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Overview of the Complementary Feeding and Diets of Young Children in Europe and Central Asia REGION

RECOMMENDATIONS FOR ACCELERATING PROGRESS IN SIX CORE COUNTRIES

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October 2020

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Acknowledgement

The review was conceptualized and supervised by Amirhossein Yarparvar the Regional Health and Nutrition Specialist for UNICEF Regional Office for Europe and Central Asia, and it was undertaken by Doctor Justine A. Kavle as the chief consultant from George Washington University (GWU) Milken Institute School of Public Health and in collaboration with health and nutrition focal points in UNICEF offices in Europe and Central Asia (ECA) region. We greatly appreciate the support of UNICEF ECARO and the engaged country Offices as well as UNICEF HQ, for their support and contributions and those who also supported the work and provided valuable comments and suggestions for improvement, including Basil Rodriques, the Health Advisor for UNICEF Regional Office for Europe and Central Asia and Aashima Garg and Jessica White the Nutrition Specialists from UNICEF HQ). Special thanks to Kingdom of Netherlands for their generous contribution.



Acronyms

BiH	Bosnia and Herzegovina
BMS	Breast milk substitute
CACF	Commercially available complementary food
ECAR	Eastern Europe and Central Asia
IYCF	Infant and young child feeding
MAD	Minimum acceptable diet
MDD	Minimum dietary diversity
MMF	Minimum meal frequency
SDG	Sustainable Development Goal
SOWC	State of World's Children (UNICEF)
WASH	Water and Sanitation
WHO	World Health Organization



FOREWORD

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Foreword

Every child has the right to adequate nutrition - an investment in the future of children and nations. Nutritious diets fuel children's growth, drive brain development, strengthen learning potential, enhance productivity in adulthood and pave the way to more sustainable and prosperous societies.

During the first six months of life, exclusive breastfeeding, and between the ages of 6 and 23 months, optimum complementary feeding practices should provide children with the essential nutrients, vitamins, and minerals they need to grow and thrive. The complementary feeding period is also a critical opportunity to prevent all forms of childhood malnutrition, including stunting, wasting, micronutrient deficiencies, overweight, obesity, and diet-related non-communicable diseases. In addition, lifelong food preferences, tastes, and habits are often established during this period.

Yet, in nearly every part of the world, including Europe and Central Asia, families face numerous barriers to providing nutritious, safe, affordable, and sustainable diets to their young children. As a result, we are witnessing stagnation in the multiple-burden of malnutrition in all regions. In such a context, health, food, social protection, and water, and sanitation can play a significant role to offer healthier diets to young children,

In ECA region, still, more than 10 percent of the children are stunted in their early years. In several countries, more than 25% of children are affected by anemia. The region is also home to over 2.5 million children who are overweight and obese. This triple-burden of malnutrition starts during the early years of life and gets deteriorated during the second decade of life. This picture could be related to relatively poor breastfeeding and complementary feeding practices in ECA.

Young children and their caregivers are increasingly exposed to foods with low nutritious value, including commercial baby foods and processed foods high in added sugar, salt, and saturated and trans fats that are inexpensive, ubiquitous, and easy to feed to young children. Accelerating progress to improve the quality of complementary foods and feeding practices for young children is therefore critical.

Hence, UNICEF ECARO has prioritized support to countries in the region to accelerate interventions aiming to improve the diets of young children that will reduce risks of multiple-burden of malnutrition (stunting and obesity) in early years. This Regional landscape analysis that has shed light on trends and predictors of young children's diets in our region is indeed a cornerstone of our joint endeavor where governmental partners will be provided with critical evidence-based and knowledge-informed policy recommendations.

We hope that this analysis will assist our partners and country offices across the region to put in place evidenceinformed advocacy, policy, and programming towards improving the nutritional wellbeing of young children, to ensure all children everywhere and all the time reach their full potential.



