding, findings from FGDs revealed inadequate practices related to breastfeeding. Most mothers did not exclusively breastfeed during their child's first six months of age but rather introduced other types of drinks or foods such as water, sugar, tea, starch, and anise. They also reported stopping breastfeeding when their child was less than two years of age, either because they perceived themselves not to have enough milk or because their children started eating. Few mothers reported continuing breastfeeding, beyond when their child was two years of age as they could not provide enough solid foods for their children. Finally, very few women switched to breast milk substitutes (BMS), mainly infant formula, instead of breastfeeding either because they perceived they didn't have enough milk, or the baby didn't accept breastmilk or due to physiological issues.

These findings are further supported by the SMART survey results on IYCF indicators presented in table 3 below.

Therefore, although breastfeeding is common among Syrian refugee children, key informants as well as survey responders perceive inadequate breastfeeding practices to highly contribute to stunting levels among Syrian refugee children, and thus are important to address.

INADEQUATE COMPLEMENTARY FEEDING

Similar to breastfeeding, yet to a greater extent, there was a general agreement that inadequate complementary feeding practices **very strongly contribute** to stunting levels among Syrian refugee children. WHO recommends that infants should start receiving timely, adequate, safe and properly fed complementary foods at six months of age (WHO 2022).

All key informants agreed that there are inadequate IYCF practices, mainly when it comes to when and what food to introduce to infants. They also agreed that unsafe preparation of food such as inadequate food sanitation/ sterilization or poor hygiene practices, puts children at risk of malnutrition and stunting. Finally, they all agreed that children eat poor quality foods, either due to the unavailability or lack of access to nutritious food, lack of knowledge about nutritious food, or due to increased nutritional needs and not considering nutrition as a priority to spend money on. This link between inadequate complementary feeding practices and high stunting levels was reflected by the online survey, as 69% of participants (11 participants) reported that poor complementary feeding practices contribute to stunting to a very high extent as shown in Annex 7.

FGDs with mothers revealed inadequate complementary feeding practices as they reported introducing food at a delayed age (between eight and twelve months) and feeding their 12-24 months non-breast-feeding children less than four times per day (low meal frequency) and one-to-two food groups at a meal (low dietary diversity).

In addition, there is unsafe storage and preparation of food. Mothers reported either burning firewood or nylon or sticks and cooking in open air, or cooking using an indoor fireplace inside (only at one IS, do they cook using an oven/ gas). However, they all complained that the food smells like smoke or tastes like wood. For food storage, mothers reported that in case of food excess, they cover it with a bag or a pot lid, and keep it either outside or inside the refrigerator which is rarely on due to electricity/ power cuts. In terms of sanitation and hygiene during food

preparation, most mothers said that they clean utensils and pots with water only, or with cleaning/ sanitary products, if available.

Also, mothers reported low dietary diversity and low intake of animal source foods among children. For instance, types of foods that are always available include bread, rice, bulgur (or cracked wheat), pasta, sugar, oil, and tea, whereas consumption of meat and chicken ranged on average between one-to-two times every two months. They also reported low caloric intake as children consume two-to-three meals per day depending on their appetite and the availability of food. As recalled by a mother in Minieh-Danieh

“Yesterday, my 2-year-old son drank one cup of yogurt at breakfast, had a small plate of potato at lunch, and had a sandwich of thyme and oil at dinner. That’s it.”

When examining results of the SMART survey, IYCF indicators among 0-2-year-old Syrian children align with findings from this review as shown in table 3 below. However, it is important to note that the SMART survey sample was not enough to generate representative data for IYCF at subpopulation level, yet these data can be used as indicator of IYCF issues. Additionally, the SMART survey results show that Syrian refugees mostly consume grains and dairy products, and they consume very little of vitamin A rich fruits and vegetables, eggs, and animal products.

TABLE 3: IYCF INDICATORS AMONG 0-2-YEAR-OLD SYRIAN CHILDREN (SMART, 2021)

Indicator	Value (2021)
Ever breastfed	89.2%
Exclusive breastfeeding (under 6 months)	65.2%
Continued breastfeeding 12-23 months	35.4%
Introduction of solid, semi-solid, or soft foods 6-8 months	66.7%
Minimum meal frequency 6-23 months (non-breastfed)	27.9%
Minimum dietary diversity 6-23 months	12.6%
Minimum acceptable diet 6-23 months	6.3%

Inadequate complementary practices were perceived to very strongly contribute to stunting levels among Syrian refugee children, followed by other factors related to complementary feeding which are unsafe storage and preparation of food and poor-quality foods/low dietary diversity. It is therefore important to continue working on and prioritizing improving the diets of infants and young children during the complementary feeding period.

HOME ENVIRONMENT

There are multiple factors under “home environment” that affect stunting levels as part of household and family factors as depicted in the WHO conceptual framework. These include food insecurity, inadequate sanitation and water supply, and low caregiver education. Our findings are discussed below in relation to these factors.

FOOD SECURITY

Food insecurity is one of the most important factors mentioned as a contributing factor to stunting. There was a general agreement that household food insecurity **very strongly contributes** to stunting levels among Syrian refugee children. According to the United States Department of Agriculture (USDA), food insecurity is defined as “a household-level economic and social condition of limited or uncertain access to adequate food” (USDA 2021).

As perceived by stakeholders, low/inadequate access to food is directly linked to stunting levels as it affects (leads to inadequate) food consumption among household members, including children under five. According to the survey results, 63% and 31% of participants consider household food insecurity as a very high or high contributor to stunting, respectively as shown in Annex 7.

Most interviewees reported on families’ limited access to food, which, according to them, is highly evident with the increased prices and challenges refugees face in maintaining proper nutrition and obtaining healthy meals for their children. Due to the current financial crisis, and increasing inflation, two stakeholders reported that families are adopting negative coping strategies related to food consumption, including, for example, a reduction in the number of meals or in meal portions or food groups consumed.

A social protection, food security, and livelihood specialist reported:

“Families are decreasing the portions sizes of meals; they are also decreasing the number of meals eaten per day. So, instead of consuming three meals, they are eating two meals. Previously, we used to see the adoption of negative coping strategies related to food consumption among parents only so they can feed their children. At the current time, no, even children are not eating the meals or number of meals adequate for them.”

As suggested by a few interviewees, food insecurity could be due to lack of knowledge about food diversification. However, the FGDs revealed that lack of access to food is mainly due to financial constraints that prevents them from feeding their children adequately. Mothers know that a healthy and nutritious diet should be varied and include milk, eggs, fruits, vegetables, meat, fish, dairy products and yogurt. While a few mothers knew that meat is rich in vitamin D, and that milk and eggs are rich in calcium, most of them did not know about plant-based proteins.

Our findings are in line with the 2021 Vulnerability Assessment of Syrian Refugees in Lebanon (VASyR) which showed that nine out of ten Syrian refugees live in extreme poverty, and 49% of Syrian families suffer from food insecurity (UNHCR 2021). Unfortunately, the effect of the financial crisis is still affecting the livelihood conditions of families drastically; between October 2019 and June 2021, food cost alone has increased by 404% (UNHCR 2021). Food insecurity, in return, continues to have a negative long-term impact, with although there has been a reducing trend in wasting there seems to be an increasing trend in stunting if compared to the SMART survey conducted in 2013.

Since household food insecurity is perceived by stakeholders and survey respondents to very strongly contribute to stunting levels among Syrian refugee children, there is an urgent need to address this issue, and provide adequate access and consumption of food in order to prevent child stunting.

CAREGIVER EDUCATION

There was a general agreement that low caregiver education **strongly contributes** to stunting levels among Syrian refugee children. In fact, according to the UNICEF conceptual framework, inadequate education and lack of parental knowledge in terms of nutrition and adequate care practices is highly linked to child malnutrition (Clarke et al. 2021).

Key informants perceived lack of knowledge and awareness among refugees in relation to, for example, proper complementary feeding practices, the importance of vaccination, or antenatal care (ANC) and postnatal care (PNC) visits as highly contributing to stunting levels among children. This confirmed by the survey results, where most (14/16) respondents perceived low caregiver education and awareness as high (six participants) and very high (eight participants) contributors to stunting levels as shown in Annex 7.

FGDs revealed misconceptions held by mothers in relation to breastfeeding such as not breastfeeding due to perceived low supply of milk or in case of pregnancy. Mothers also reported not vaccinating their children as they get sick after each vaccination.

Therefore, low caregiver education/ awareness on proper nutrition and health practices was perceived to strongly contribute to stunting levels from various data sources and is therefore an important factor to address.

SANITATION AND WATER SUPPLY

All interviewed stakeholders and survey respondents agreed that inadequate sanitation and water supply as well as poor hygiene practices at the household level **slightly contribute** to stunting levels. A systematic review has revealed that environmental risk factors, including lack of adequate sanitation, may be associated with stunting to a varying degree (Vilcins et al. 2018).

In particular, interviewees suggested that inadequate sanitation and water supply, and poor hygiene practices followed by Syrian refugees at ISs put children at risk of contracting viruses and diseases which in turn are linked to malnutrition and stunting. Similarly, the online survey results show that 11 participants perceive “poor hygiene practices” as high (five participants) and very high (six participants) contributors to stunting among Syrian refugee children.

The FGDs showed that mothers know how to maintain personal hygiene, and when children should wash their hands, yet they do not have the means to do so. For example, children were reported to wash their hands with water only as they are not able to get cleaning/ sanitary products such obtain soap, detergent, or shampoo. In three IS, all women agreed that sanitation products are very essential. In one IS only, extreme water shortage was reported; mothers mentioned that they don’t even let their children use water after they use the bathroom because there is insufficient water supply and it is needed for other necessities. Concerning defecation, they reported mostly using squat toilets (Arabic toilets), which are only sanitized with water. Some reported practicing open defecation, and for young children, whose parents can’t afford diapers, they mostly use a nylon bag with a cloth. At one IS, they mentioned training their children to use the toilet at a young age, to avoid facing this issue.

At the household level, the main factors related to water and sanitation and hygiene include access to clear water and cleaning product which were perceived to somewhat contribute to illness and increased risk of stunting.

MATERNAL FACTORS

Maternal factors (specifically poor maternal nutrition) were perceived to **very strongly contribute** to stunting levels among Syrian refugee children. Maternal nutrition plays a vital role in fetal growth, as well as child health and development. Specifically, poor maternal nutrition during pre-conception and pregnancy affects the growth of child, and might lead to stunted children due to preterm delivery or low-birth weight (Young et al. 2018). Additionally, a recent study has shown that there is a strong relationship between adolescent pregnancy and child undernutrition (Singh 2019). Another study showed that mothers who suffer from common mental illnesses such as depression and anxiety are three times more likely to deliver children who are stunted (Girma et al. 2019).

During KIIs, many interviewees talked about maternal factors that may affect stunting levels among Syrian refugee children. As reported, when the mother doesn't meet her nutritional needs during pregnancy, in both food and supplements, she is more likely to give birth prematurely or give birth to low-birthweight infants. Low birthweight is directly linked to stunting. Another example was given by some interviewees about the deterioration of mental health and increased stress levels, particularly affecting women when they get pregnant, because they worry about how to feed their children and to secure the child's basic needs. This might affect breastfeeding levels which is directly linked to malnutrition or lessen the responsibilities of mothers towards their children, which might, in return, lead to inadequate food consumption and malnutrition among children. Finally, few interviewees reported that getting pregnant at a young age might lead to inadequate care practices.

On top of this, the survey results show that all participants perceive poor maternal nutrition as high (nine participants) and very high (seven participants) contributors to stunting levels among Syrian children as shown in Annex 7.

During FGDs, women mentioned that they suffer from poor nutrition and inadequate food consumption.

One woman, in Baalbek, reported on poor maternal nutrition:

"We are suffering from breastfeeding, we have anemia because of breastfeeding, we do not have proper nutrition" (she pointed at another woman at the FGD) "Look at her teeth, they are falling out. What nourishes the mother [mother's body]?"

Another woman, in Baalbek, said:

"My 11-month infant has gained only two kilos since birth, even though I am breastfeeding."
Another woman commented *"I think your breastmilk is not rich and nourishing"*

SMART survey results show that 7.6% of Syrian pregnant and lactating women (PLW) suffer from moderate acute malnutrition (based on mid-upper arm circumference (MUAC) level of 18.5-22.9). Moreover, a recent study revealed that one in four Syrian refugees residing in ISs suffer

from moderate to severe symptoms of depression, mainly due to the harsh conditions they experience during their daily life and the lack of subsidized mental health services available at PHCs (Naal et al. 2021). Additionally, a study has shown that rates of early marriage among Syrian refugees have increased by a factor of four as compared to pre-Syrian crisis level (UNFPA 2017). This is likely one of the causes of higher rates of adolescent pregnancy among Syrian females. Finally, (Elshal et al. 2021) noted that Syrian women were had a higher percentage of lower birth weight than Lebanese women with low birth weight being a risk factor for stunting.

Maternal factors including poor maternal nutrition, deterioration of mental health, and adolescent pregnancy were perceived to be important contributors to stunting in children. This contribution was perceived to be much stronger in mothers with poor nutrition, emphasizing the importance of ensuring proper and adequate maternal nutrition.

INFECTION

Infections and illnesses were found to **highly contribute** to stunting levels among Syrian refugee children. Recurrent infections are associated with increased risk of stunting; however, stunting in return makes the child more prone and susceptible to infections which themselves enhance malnutrition, and thus creates a vicious cycle leading to poor growth and development (Vonaesch et al. 2017).

Interviewees talked about the relationship between infections and stunting as shown in the examples below.

A program coordinator said:

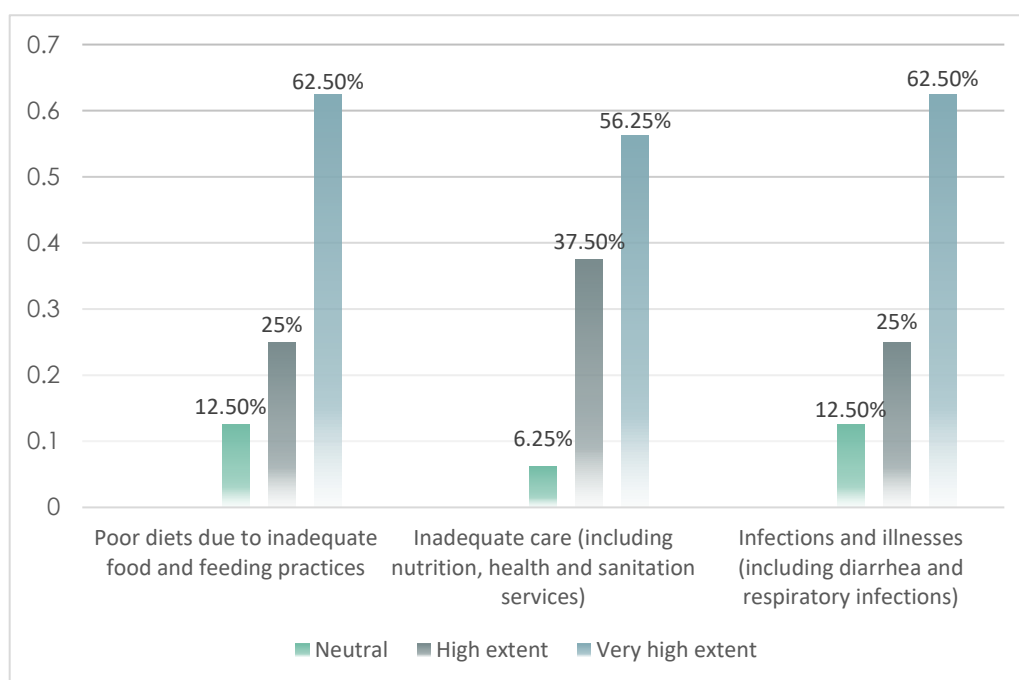
“In IS, WASH plays a big role; if you have children suffering from diarrhea all the time, water is not clean, the child always has infections, so we enter this cycle that he is ill, he cannot eat properly, his immunity is decreased, and then he gets more ill. He stays in this cycle, and he can’t get out of it.”

Also, a community health specialist commented:

“If we want to talk about the environment, then there is WASH, there is health. In other words, if children suffer from high fever a lot, they are not being vaccinated as they should be, so they will develop more diseases, which will prevent them from eating properly, which will in turn make them sicker, which means more nutritiously vulnerable. Also, everything related to water-borne diseases and lack of hygiene will lead to more sick children, thus more nutrition vulnerable children.”

As per the survey results, around 63% of participants (out of 16) acknowledged that infections and illnesses contribute to stunting levels to a very high extent as shown in graph 1 below.

GRAPH 1: PERCEIVED IMMEDIATE FACTORS & STUNTING*



* Based on this in-depth analysis survey data

Many mothers during the FGDs admitted that their children are always sick; they mostly suffer from fever, flu, and infections. Mothers also gave examples of other infectious diseases linked to sanitation and poor hygiene such as vaginal infections among young females. These results are further supported by the results of the SMART survey showing that 28.3% of 5-59 months Syrian refugee children have been sick in the last two weeks preceding the survey. The most prevalent illness was fever (57.9%) followed by cough (24.2%) and diarrhea (19.0%).

Infections and illness are key factors that were perceived to highly contribute to stunting as evidenced by qualitative and quantitative data. It is therefore important to address them.

INSTITUTIONAL AND COMMUNITY LEVEL FACTORS

POLITICAL ECONOMY

Factors under political economy, including food prices, poverty, income, livelihoods, are perceived to **very strongly contribute** (indirectly) to stunting levels among Syrian refugee children.

Most interviewees reported how political economy affects stunting levels indirectly. The currency depreciation leading to increases in food prices and consequently to lack of affordability of healthy food, the high prevalence of economic vulnerability, and the lack of sustainable employment opportunities are all factors contributing to stunting levels as they affect household food security levels. Similarly, according to the survey results, these factors were the highest contributors to stunting among institutional and community level factors, as shown in Annex 8.

As for the FGDs, mothers reported facing challenges in relation to feeding and ensuring proper nutrition for their children, including the lack of job opportunities and no fixed income, high priced food, insufficient assistance to cover their needs (such as the United Nations (UN) card), and outstanding debts to, for example, landlord or supermarket. Moreover, all mothers agreed that supermarkets increase the prices of food products when families purchase with the UN card as compared to paying cash.

UN ESCWA mentioned in their last year's report that 82% of the population (approximately 5.5 million people, including refugees) in Lebanon lives in multidimensional poverty, which considers several factors (e.g., income, education, access to health, public utilities, etc.) (UN ESCWA 2021).

As per the interviewees, although many initiatives have been implemented to overcome these challenges such as the provision of cash assistance, the distribution of food parcels, and the provision of financial counselling, the needs of refugee families are increasing while the assistance provided does not cover those needs, especially given the limited resources of humanitarian organizations. Another issue that was raised is the free market and lack of control over prices especially with the fluctuation of the exchange rate, which consequently affects the purchasing power of families.

Increased poverty levels and the extreme food prices in the market were perceived to be two of the strongest contributing factors to poor nutritional status. This is linked to household access to food and, in return, poor food consumption. These factors were perceived to be the most urgent factors to address.

SOCIETY AND CULTURE

There was an agreement that beliefs and norms of Syrian families **strongly contribute** to stunting levels among refugee children (albeit indirectly).

Interviewees argued that cultural background that incorporates all forms of behaviors, beliefs, attitudes, and values might lead to inadequate common social practices which indirectly affect stunting levels. For example, an absence of family planning leads to high numbers of children and consequently less focus and care for younger children and fewer resources to obtain foods, was perceived to **moderately contribute** to stunting levels among children. As per the survey data, half of the participants perceived beliefs and norms as contributing to stunting levels to a high extent as shown in Annex 8.

In addition, the FGDs revealed a couple of misconceptions related to complementary feeding practices among mothers. For instance, most women give anise to infants upon birth because they believe that breastmilk isn't produced until two or three days after birth. Another example is instead of taking their sick children to unaffordable clinics, mothers tend to rub their children with oil and water cloths to get rid of fever.

There is enough evidence to show that social, cultural, and gender norms affect mothers' behaviors in terms of feeding their children adequately (UNICEF 2021). This was further highlighted in the data collected especially in the context of refugees in IS. It is therefore

important to continue working on improving awareness in order to address misconceptions that may influence feeding behavior.

HEALTH AND HEALTHCARE

Three factors are highlighted under health and healthcare including inadequate access to care, shortage of supplies, suboptimal healthcare provider capacity and quality which indicate a strained healthcare system.