Afshan Khan
Regional Director
UNICEF Regional Office for Europe & Central Asia





EXECUTIVE SUMMARY

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Introduction

According to the 2020 *The State of Food Security and Nutrition in the World* report, the Central Asia region reported reductions in child stunting from 14.9% to 9.9%., a slight reduction in child overweight, 7.3 to 6.2% and substantial increases in exclusive breastfeeding (i.e. 29.2 to 44.8%) during this period, yet, in the Eastern Europe and Central Asia (ECAR) region ,overweight affects a significant proportion of children (~ 11-17%) under five in focus countries (with the exception of Tajikistan), which exceeds World Health Assembly targets of 5%. This is particularly troubling, considering adult obesity is rising (15.6% to 17.7% from 2012 to 2016) in the ECAR region. Moreover, stunting affects 6.0 – 17.5% of children under five years of age in these countries.[3]

Optimal complementary feeding practices, as part of infant and young child feeding (IYCF), is critical to child growth and development and the prevention of micronutrient deficiencies and all forms of child malnutrition (i.e. wasting, stunting, overweight, and obesity). Complementary feeding is defined by WHO as the "*process when breastmilk alone is no longer sufficient to meet the nutritional requirements and other foods and liquids are needed alongside breastmilk, from 6/24 months of age*". Inadequate quality and/or quantity of first foods, poor feeding practices and increased rates of infection have been associated with declines in child height-for-age or length-for-age in most countries. Moreover, while interventions on complementary feeding have largely focused on undernutrition, the increasing importance of child overweight in relation to processed and/or excess food consumption are key to understanding suboptimal complementary feeding practices and food environments.

Objectives

This landscape analyses examines policies and programs, barriers, drivers and enabling factors on young children's diets in ECAR region. The analyses provides key recommendations and actions to improve complementary feeding for the region.

The objectives of this landscape analyses are:

- To provide an in-depth understanding of facilitating factors and barriers to complementary feeding in UNICEF's Eastern Europe and Central Asia Region (UNICEF ECAR)
- To generate policy recommendations for improving young children' diets

Methods The landscape analyses was framed around the 2020 UNICEF programming guidance to *Improve the Diets of Young Children During the Complementary Feeding Period,* and the findings were organized around five key actions as highlighted in the UNICEF SOWC[i] report, to reduce malnutrition and improve children's diets:

- Empower families, children and young people to demand nutritious food.
- Drive food suppliers to do the right thing for children.
- Build healthy food environments for all children.
- Collect, analyze and use good-quality data and evidence regularly to guide action and track progress.
- Mobilize supportive systems – health, water and sanitation, education and social protection – to scale up nutrition results for all children.

The methodology included the following components 1) literature and policy review of both peer-reviewed articles, grey literature and country documents, 2) descriptive analyses of national level survey data (i.e. Demographic Health Surveys, Multiple Indicator Cluster Surveys) for all countries in the region are presented - with the exception of infant feeding patterns (six focus countries) and trends in complementary feeding (two of six focus countries), and 3) qualitative in-depth interviews with key informants from six focus countries in region. The six focus countries were chosen as representative of the ECAR region, and were categorized in the following sub-regions: *Balkan* (i.e. BiH and Serbia), *Caucasus* (Armenia and Georgia) and *Central Asia* (Kazakhstan, Tajikistan) countries.

[i] The State of the World's Children 2019. Children, Food and Nutrition: Growing well in a changing world. UNICEF, New York.

Key findings

Availability. Was not viewed as a hinderance to adequate diets of young children during the period of complementary feeding in Balkans and Caucasus countries, according to information collected from key informant interviews. In Central Asia, complementary feeding practices are hindered by seasonal fluctuations in agriculture and incomes, inadequately diverse agricultural production and diets, dependence on imported foods and their price fluctuations, climate change risks and insufficient availability of nutritious foods. In Central Asia, processed, energy-dense food is increasingly available in urban areas, through street and market vendors, which threatens to disrupt availability of nutrient-rich foods consumed by families, and subsequently fed to young children.

Access. In Balkan and Caucasus countries, access to adequate foods was not seen to affect young children's diet, yet, access was described as an issue for the most vulnerable segments of the population (i.e. poorest). In Central Asian countries, while stakeholders also voiced that access to food was not of concern in urban and rural areas, seasonal availability of certain food items (i.e. fruits and vegetables) were seen to affect dietary intake.

Affordability. Cost is not viewed as a major prohibitive influence on young children's diets in the region, according to stakeholders, yet data from the literature review provides further insight on affordability in the ECAR region. In Balkan countries, views on affordability of food varies, some families may perceive that processed foods are expensive while others may view certain foods as cheap (i.e. biscuits). In Central Asian countries, cost can be a prohibitive factor for increasing intake of nutrient-rich foods, according to data extracted from the literature review.. Yet, two thirds of respondents named foods their household could not routinely afford (most commonly meat, followed by fruits and vegetables). Given male members of households often work abroad, in their absence women, as heads of households work in agricultural activities to supplement income from overseas remittances.

Convenience and processed foods. In Balkan countries, convenience, lack of time for food preparation, and parents' lack of knowledge of *healthy* foods are key drivers of food choice, especially feeding processed foods to young children, according to stakeholders' experiences. In Caucasus countries, while processed food is available in markets, parents prefer to prepare local homemade foods for their children due to high cost.

Food quality and safety. In Balkan countries, complementary feeding guidance is primarily about the *do's and don'ts* of consumption of certain foods, which are dictated by concerns around development of child allergies and allergic reactions to foods, preservatives, and use of pesticides and concerns around food safety. In Central Asian countries, high levels of trans fatty acids (TFA), are present in processed foods, such as cookies, pastries, fast food, savory snacks and margarines found in common homemade and industrial foods and are widely consumed by the population.

Availability, affordability, quality and use of health and nutrition services. In the ECAR region, counselling on complementary feeding was weak for several reasons, based on key informant interviews with stakeholders. Countries face challenges in rolling out IYCF counseling through primary health care facilities, due to lack of time, a shortage of health providers due to migration/aging, and lack of incentives. Quality of counselling on complementary feeding is believed to be low at facility and community level.

Availability, quality and coverage of social protection services. In the ECAR region, while social protection programs exist, none of the countries have designated social protection policies specifically targeting improvement of young children's diets in households affected by food insecurity or poverty. The benefits for families with children, and use of these benefits for purchasing foods for young children was often unknown, according to key informant interviews.

Availability, quality, affordability and use of water and sanitation services. In the ECAR region, WASH was not viewed as a barrier to complementary feeding, according to interviews with stakeholders, Therefore, WASH and nutrition programming have not been prioritized nor focused upon as an issue in the ECAR focus countries. In Central Asia, some data indicate that water source and hygiene are issues. In a cross-sectional survey conducted in Kazakhstan, Central Uzbekistan and Kyrgyzstan showed that the odds of being stunted for children < 3 years of age were nearly 1.4 times higher in households without piped water compared to households with piped water. In addition, in another study in Tajikistan, water was available in nearly all households, soap was available in less than half of households and handwashing during meal preparation was not commonly observed. There was limited to no information available on role of food safety authorities and policies to improve safety of foods given to young children in the region.

Adequate Practices

Caregiver knowledge. Caregiver knowledge of good complementary feeding practices is of importance to change feeding practices/behaviors, while also considering the multiple influences of household dynamics, caregivers' time and social norms as key drivers of optimal diets of young children, according to data from the literature review and key informant interviews. In Balkan countries, early introduction of foods prior to 6 months of age, perceptions of insufficient breastmilk , and use of infant formula go hand-in-hand, which not only affects exclusive breastfeeding but also timely introduction of complementary foods and associated feeding practices. There was limited information on caregiver knowledge and adequacy of complementary feeding practices in Central Asia, based on the literature review and key informant interviews. Stakeholders relayed that the problem was mothers and families' awareness of *what* and *how* to feed children, including food preparations and recipes. There was no data from Caucasus countries.