INADEQUATE ACCESS TO HEALTHCARE

Inadequate access to healthcare was perceived to **strongly contribute** (indirectly) to stunting levels among Syrian refugee children. Access to healthcare can be measured by four pillars which are adequacy of supply or availability, affordability, physical accessibility, and acceptability of healthcare services (Gulliford et al. 2002).

Low access to healthcare is the second highest contributor to stunting as 88% of participants who filled out the survey reported that this factor contributes to a high (eight participants) and a very high (six participants) extent to stunting levels among Syrian refugee children as shown in Annex 8.

According to the interviewees, Syrian refugees' inadequate access to healthcare includes consultation visits during pregnancy, pediatrician visits when their children get sick, regular check-ups, and vaccination services.

A food security and livelihood program manager reported:

"We need to take into consideration, in some areas, [that] these services are not available. In some areas, from the beginning, these services are not well-established ... If you don't have centers or PHCs or facilities that can actually provide these services for the community, at the end, we should expect malnutrition would be there. I mean if the health sector is not also taking a role in this, I'm not saying it is not doing something about it, we do understand that we are in a country with limited resources, even with the humanitarian sector, resources and funding now are limited."

A community health specialist reported:

"Let's say we have 240 PHCs in Lebanon that are accredited by the Ministry. Out of these 240, I guess there are 100 or 100+ that are supported by INGOs, and the rest are not supported by INGOs. So even if we have health program that support some PHCs, there are some other PHCs that are not supported, which means people going to those PHCs are not getting the privilege of getting free consultation, subsidized consultation let's say, and medication"

S/he also commented:

"There are a lot of reasons that we used to face, not only in relation to vaccination or diseases, but we face a lot of issues related to "I didn't have time", "I couldn't leave my house", "I don't have money to cover transportation fees to visit the PHCs", "I am not even convinced that I have to vaccinate my child, or "he's doing okay, we have house remedies and he will be okay". Also, the weather condition is an issue. To top it off, for the past two years, of course COVID-19 was the

main issue ... there were a lot of checkpoints, and a lot of Syrian refugees don't have legal papers, so they used to avoid going out of home, so they didn't visit PHCs as they should, whether for the vaccination services or the follow-up for antenatal care for women."

In fact, although there has been institutionalization of PHCs to be screening and management centers for malnutrition, and many organizations have supported the provision of subsidized services to people in need, including ANCs and PNCs visits and free vaccination, there are many barriers that were reported to impede proper access to healthcare.

These include:

- Hidden cost of the services. Even if they are subsidized, sometimes parents have to go through different steps before getting the service which might not be for free such as opening a file, or visiting the doctor before vaccination.
- Services not being available at the center – for example, not all PHCs have a program for malnutrition screening and management).
- Distance and transportation cost to PHCs.
- Long waiting time and PHCs being understaffed which might lead to children not being screened at an early stage of malnutrition.
- Shortage of supplies such as medicines, supplements or foods that are given to malnourished children.
- Awareness, behavioral and knowledge issues (parents not knowing the importance of seeking healthcare services for own or child health)
- Lack of information on how to get access to a service or who can secure that service for them
- COVID-19 related factors, lockdowns and check-points prevented many families from visiting clinics because they don't have legal papers at the country.
- Other challenges that were mentioned at the level of PHCs include lack of one-on-one IYCF counselling or patient education, obstetricians- gynecologists (OB-GYNs), and pediatricians who don't promote breastfeeding. As well, midwives and nurses have not been empowered enough by Lebanese law and healthcare providers to fill the gaps.

According to the FGDs, most women visited PHCs for ANC and PNC visits as well as for child vaccination services, and they visited hospitals for delivery (at one IS only, they mentioned that women might deliver at IS). They knew that PHCs and hospitals visited are supported by Non-Governmental Organizations (NGOs) or the UNHCR. Very few women mentioned visiting pharmacies, clinics, or private doctors. At one IS only, they mentioned that there are doctors that visit them at the IS. In line with the KII, challenges mentioned by mothers for adequate access to healthcare include distance and transportation, financial constraints, and the center being very crowded and having long waiting time.

Vaccination services are provided at the PHCs for free or at a minimal cost, however, not all women vaccinated their children fully due to the following barriers:

- Children are always sick (infections, malnutrition, flu), and are not allowed to get vaccinated when sick.
- PHCs are always crowded, so they do not get vaccinated at the right time.

- Financial constraints. For example, if the child is less than one year old, access to free vaccination is only provided following a subsidized consultation with the physician. Families may not afford this minimal cost.
- Transportation costs to the PHCs.
- Misconceptions. Some women mentioned that they stopped vaccinating their children because every time the child is vaccinated, s/he becomes sick.

Most mothers agreed that there are two-to-three ANC visits and one PNC visit covered at PHCs. While most do regular checkups during pregnancy, some did not complete their full visits due to either transportation cost or lack of knowledge. For example, they visit the doctor if they are sick only or to make sure that they are pregnant. At one IS only, they mentioned that there are no echography services provided at the PHC, so they have to go to a private doctor and pay for the services by themselves.

These findings are in line with the latest Health Access and Utilization Survey (HAUS) conducted among Syrian refugees in Lebanon in 2021, that shows that access to healthcare has been reduced compared to 2020 when it comes to ANC visits among pregnant women, medical visits among individuals with chronic and acute disorders, and oral vaccination services among children (HAUS 2021). Other findings reveal low access to PNC services (32%) with no significant change as compared to 2020 (29%) (HAUS 2021). This is mainly due to the deteriorating financial status and decreased purchasing power among refugee families, lack of need or lack of prioritization of certain services as perceived by families, and finally unavailability of medications (HAUS 2021). Similarly, the VASyR results show that healthcare services are getting increasingly inaccessible with female headed households reporting less access to medications and drugs mainly due to financial constraints (cost of treatment) (VASyR 2021).

In fact, the 2021 HAUS reveals that refugees were aware of the availability of subsidized costs being provided at health care facilities: 65% of households knew that they have access to services at primary healthcare facilities, 86% knew about the healthcare provided by UNHCR, and 68% knew that vaccination services are provided for free at primary healthcare facilities for children under 12 years of age.

In conclusion, inadequate access to healthcare was perceived to strongly contribute to stunting levels. Barriers for adequate access to healthcare included unavailability of services, financial constraints (specifically transportation costs), poor capacity at the level of PHCs, and awareness and knowledge issues. It is therefore important to address this factor and ensure access to essential healthcare services.

SHORTAGE OF SUPPLIES

Some key informants agreed that shortage of supplies is a factor that **highly indirectly contributes** to stunting levels among Syrian refugee children. While a number of key informants confirmed the shortage, others highlighted the availability of substitutes.

In fact, all women who participated in the FGDs, agreed that there are no medications at PHCs including antibiotics, antipyretics, anti-diarrheal medicines, medicines for treating flu and sneezing, and suppositories, and while they expected to receive these for free, they were instructed to purchase them from pharmacies. However, they all agreed that PHCs frequently

provide analgesic and antipyretic medication, namely Panadol, for free (One mentioned that medicines for cough are mostly available as well). As for vitamins and iron supplements for PLWs, some women reported they are available and provided for free at PHCs, while others reported unavailability of these supplements.

Due to the economic crisis, there has been a shortage of medicines and drugs across pharmacies and relevant distributors in the country. Even at the level of PHCs which are mostly supported by the MoPH, patients reported that there are no medications for their treatment (MSF 2021). For this reason, low access to supplements among PLWs might explain the high prevalence of anemia among women, which in return affects their nutritional status and indirectly affect child's nutritional status.

Since recent data reveals shortage of supplies in Lebanon, not surprisingly, affects vulnerable Syrian refugees who live in the country as well (confirmed by mothers participating in FGDs). Although this factor was not perceived by all interviewed key informants to contribute to stunting levels, it is important to address.

SUBOPTIMAL HEALTHCARE PROVIDERS CAPACITY AND QUALITY

Some interviewees agreed that the capacity of healthcare providers and the absence of qualified health care providers, might **slightly contribute** (indirectly) to stunting levels among Syrian refugee children as it affects the quality of healthcare services provided.

As per one of the interviewees, many qualified nurses and doctors quit their jobs due to the deteriorated socioeconomic situation in the country. Additionally, some interviewees suggested that due to the overload at PHCs, some nurses might skip malnutrition screening for children or skip patient education for PLWs.

During the FGDs, mothers reported on the quality of care they received at PHCs. Medical doctors were reported not to be present at PHCs or make women wait at the center on the day for their check-ups. On the other hand, some women agreed that the treatment at the PHCs they visit is very good, and at one IS, they all agreed that Doctors without Borders provided the best care.

The capacity and qualifications of healthcare providers has been shown to be linked to child stunting (Torlesse et al. 2016). The number of healthcare providers has also been considered a factor contributing to rates of stunting (Barber and Gertler 2009). Our findings show that this is also the case for Syrian refugee children and families in ISs who noted this factor as indirectly contributing to stunting and the need to ensure availability and capacity of healthcare providers. In fact, other well-trained community health volunteers or health professionals can implement certain tasks and responsibilities, related to, for example prevention education and awareness.

CHALLENGES WITHIN THE HEALTHCARE SYSTEMS AND POLICIES

A few stakeholders mentioned other factors related to healthcare systems and policies that **slightly indirectly contribute** to stunting levels. One point mentioned was the lack of a unified health system across all PHCs, which results in lack of tracking of women who visited different PHCs during their pregnancies. Another point was that the reputation of the public healthcare system is not very good in the country, which makes it untrusted in terms of the support and

quality of services they are providing. Finally, one interviewee touched on the regulations and enforcement of the law of BMS as a challenging factor that affects women's decision regarding breastfeeding and thus might affect stunting.

Although few stakeholders touched on this factor, we know that ensuring a unified Health Information System (HIS) and consistent application of Standard Operating Procedures (SOPs) by health facilities and healthcare providers in the centers would contribute to improved quality and standard health care.

WATER AND SANITATION INFRASTRUCTURE AND SERVICES

There was a general agreement among stakeholders and survey respondents that low access to a safe source of drinking water **strongly contributes** to stunting levels, while poor water and sanitation infrastructure **moderately contributes** to stunting levels among Syrian refugee children.

Interviewees highlighted that WASH-related factors at the community level (specifically inside IS) indirectly contribute to stunting levels as they cause diseases and infections among Syrian refugee children which leads to loss of micronutrients, poor appetite and inadequate food consumption. In general, they reported that there are a lot of outbreaks that happen at IS, with water being the vector for transmission of diseases. Another concern is the infrastructure and sewage system that is not well-established at the level of IS, making families prone to pollution, viruses and diseases, especially that it is a closed community.

This is in line with the survey results, as shown in Annex 8, where five participants reported that low access to a safe source of drinking water contributes to stunting to a high extent, while eight reported that it contributes to stunting to a very high extent. On the other hand, five participants reported that poor water and sanitation infrastructure contributes to stunting to a high extent, while seven participants reported that it contributes to stunting to a very high extent.

As per the FGDs, water is used for cooking, drinking, and washing and is either water tanks filled by an external organization, water from the government, or from a well (filtered and clean). In one IS only (Aarsal) there are different sources of drinking vs. cooking and washing water, as they come from separate tanks. As reported by women, water is clean but issues they suffer from, include, for example, water sometimes smell chlorine; it sometimes mixes with the government water which has mud and doesn't smell good; when the electricity is off, the generator doesn't work to push water from the well so they borrow water from each other; water has pebbles and sand; water sometimes has yellow sand and calcium. As for defecation, they use squat toilets but they are not well-structured, some are shared by many families, and are cleaned with water only. Most of the time, the sewage system is not properly installed. There are frequent sewage floods; no one comes to filter the water (there is always a delay by months).

Although, as per some of the interviewees, there have been a number of initiatives implemented by the WASH sector such as ensuring access to safe drinking water, hygiene awareness, and distribution of hygiene kits to IS, the environment and living conditions of the ISs are still deteriorating and the needs are increasing so there should always be management and follow-up for WASH services and infrastructure.

WASH interventions can prevent 860,000 child deaths per year, caused by undernutrition (Ademas et al. 2021). This link was highlighted through the data collected where lack of access to safe and clean drinking water and debilitated WASH infrastructure were perceived to be one of the highest contributors to stunting. In fact, this is also confirmed through some of the observation that was done during data collection highlighting an urgent and important need to address WASH infrastructures in IS.

REFUGEES LIVING IN INFORMAL SETTLEMENTS VS. REFUGEES LIVING IN URBAN SETTINGS

According to the interviewees, rates of stunting might be higher among children living in ISs as compared to children living within host communities, due to the following factors:

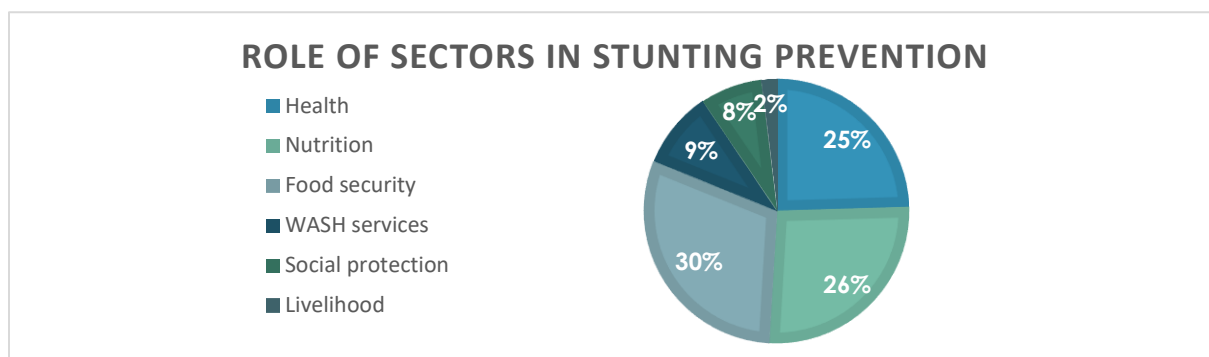
- People who live in ISs are more economically vulnerable, and thus, for example, might consume less-quality food, and have less access to nutritious food. In supermarkets near host communities, there is diversity in brands and quality, and distance to supermarkets is an issue for people residing in IS.
- Peer pressure or habits among host communities might affect refugees' dietary habits and feeding practices positively.
- People who live in ISs may not have as much access to healthcare services as those living within host communities.
- People in ISs live in direr conditions and have much higher unmet basic life needs; they do not live in a well-isolated environment, and thus people, for example, are exposed to weather changes, lower access to clean drinking water, or less sanitation and hygiene, which. This accordingly puts them at higher risks of infections. They may not focus on child nutrition as they may be focusing on other basic needs including WASH issues.
- Lower level of awareness among people who live in IS. This may be because people who live in ISs were already living in similar conditions in Syria and have limited nutrition awareness, or because there is a higher level of awareness among refugees living withing host communities due to word of mouth
- Limited number of assessments being done in IS.

REPORTED INTERVENTIONS

Interviewees were asked about existing interventions and recommendations to address and prevent stunting among Syrian refugee children in IS.

When participants (n=16) were asked about the role of different sectors in stunting prevention among Syrian refugee children through the online surveys, food security, nutrition, and health were three sectors most contributing to this issue as shown in graph 2 below.

GRAPH 2: PERCEIVED ROLE OF SECTORS IN STUNTING PREVENTION*



* Based on this in-depth analysis survey data

A number of interventions were reported to be implemented to improve the health and nutrition of children residing in IS, grouped under the sectors of nutrition, health, food security, WASH, and social protection as shown in table 4 below.

TABLE 4: REPORTED INTERVENTIONS IMPLEMENTED TO IMPROVE THE HEALTH AND NUTRITIONAL STATUS AMONG CHILDREN*

Sector	Interventions
Nutrition	<ul style="list-style-type: none"> • Nutrition awareness and outreach activities • Acute malnutrition screening and management • IYCF and lactation specialist counselling
Health	<ul style="list-style-type: none"> • Outreach prevention programs and referrals to PHCs • Support of PHCs and provision of subsidized services including ANC and PNC services, vaccination services, pediatric consultations and Mental Health and Psychosocial Support (MHPSS) services
Food security	<ul style="list-style-type: none"> • Provision of food kits
WASH	<ul style="list-style-type: none"> • Provision of kits including hygiene kits and menstrual kits
Social protection	<ul style="list-style-type: none"> • Cash assistance

*Findings generated from KIIs and online survey questionnaires

RECOMMENDED ACTIONS SUGGESTED BY STAKEHOLDERS AND MOTHERS

Key informants highlighted how the action should be multi-sectorial and integrate stakeholders from the five sectors, especially that one major challenge that the country faces, is that at the level of institutions, nutrition is sometimes being deprioritized in terms of other competing priorities. As was said by a food security and livelihood program manager:

“I think it’s a triangle of food security sector, WASH and hygiene sector, and then the health sector. If we look at all the triggers, it’s either due to genetic factors or like health conditions where you would actually need more of health interventions, or it might be due to food insecurity which is related to economic vulnerability and here comes the basic assistance sector, and then you have the WASH and hygiene which is more related to ensuring more like of the best practices that comes to hygiene”.

Accordingly, table 5 is a list of recommendations suggested by stakeholders participating in the survey and KIIs, as well as mothers participating in FGDs, grouped at different levels.

TABLE 5: SUGGESTED RECOMMENDATIONS AS REPORTED BY KEY INFORMANTS AND MOTHERS

STAKEHOLDERS' SUGGESTED RECOMMENDATIONS AT INDIVIDUAL AND INTERPERSONAL LEVEL
<ul style="list-style-type: none"> ○ To provide <u>assistance</u> in the form of monthly food parcels or vouchers ○ To provide <u>cash assistance</u>. ○ To conduct <u>nutritional interventions</u> such as supplementation. ○ To ensure access to <u>livelihood</u>, including the provision of what individuals <u>need for adequate sanitation</u> such as diapers, detergents and sanitizers, and blankets. ○ To <u>reach out for people</u> and inform them about the available services at PHCs. ○ To provide <u>job opportunities</u> or higher salaries for both men and women. ○ To provide <u>psychosocial support</u> and improve mental health and wellbeing (by psychological specialists). ○ To have <u>medical mobile units (MMUs)</u> that visit ISs regularly.
STAKEHOLDERS' SUGGESTED RECOMMENDATIONS AT COMMUNITY LEVEL
<p>Cultural values and norms</p> <ul style="list-style-type: none"> ○ To promote <u>health and nutrition seeking behavior</u> among individuals. ○ To conduct <u>behavior-change initiatives</u> and increase <u>awareness around nutrition</u> (including IYCF practices), food safety and health and hygiene practices, through awareness and follow-up sessions. <p>Built environment</p> <ul style="list-style-type: none"> ○ To enhance the <u>environment and living conditions of IS</u>. <p>To manage and follow-up <u>WASH services and infrastructure</u>.</p>
STAKEHOLDERS' SUGGESTED RECOMMENDATIONS AT ORGANIZATIONAL LEVEL
<p>At the level of PHCs</p> <ul style="list-style-type: none"> ○ To make "<u>stunting</u>" part of the <u>Community-based Management of Acute Malnutrition (C-MAM)</u> programs at PHCs. ○ To provide <u>nutritional screening</u> services at PHCs. For example, make the <u>malnutrition screening and management program available</u> at all PHCs. ○ To increase <u>nutrition counselling</u> (including <u>IYCF counselling</u> that can be provided as a service by itself). ○ To <u>integrate nutrition</u>, including IYCF counselling, in other services provided at PHCs, such as OB-GYN consultation or pediatrician visit or vaccination services. ○ To conduct <u>nutrition interventions</u> such as micronutrient supplementation at PHCs. ○ To increase, enhance the quality, and ensure access and utilization of <u>healthcare services</u> provided at PHCs, including ANC and PNC services, as well as child care and immunization services. For example, this can be done through coverage of transportation fees or provision of free services. ○ To <u>design and implement a protocol</u> that includes screening service and a list of tests for children to be done at certain ages. ○ To ensure <u>consistency and availability of supplies</u>.

- To implement capacity building at the level of PHCs. For example, to be equipped with adequate and qualified human resources.
- To engage the Orders of Midwives and Nurses.

At the level of hospitals

- To engage/ strengthen the role of the secondary health system in this issue. For example, to implement the Baby-Friendly Hospital Initiative (BFHI) on a larger scale.

At the level of supermarkets

- To monitor prices of food products at supermarkets, which are supported by the UN.

At the level of schools

To implement a school feeding program to provide nutritious food or healthy meals/ refreshments to children.