Caregiver time. In Balkan countries, mothers may have less time, due to return to work, or may not have grandparents/family members to help with food preparation, due to changing support structures which may impact children's diets, according to data from the literature review and interviews with key informants. Screen time was also notable for young children, as relayed by stakeholders. In Central Asia, while caregiver time and household dynamics was not mentioned as a determinant of complementary feeding in Kazakhstan, in Tajikistan, women in Tajikistan have limited time to care for children, due to household chores and increasing responsibility for agricultural production, as men migrate to other countries for work. There was no data from Caucasus countries.

Social norms. Food taboos, myths & perceptions regarding specific foods strongly influence diets in the Balkan and Central Asian countries in the ECAR region due to fear of childhood allergies and food taboos, incorrect knowledge of health providers and incorrect beliefs among mothers and health providers, according to data from the literature review and key informant interviews. In Central Asia, some mothers introduce foods early before 6 months of age, and it may be a sweet food (i.e. cookie). Meat is a primary feature of the diet, as is consumption of processed foods. Restriction or elimination of taboo foods are believed to protect children's health by lessening the risk of upset stomach, foodborne illness, and delayed language acquisition in Central Asia. These food taboos can restrict the dietary diversity of foods consumed by young children. There was no data from Caucasus countries.

Enabling environment. A key weakness of the enabling environment in the ECAR region is the lack of national dietary guidelines in the six focus countries, following the review of policies and associated country documents. While multisectoral coordination is mentioned in a few policies, "*how*" to achieve this, is not delineated. Complementary feeding indicators, targets, and timeframes for achieving targets is largely absent from country policies and strategies. In this section, the enabling environment is described for the subregions and for each of the six ECAR focus countries.

Overall recommendations:

In ECA, overall key recommendations for improving young children's diets across health, food and social protection systems include:

- Develop national nutrition food-based dietary guidelines, which includes guidance on feeding processed foods to infants and young children, in relation to global standards
- Strengthen the capacity of health providers to counsel on breastfeeding and complementary feeding, including the harms of infant formula, through pre-service and/or in-service training, including physicians, midwives, nurses and nutritionists
- Update the law on protection and promotion of breastfeeding, and prohibit breastmilk substitutes, to include stricter enforcements on advertising, marketing, monitoring and enforcement of consequences for Code violations, in alignment with WHA resolution 69.9
- Develop and integrate complementary feeding indicators into routine health monitoring information systems
- Develop a social protection policies and associated interventions to improve the diets of young children, as part of efforts targeting poor and vulnerable families

Subregion recommendations:

Balkan countries

- Update policies and guidelines on complementary feeding to ensure they are harmonized and updated according to global recommendations, and address fears regarding food allergies, and food taboos
- Address human resource constraints and shortage of health providers

- Strengthen guidance on the harms, promotion and distribution of infant formula in health facilities
- Fully implement the International Code of Marketing of Breastmilk Substitutes to monitor and enforce violations for health providers/ health organizations that promote or distribute breastmilk substitutes and benefit monetarily , which will enforce WHA Resolution 69.9
- Mothers should be supported through counselling structures in hospitals, clinics and community and via Baby-Friendly Hospital Initiative throughout the country
- Enforce legislation on processed food high in fat, sugar and/or salt) for children

Caucasus countries

- Update manuals and guidelines on IYCF, including complementary feeding (which were developed in 2015), to emphasize the need for dietary diversity, reduce intake of carbohydrates, and overfeeding to prevent overweight/obesity for young children
- Address human resource constraints and shortage of health providers at the primary health care level in rural areas (i.e. funding, incentives, distribution of work for home visiting vs. outpatient clinics)
- Improve and expand awareness of optimal complementary feeding practices via mass media (TV, radio) and social media (i.e. Facebook groups) to reinforce evidence-based information for parents, grandparents and extended family members on complementary feeding practices
- Enforce legislation on advertisement /ban of sale of infant formula, as well as processed food (high in saturated and trans fats, free sugars, salt) for children.
- Revise the existing guidelines on BFHI, based on the newly released WHO BFHI guidelines and implement BFHI nation-wide in maternity health facilities, which can aid to protect and promote breastfeeding in health facilities, and aid with monitoring of Code violations
- Generate greater public awareness on breastfeeding and complementary feeding, as well as the harms of BMS, the sufficiency of breastmilk only (i.e. for the first 6 months), and consumption of processed foods for young children