STAKEHOLDERS' SUGGESTED RECOMMENDATIONS AT PUBLIC POLICY LEVEL

- To advocate along with the MoPH on the importance of stunting in general as a public health priority and to integrate actions to prevent stunting in the nutrition strategy. Also, to cooperate with donors, other agencies, and other coordination systems, as a humanitarian community to determine how to reprioritize nutrition issues.
- To strengthen the interagency referrals, and provide harmonized and solid referral mechanisms among all sectors, and ensure fast and real response (follow-up to ensure sustainability).
- To implement more nutrition-sensitive programming. In other words, to integrate nutrition (including IYCF) in other sectors specifically food security and WASH sectors. For example, there could be memorandums of understanding or trainings of trainers for agencies from different sectors on how to mainstream for nutrition and IYCF in their activities.
- To contextualize and revise the indicators and guidance set for programming.
- To use media as a channel, mainly television and brochures, to inform people about interventions or campaigns being implemented, or centers offering nutrition and healthcare services.

STRENGTHS AND LIMITATIONS

This report used a robust methodology based on evidence-based frameworks. Findings were also triangulated across the different sets of data from the FGDs, KII, results of the survey and the review of literature. Yet a number of limitations need to be taken into consideration in this work:

- The number of respondents who provided feedback on the survey questionnaire was relatively low. This may be due to shortage of time and availability of respondents or also given that some respondents did not identify with the topic of stunting, making it more important to sensitive sector working groups (outside of nutrition) on the issues. Still, the quality of response was of value providing insight onto the perceived factors contributing to stunting.
- The number of key informants who responded to the request for interviews was lower than expected; a number of key informants were not available or on leave. Still, the team was able to capture the knowledge of individuals from different sectors as planned.
- The small sample sizes across most of primary data collection methods limits the generalization of results.
- The study did not include any quantitative analysis of household survey data and relies on perceptions of key informants and mothers. For future research and investigation, it would be good to triangulate the qualitative data with that from household surveys.

RECOMMENDATIONS

Building on the findings in this analysis related to perceived factors contributing to stunting in Syrian refugee children in ISs in Lebanon and the recommendations suggested by stakeholders, a set of actions are proposed that would potentially contribute to improving stunting. These recommendations are in line with a briefing note on stunting reduction in protracted emergency contexts (Khara et al. 2015) which emphasized the importance of monitoring nutritional indicators, linking nutrition-specific and nutrition-sensitive interventions to stunting prevention including WASH and health, advocating for long-term funding in crisis and a connected and coordinated approach to address stunting across programming and policy level.

Table 6 below provides a listing of recommendations suggested for sectors and implemented at different levels; policy, institutional/ organizational, and household/ community level. However, these recommendations would need to be further refined following a roundtable discussion with stakeholders and agencies working in nutrition as well as related sectors.

TABLE 6: RECOMMENDED ACTIONS TO ADDRESS FACTORS CONTRIBUTING TO STUNTING

	Nutrition Sector	Health Sector	Food Security Sector	WASH Sector	Social Protection Sector
Coordination, leadership, and inter-sectoral collaboration	<ul style="list-style-type: none"> • Joint multi-sector planning, implementation, and monitoring of nutrition prevention interventions that address the causes of stunting in ISs with a focus on WASH and Social Protection. • Develop Standard Operating Procedures highlighting integration of WASH and nutrition at the facility and community level. • Continue to monitor nutrition indicators including wasting, stunting, and dietary habits of children under 5. • Invest in an in-depth analysis of the SMART survey to identify factors and enablers of poor nutritional status. 				
Policy Level	<ul style="list-style-type: none"> • Prioritize actions to prevent stunting in ISs • Implement relevant recommendations stated in the nutrition strategy • Implement the IYCF policy and action plan 	<ul style="list-style-type: none"> • Update and activate guidance on growth monitoring • Support the universal health coverage initiative • Examine, in more depth, the causes of high rates of infectious reported in this study and devise a plan to address them. 	<ul style="list-style-type: none"> • Include actions that address identified gaps for the prevention of stunting in sector work plan (see below) 	<ul style="list-style-type: none"> • Include actions that address identified gaps for the prevention of stunting in sector work plan (see below) 	<ul style="list-style-type: none"> • Include actions that address identified gaps for the prevention of stunting in sector work plan (see below)
Institutional & Organizational Level	<ul style="list-style-type: none"> • Scale up the support provided to PHCs by international organizations that serve catchment areas (i.e., especially PHCs near IS) • Support the activation of growth monitoring at PHCs to monitor growth and identify stunting among under-5 children to ensure prevention and management of cases • Ensure coverage for vaccination • Scale up screening for malnutrition to be integrated in all PHCs • Expand on the integration of nutrition, including IYCF counselling, in other services 		<ul style="list-style-type: none"> • Consider the implementation of blanket supplementary feeding for ISs with very levels of stunting • Address gaps related to difference in prices of items bought with cash vs the UN voucher 	<ul style="list-style-type: none"> • Scale up the implementation of water and sanitation initiatives with priority to sewage rehabilitation and toilet installation 	<ul style="list-style-type: none"> • Improve access to primary health services by providing cash assistance to pregnant women and mothers of children

	<p>provided at PHCs (i.e., OB-GYN consultation or pediatrician visit or vaccination services)</p> <ul style="list-style-type: none"> • Implement a micronutrient supplementation program (i.e., home fortification, micronutrient sprinkles, regular nutritional supplements; to mothers as well such as iron and folic acid or supplement food for PLWs or Small Quantity Lipid-based Nutrient Supplements (SQLNS)) • Improve access to PHCs services; specifically, address gaps in transportation cost by linking to Social Protection or consider increasing the number of medical mobile units. • Scale up capacity building to PHC staff by supporting PHC staffing and training healthcare providers while focusing on growth monitoring and prevention of nutrition issues • Train community health workers to support the healthcare staff at the PHC center • Support the implementation of the Baby-Friendly Hospital Initiative (BFHI) • Provide/ increase, and ensure utilization of ANC and PNC services at PHCs • Include patient education in post-delivery and referral for follow up at the PHC center for women and babies post NICU discharge. Develop a pathway/link between hospitals and PHC/Community health center. • Scale up psychosocial services and provide access to mental health support by linking to the national mental health support program • Mainstream Family planning and birth spacing in all PHC services • Support the implementation of school feeding programs targeting schools in the ISs catchment areas 		<p>in informal settlements</p> <ul style="list-style-type: none"> • Improve access to water through construction of new and/or maintenance of existing water points using existing structures and mechanisms to ensure their proper long-term utilization 	<p>under two years of age.</p>
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<p>Household and Community Level</p>	<ul style="list-style-type: none"> • Expand on existing mother support groups to reach ISs focusing on IYCF, nutrition, health, and hygiene. • Implement social behavior change interventions focusing on health, nutrition, and hygiene building on existing campaigns such as the IYCF campaign. Conduct awareness on nutrition-related topics (i.e., IYCF practices, food safety, economy nutrition), promote nutrition and health seeking behavior (in collaboration with Food Security sector) • Scale up IYCF awareness as well as follow up on growth monitoring by community peers and volunteers 	<ul style="list-style-type: none"> • Prioritize ISs with high stunting levels with relevant cash-based assistance • Conduct behavior change interventions that contribute to improving choice of food purchase (visits to markets) and quality of meals (cooking demonstrations) • Invest in improving access to food by supporting micro-gardens (provision of seeds, gardening training etc.) 	<ul style="list-style-type: none"> • Scale up WASH initiatives at the community level including providing hygiene kits and conducting awareness sessions on adequate hygiene practices • Improve water treatment management at water point and household levels, including the use of appropriate water treatment options and effective water transportation and storage practices to ensure water safety before use 	<ul style="list-style-type: none"> • Provide direct cash assistance to pregnant women and mothers of children under 2 years of age • Support the creation of Income Generating Activities (IGAs) for/ with households • Provide financial counselling services • Support prevention of early marriage and retention in schools
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SUGGESTED KEY PRIORITY ACTIONS

The following key priority actions were highlighted at the validation meeting:

- Ensure coordination between all sector working groups, including, nutrition, health, food security, WASH, and social protection sectors (i.e., as a start, call for a multisectoral meeting on nutrition).
- Advocate for receiving more funds for nutrition programs.
- Develop a conceptual framework for continuity of interventions as well as political commitments.
- Develop and implement an innovative approach for response especially for refugees living in informal settlements (e.g., learn from other mothers' experiences).
- Develop and work on sustainable solutions especially for the WASH sector (through, for example, improving access to safe and clean water).
- Expand coverage of organizations for counselling, referral, and screening for malnutrition.
- Develop a clear plan of actions for the malnutrition program (including the development of a clear protocol for referrals, admissions, and treatment.).
- Engage the community through, for instance, community health workers (CHW) (i.e., develop a CHW program that is formalized).
- Have collective efforts to unify key messages that are being disseminated at the community level and to plan and coordinate the outreach activities together.
- Implement social and behavior change activities while engaging other sectors.
- Prioritize family planning as a way to prevent stunting.
- Have MMUs to cover the informal settlements.

CONCLUSION

This report examined factors that contribute to stunting amongst Syrian refugee children living in informal settlements in Lebanon. Stunting, low height for age, is an indicator of chronic undernutrition that can be caused by a multitude of complex factors including inadequate intake of nutritious food, frequent illness and poor care practices. Stunting can have serious impact on a child's development which can negatively impact growth and productivity. In Lebanon, the latest SMART survey highlighted worryingly high levels of stunting, specifically among children living in informal settlements. Findings from this analysis allowed us to examine potential reasons behind these high levels revealing multiple factors perceived to contribute to stunting. These included those that are nutritional, socio-economic, and environmental; linked to the role of different sectors: health, nutrition, WASH, and social protection. Findings highlight the need for joint efforts to improve maternal education, access to health services, household livelihood, and water and sanitation that could prevent stunting. Findings of this study give preliminary information on which agencies and policy makers at different levels can build on to formulate actions and programs aimed at improving the nutritional status of children living in ISs in Lebanon.

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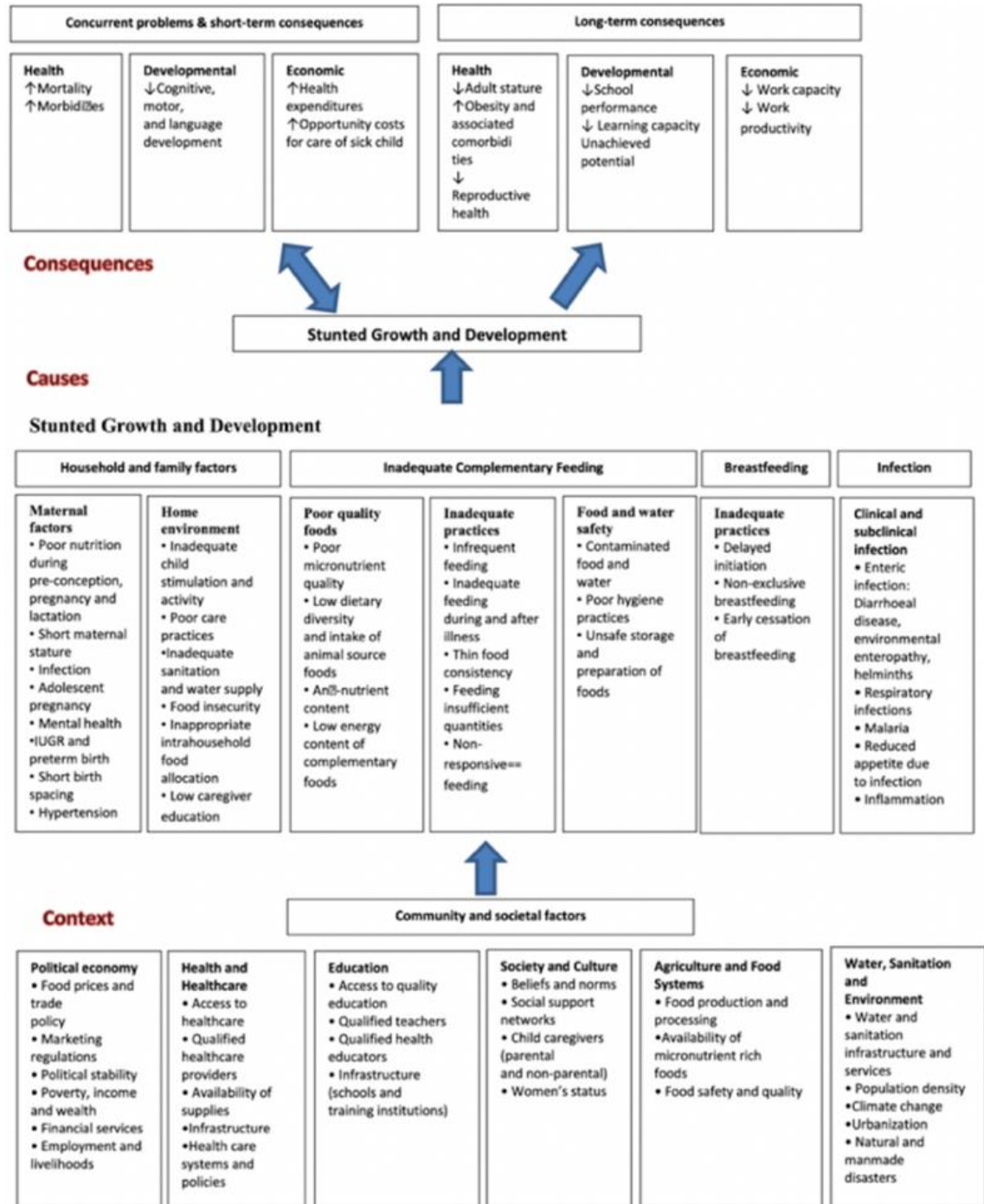
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ANNEXES

ANNEX 1: WHO CONCEPTUAL FRAMEWORK ON CHILDHOOD STUNTING: CONTEXT, CAUSES AND CONSEQUENCES



Source: World Health Organization. The Healthy Growth Project. The conceptual framework. Retrieved from <https://apps.who.int/nutrition/healthygrowthproj/en/index1.html>

FGDs Guide

Questions

1. Can each one of you introduce herself? (Name, number/ age of children, how long have you been here)
2. Tell me about your children's daily dietary habits and feeding practices.
 - a. Where do you normally get your food from? Is it purchased?
 - b. How many meals do you serve per day to your children who are under 5 years?
 - c. What do you usually feed them (give an example of a day – probe on food groups and frequency)?
 - d. For mothers of children aged 0-2 years (or mothers who still remember their IYCF practices)
 - I. Tell us about your breastfeeding experience: Did you breastfeed your child? If yes, when did breastfeeding start? For how long did you breastfeed? If no, why?
 - II. At what age was food introduced? What type of food was introduced first?
3. What challenges do you face/ What concerns do you have in feeding your children?
4. In your opinion, what constitutes a good and healthy diet that promotes healthy growth?
5. What hygiene practices do you adopt to ensure that the food you prepare and serve your children is safe?
 - a. How do you prepare food? Where do you store food?
 - b. How do you clean the utensils used during food preparation and eating?
 - c. When do you encourage your child to wash their hands (probe on their own hand-washing practices)?
 - d. What is the source of water (water for preparing food, drinking water, and water for washing)? How/where do you store it?
 - e. What challenges do you face in terms of hygiene and food safety?
6. When your child gets sick, where do you take them? (Private doctor clinics, Primary Healthcare centers (PHCs), hospitals, other?)
 - a. How easy is it to reach a healthcare provider? What do you think about the quality of care? Are you satisfied?
 - b. Have you faced challenges in accessing healthcare for your child?
 - c. What vaccination services are available for your child? Have you used them?
 - d. Have you attended any antenatal care visits in your last pregnancy? If yes, how many? If no, why?
 - e. What kind of health and nutrition information did you receive during pregnancy and after your child is born?
7. Do you receive any health or nutrition assistance from an external entity? What is the nature of this assistance? Who provides it?
8. In your opinion, what can be done to improve the health and nutrition status of your children?
9. Any other comments or questions?

Thank you for participating.

Information Sheet for FGDs with mothers

FGD number:

Date:

Location:

	First Participant	Second Participant	Third Participant	Fourth Participant	Fifth Participant
Age					
Marital status (married, widowed, divorced, separated)					
Highest educational level (illiterate, primary school, secondary school, high school, university)					
Do you work? If yes, what do you do?					
Does your husband work? If yes, what does he do?					
If you both work, is your household headed by a male or female (who provides the highest income)?					
How many children do you have?					
Please tell me about your children, from the eldest to the youngest (gender and age)					
Currently breastfeeding (<i>if applicable</i>)					

ANNEX 4: SOCIODEMOGRAPHIC INFORMATION OF PARTICIPANTS

FGD #	Area	Number of Participants	Mean Age of Participants [Lowest-Highest]	Marital Status*				Highest Educational Level**					Occupation		Occupation of Husband		Average Number of Children [Lowest-Highest]	% Of Women Currently Breastfeeding (If Applicable)
				M	W	D	S	I	P	S	H	U	Yes***	No	Yes	No		
FGD1	Akkar - Aarqa	10	31 [23-43]	9	0	0	1	2	5	1	2	0	1	9	2	8	4 [1-8]	100%
FGD2	Minieh-Danieh - Zouq Bhannine	13	26 [20-41]	12	0	1	0	2	7	2	1	1	4	9	12	0	3 [1-5]	-
FGD3	Zahle - Maallaqa Aradi	17	28 [18-37]	15	1	0	1	3	9	4	1	0	0	17	16	0	4 [1-7]	70%
FGD4	Zahle - Qabb Elias	12	26 [19-41]	11	0	1	0	2	2	8	0	0	3	9	5	6	2 [1-4]	43%
FGD5	West Bekaa - Kamed El-Laouz	11	30 [15-55]	11	0	0	0	6	4	1	0	0	6	5	4	7	5 [1-11]	80%
FGD6	Baalbek - Haouche Barada	9	30 [18-40]	9	0	0	0	4	4	0	1	0	1	8	6	3	5 [1-15]	71%
FGD7	Baalbek - Aarsal	11	30 [21-45]	11	0	0	0	0	5	4	2	0	1	10	5	6	4 [1-8]	100%
FGD8	Marjaayoun - Mazraat Sarada	6	27 [19-37]	6	0	0	0	1	4	1	0	0	0	6	5	1	3 [1-6]	50%

*Marital status presented as: (M) Married; W (Widowed); D (Divorced); S (Separated)

** Highest educational level presented as: (I) Illiterate; (P) Primary school; (S) Secondary school; (H) High school; (U) University

*** Although it is a yes, but it is not always consistent (sometimes)

Interview Guide

Hello. Thank you for agreeing to this interview. My name is (name of interviewer) working with IOCC on this assignment. We appreciate you taking the time to talk to us about your experience within the health and nutrition field in Lebanon, specifically in relation to the nutrition status among Syrian refugee children residing in informal settlements in Lebanon. Do you have any questions before we begin?

Questions

1. Can you please start with introducing yourself? (Name, position, type of work, how long have you been in this position)
2. In your opinion, what are the key nutrition issues amongst Syrian refugees residing in informal settlements in Lebanon?
 - a. Probe on whether stunting is considered an issue
 - b. Probe on how stunting rates differ between those living in informal settlements and those living within host communities? Why?
3. Based on your experience, what are key factors/ determinants of poor nutrition/ malnutrition among Syrian refugee children residing in informal settlements in Lebanon? *With special focus on the long-term impact of malnutrition – stunting*
 - a. Probe for other factors
4. In the past 5 years, what are programs that were implemented to enhance/ improve the nutrition status and well-being/ health (including to reduce malnutrition and stunting) among Syrian refugee children?
 - a. In Lebanon, in general, and specifically, in informal settlements?
 - b. By your organization; in collaboration; by other organizations.
 - c. Probe on nutrition and non-nutrition interventions (WASH, Food Security, Social Protection)
 - d. What are the key challenges in the implementation of these programs?
5. Where does stunting management and prevention rank on the agenda of your organization? On the agenda of the nutrition sector? Any other entities?
 - a. How is it translated on the ground?
 - b. Who are the main organizations/ entities interested in/working on addressing this health issue?
 - c. For interviewees working at health centers
 - I. Who is visiting the health centers?
 - II. What health and nutrition services are being provided by your health center to Syrian refugee families?
6. What are success stories for managing and preventing stunting among Syrian refugee children you can tell us about?
7. In your opinion, what are key priority actions/ interventions to manage and prevent child stunting among Syrian refugees residing in informal settlements in Lebanon?

Thank you

ANNEX 6: ONLINE SURVEY QUESTIONNAIRE

Stunting Among Syrian Refugee Children in Lebanon

21/04/2022, 6:35 PM

Stunting Among Syrian Refugee Children in Lebanon

You are invited to fill out the following survey as part of a study conducted by the International Orthodox Christian Charities (IOCC) in Lebanon to identify key risk factors related to poor nutrition (namely stunting) amongst Syrian refugee children (under 5 years of age) living in informal settlements in Lebanon. The aim of this exercise is to gain insight onto how best to manage and prevent stunting among Syrian refugee children and guide interventions.