Central Asia

- Minimize exclusion of smallholder farmers to markets to facilitate access of families to nutritious foods and vegetables, fruits, pulses and wholegrain foods
- Address mothers and influential family members about the "why" of a high-quality, diverse diet, including food taboos, and on "how" to economically diversify diets, as well as food storage or preservation methods to overcome seasonal scarcity
- Develop nutrition education strategies include point-of-purchase campaigns to improve availability and appeal of IYCF-friendly foods, as well as influencing other key household members through mosques, schools, and health care providers
- Assess and monitor compliance of salt and TFA levels in foods, in partnership with local food suppliers, through the national program on NCD prevention and control, as an entry point
- Adopt salt reduction targets for industrially produced foods (e.g. savory snacks, bread, drinks) for young children
- Develop legislative measures to restrict and regulate TV marketing of processed foods and drinks to young children



INTRODUCTION & BACKGROUND

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Background and Rationale

Globally, the number of undernourished people is projected to exceed 840 million, by 2030, as the world is not on track to achieve Sustainable Development Goal (SDG) 2.1 Zero Hunger[1]. The COVID-19 pandemic is expected to worsen food insecurity, with an additional ~ 83-132 million undernourished people in 2020 alone, with losses ranging from 4.9-10 percentage points in global gross domestic product (GDP) growth)[1]. Weak and stagnant economic conditions, high levels of commodity-export and commodity-import, the absence of effective social protection policies, inequalities in income distribution and resources, and reliance of communities on smallholder farmers to produce food are aspects of the food system that have been attributed to this phenomena[1]. In Central Asia, while the prevalence of undernourishment has decreased from 11.0 (2005) to 2.7 % (2019), the prevalence of moderate to severe food insecurity has increased from 8.5% in 2014 to 13.2% in 2019, which affects 9.6 million people in Central Asia[1].

According to the 2020 *The State of Food Security and Nutrition in the World* report, most regions of the world have made some progress in key nutrition indicators between 2012 – 2019.The Central Asia region reported reductions in child stunting from 14.9% to 9.9%., a slight reduction in child overweight, 7.3 to 6.2 % and substantial increases in exclusive breastfeeding (i.e. 29.2 to 44.8%) during this period[1]. Yet, in the core countries in Eastern Europe and Central Asia (ECAR) region, which are the focus of this landscape analyses, overweight affects a greater proportion of children (~ 11-17%) under five in these countries (with the exception of Tajikistan) – which exceeds World Health Assembly targets of 5%.[2] This is particularly troubling, considering adult obesity is rising (15.6% to 17.7% from 2012 to 2016 in ECAR region). Moreover, stunting affects 6.0 – 17.5% of children under five years of age in these countries.[3] This is compounded by multiple micronutrient deficiencies, such as anemia affects between 25-38% of children under five in the region[3]. Globally, analyses of 2019 UNICEF State of the World's Children (SOWC) data indicate that children are inadequately fed: the majority of young children consume grains, roots and tubers, while a low proportion of children are fed flesh foods (32%) or eggs (22%)[1].

Optimal complementary feeding practices, as part of infant and young child feeding (IYCF), is critical to child growth and development and the prevention of micronutrient deficiencies and all forms of child malnutrition (i.e. wasting, stunting, overweight, and obesity)[4,5]. Complementary feeding is defined as the "*process when breastmilk alone is no longer sufficient to meet the nutritional requirements and other foods and liquids are needed alongside breastmilk, from 6-24 months of age*"[6]. Inadequate quality and/or quantity of first foods, poor feeding practices and increased rates of infection have been associated with declines in child height-for-age or length-for-age in most countries [4]. Moreover, while interventions on complementary feeding have largely focused on undernutrition, the increasing importance of child overweight in relation to processed and/or excess food consumption are key to understanding suboptimal complementary feeding practices and food environments.