The estimated time to complete the survey is approximately 15-20 minutes.

Your participation is voluntary, and you are free to withdraw at anytime without any implications. All collected information will be solely used for this assignment and will be used by relevant entities to further programming on child stunting prevention in Lebanon. We will keep your personal information confidential, and all data will be kept in a password-protected computer that is kept secure. Data access is limited to the team, and privacy will be maintained in all dissemination of activities and published and written reports resulting from this assignment.

***Required**

1. Are you interested in participating?

Mark only one oval.

- Yes Skip to question 2
 No

General Information

2. Name of agency / organisation you represent *

https://docs.google.com/forms/u/0/d/14zOc5xbhFQWdKPMNIZTf0az_4vareZpxDaNtqgmFUJ/printform

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Stunting Among Syrian Refugee Children in Lebanon

21/04/2022, 6:35 PM

3. What is the domain/sector that you/your organisation work(s) in? *

Tick all that apply.

- Health
 Nutrition
 Food Security
 Water, Sanitation, and Hygiene (WASH)
 Social Protection
 Education
 shelter
 CP, CRG, MHPSS
 Agriculture

Other: _____

4. What is your position? *

Perceptions
around risk
factors for
stunting

In this section, you will be asked about your perception around factors contributing to increased stunting amongst Syrian refugees in informal settlements in Lebanon specifically. The list of factors presented are based on the UNICEF Conceptual Framework on the Determinants of Maternal and Child Nutrition, 2020 and the WHO Conceptual Framework on Childhood Stunting: Context, Causes and Consequences. Kindly answer based on your professional opinion and/or based on available data or reports.

https://docs.google.com/forms/u/0/d/14zOc5xbhFQWdKPMNIZTf0az_4vareZpxDaNtqgmFUJ/printform

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5. Examining the potential immediate factors below, please indicate the extent to which you think these contribute to the high rates of stunting among Syrian refugee children in inform settlements in Lebanon *

Mark only one oval per row.

	Very high extent	Hight extent	Neurtral	Low extent	Very low extent
Poor diets due to inadequate food and feeding practices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inadequate care (including nutrition, health and sanitation services)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Infections and illnesses (including diarrhea and respiratory infections)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't know	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. Examining the potential underlying individual and household level factors below, please indicate the extent to which you think these contribute to the high rates of stunting among Syrian refugee children in informal settlements in Lebanon *

Mark only one oval per row.

	Very high extent	Hight extent	Neurtral	Low extent	Very low extent
Delayed initiation of breastfeeding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Non-exclusive breastfeeding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of continued breastfeeding / early cessation of breastfeeding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor complementary feeding practices (Poor quality of food, diet low in micronutrients, low dietary diversity, low energy content, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor caregiver practices (lack of responsive feeding and stimulation)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor hygiene practices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unsafe storage and preparation of food	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use of contaminated water and food	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Household food insecurity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Low caregiver awareness and education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor maternal nutrition (pre-conception, pregnancy, and lactation)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Low health service seeking behavior	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7. Examining the potential institutional and community level factors below, please indicate the extent to which you think these contribute to the high rates of stunting among Syrian refugee children in informal settlements in Lebanon *

Mark only one oval per row.

	Very large extent	Large extent	Neutral	Low extent	Very low extent
Market food price and access to food	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Availability of micronutrient rich food	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Food safety and quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poverty, income, wealth, employment, and livelihood	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Low access to healthcare services (financial or other constraints)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Low access to a safe source of drinking water	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor water and sanitation infrastructure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of social support networks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Beliefs and norms about feeding practices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. Examining the role that different sectors/systems play, in your opinion, which sector(s) play a key role in preventing stunting amongst children [please select a maximum of THREE options that you think contribute the most]

Tick all that apply.

- Health (primary health services including antenatal care and vaccination)
- Nutrition (nutrition services including awareness, micronutrient supplementation, counselling etc.)
- Food security (ensuring availability of food, utilisation, and access to food)
- WASH services
- Social protection (cash assistance and other)
- None of the above
- I don't know

Other: _____

9. In addition to the factors mentioned above, in your opinion, why is the prevalence of stunting high amongst Syrian children under five years of age in informal settlements in Lebanon? *

10. Does your organisation implement interventions that aim at improving/enhancing the health and wellbeing of Syrian refugee children residing in informal settlements in Lebanon (nutrition sensitive or nutrition specific interventions)?

Mark only one oval.

- Yes Skip to question 11
- No Skip to question 13

Programs and interventions

In this section, we would like to ask for more details around the interventions that your organisation implements in informal settlements to improve the health and nutritional wellbeing of children under five years of age.

11. Please provide a brief description of the main interventions that your organisation implements in informal settlements to improve the health and nutritional wellbeing (including Health, Nutrition, WASH, Food Security, Social Protection etc.)

Four horizontal lines for text input.

12. Please specify the geographic area(s) in which your agency implements these interventions *

Tick all that apply.

- Akkar (Aarqa)
 - Akkar (Tall Meaayan Tall Kiri)
 - Minieh-Danieh (Zouq Bhannine)
 - Zahle (Zahlé Maallaqa Aradi, Qabb Elias)
 - Zahle (Zahlé Haouch El-Oumara Aradi, Taalbaya, Saadnayel, Haouch Mandara, Barr Elias, Haouch Ghanam, Terbol Zahlé, Dalhamiyet Zahlé)
 - West Bekaa (Kamed El-Laouz)
 - West Bekaa (Ghazzé, Haouch El-Harime, Marj BG)
 - Baalbek (Haouche Barada, Qaa Jouar Maqiyé, Chaat)
 - Baalbek (Iaat, Haouch Er-Rafqa, Nabi Chit)
 - Baalbek (Aarsal)
 - Marjaayoun (Mazraat Sarada)
 - Akkar (Wadi Khaled)
 - West Bekaa (Mashghara), Zahle (Faour), Borth Baalbek (Masharii El Qaa)
 - National
 - Akkar
 - south
 - Beirut
- Other: _____

Recommendations

13. In your opinion, what are two priority actions that are needed to address and prevent child stunting among Syrian refugee children living in informal settlements in Lebanon? *

Four horizontal lines for text input.

14. Any other comments? *

Four horizontal lines for text input.

Thank you for your participation

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ANNEX 7: INDIVIDUAL AND HOUSEHOLD LEVEL FACTORS & STUNTING

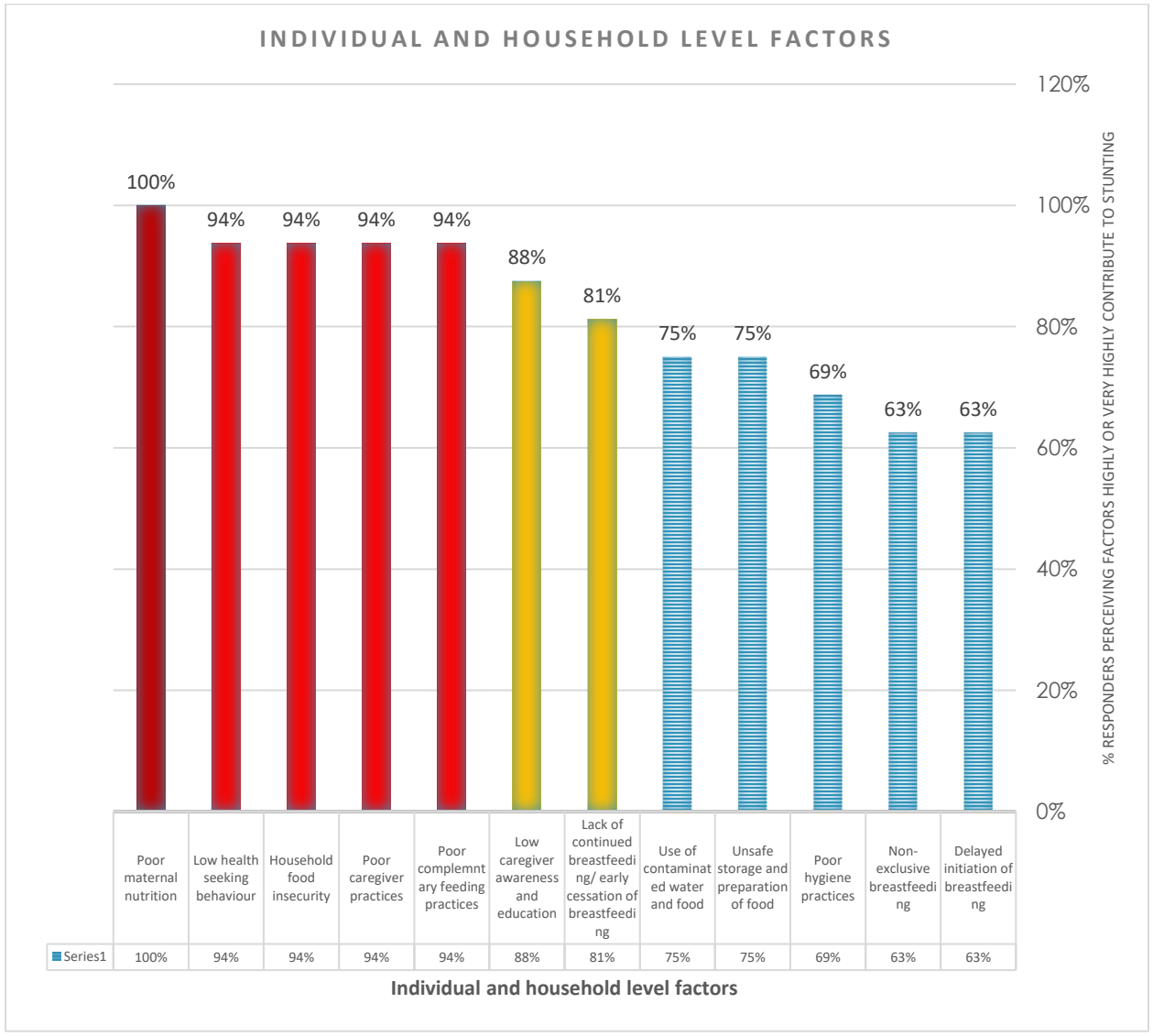


Figure 1: Percentage survey responders who thought these factors contributed to stunting to a high and very high extent

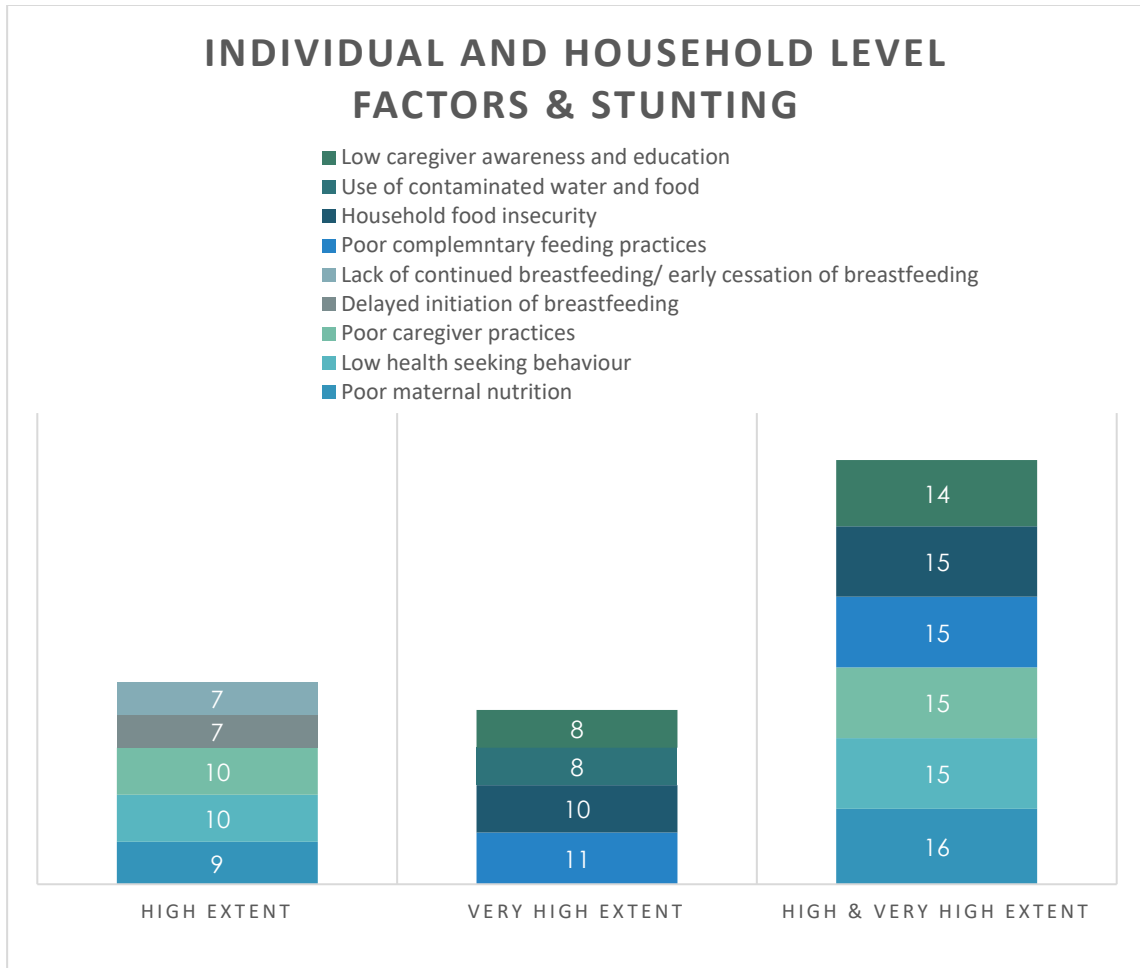


Figure 2: Number of survey respondents who thought these factors contributed to stunting

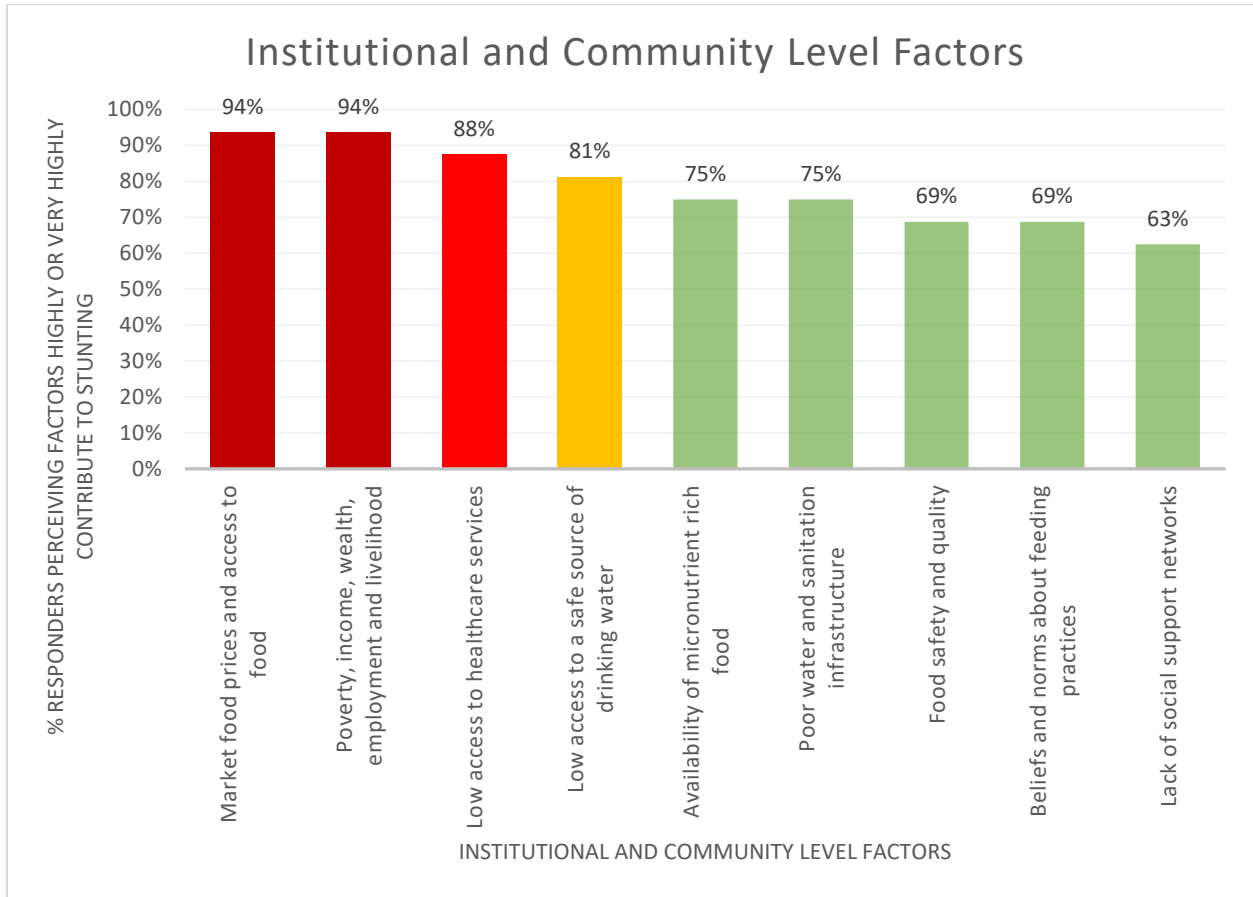


Figure 1: Percentage survey responders who thought these factors contributed to stunting to a high and very high extent

INSTITUTIONAL AND COMMUNITY LEVEL FACTORS & STUNTING

- Low access to a safe source of drinking water
- Availability of micronutrient rich food
- Lack of social support networks
- Beliefs and norms about feeding practices
- Low access to healthcare services
- Market food prices and access to food
- Poverty, income, wealth, employment and livelihood

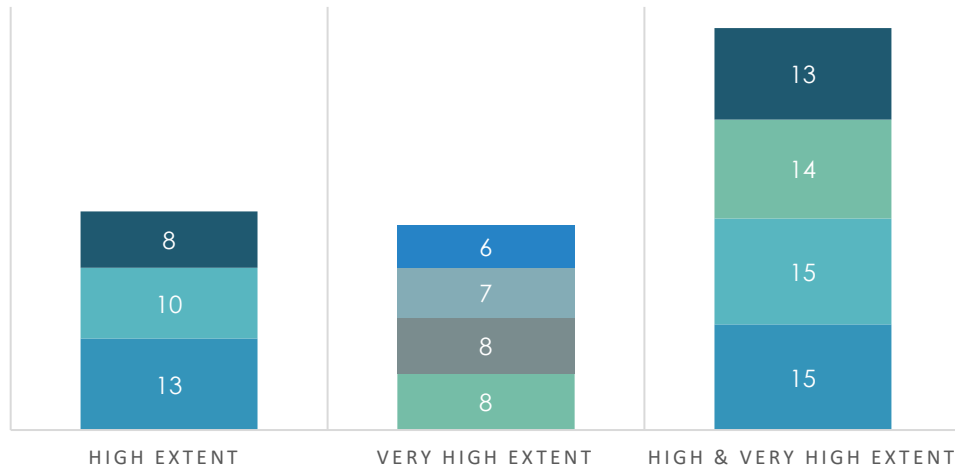


Figure 2: Number of survey respondents who thought these factors contributed to stunting

ABOUT INTERNATIONAL ORTHODOX CHRISTIAN CHARITIES

IOCC was established in 1992 and is the official humanitarian organization of the Assembly of Canonical Orthodox Bishops of the United States. IOCC provides emergency relief and development assistance to those in need worldwide, without discrimination, and strengthens the capacity of the Orthodox Church and local NGO and community partners. Its global operations are managed from its headquarters in Baltimore, Maryland, in the United States, with field offices in Eastern Europe, the Middle East, East Africa, and the Midwest United States. Since its founding, IOCC has distributed more than \$771 million worth of aid in over 60 countries around the world, and has extensive experience implementing programs in partnership with United States government agencies (USAID, BHA, PRM) and the United Nations (UNICEF, WFP, UNHCR, OCHA), as well as with European and international donors

IOCC's work in Lebanon began in 2001 with programs to address the needs of Lebanese affected by socioeconomic instability after the civil war. With the onset of the Syria crisis in 2011, IOCC's work expanded to include responding to the influx of Syrian refugees. With funding from the UN agencies and European donors, IOCC now operates throughout Lebanon with staff based in the main office in Beirut and a field office outside of Tripoli, to address humanitarian needs across the sectors of health, nutrition, IYCF, education, food security, and WASH.

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