A recent WHO report on commercial foods for infants and young children in four European countries, found that Bulgaria, an ECAR country, has 2,549 commercial foods and drinks for infants and young children, which include biscuits, waters, crisps, cereals and porridges, drinks (ready to drink and powdered), fruit/vegetable purees, meat or fish-based meals, pureed desserts, yoghurt and soups[7]. These products are widely available, are often too high in saturated fats, sugars and/ or salt and may state unverified claims of nutrition or health related properties on packaging and/or labelling. Overall, between one-third to three-quarters of foods contained statements on nutritional properties and 13-35% contained at least one statement relating to health/child development, which is in direct violation of Codex guidelines. Lack of recent and/ or complete data for complementary feeding, namely minimum dietary diversity, minimum meal frequency and minimum acceptable diet indicators from the last 10 years is a key barrier in understanding current complementary feeding practices in ECAR.

This landscape analyses examines policies and programs, barriers, drivers and enabling factors on young children's diets in ECAR region. The analyses provides key recommendations and actions to improve complementary feeding for the region.

Objectives of the Landscape Analysis

The objectives of this landscape analyses are:

- To provide an in-depth understanding of facilitating factors and barriers to complementary feeding in UNICEF's Eastern Europe and Central Asia Region (UNICEF-ECAR)
- To generate policy recommendations for improving young children's diets in the region



METHODS

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Pillars of the analysis, approach and the choice of countries

The landscape analyses was framed around the 2020 UNICEF programming guidance to *Improve the Diets of Young Children During the Complementary Feeding Period,* and the findings were organized around five key actions as highlighted in the UNICEF SOWC[ii] report, to reduce malnutrition and improve children's diets:

- Empower families, children and young people to demand nutritious food.
- Drive food suppliers to do the right thing for children.
- Build healthy food environments for all children.
- Collect, analyze and use good-quality data and evidence regularly to guide action and track progress.
- Mobilize supportive systems – health, water and sanitation, education and social protection – to scale up nutrition results for all children.

The methodology included the following components 1) literature and policy review of both peer-reviewed articles, grey literature and country documents, 2) descriptive analyses of national level survey data (i.e. Demographic Health Surveys, Multiple Indicator Cluster Surveys) for all countries in the region are presented - with the exception of infant feeding patterns (six focus countries) and trends in complementary feeding (two of six focus countries), and 3) qualitative in-depth interviews with key informants from six focus countries in region. The six focus countries were chosen as representative of the ECAR region, and were categorized in the following sub-regions: *Balkan* (i.e. BiH and Serbia), *Caucasus* (Armenia and Georgia) and *Central Asia* (Kazakhstan, Tajikistan) countries. These data and information from #1-#3 above was triangulated to allow for depth and validity of findings for the nutrition situation regionally and at sub regional level. Themes between and across sub regions, in terms of similarities and differences were analyzed. In addition, where there was sufficient differences, results from the six focus countries (Armenia, Bih, Georgia, Kazakhstan, Serbia, Tajikistan) are presented.

Literature and Policy Review

A review of peer-reviewed literature, and programme and policy documents was conducted to gather background information and data on region and country-specific policies, strategies, programme implementation, monitoring and evaluation, and programme cost. The scope of the literature was focused on documents and data related to complementary feeding, including use of breastmilk substitutes (i.e. infant formula) use in children 6-23 months of age in ECA.

Search strategy and data sources

Strategies, plans, indicators (i.e. in health information systems, including IYCF counselling), targets, and allocated budget(s) across the various systems (agriculture/food, health/nutrition, social protection and WASH) pertaining to complementary feeding were examined and the extent multisectoral coordination across these various sectors was ascertained. This was inclusive of examining any multisectoral, IYCF, BCC, WASH, agriculture, social protection policies, and strategies as well as food-based dietary guidelines, with regards to complementary feeding for children 6-23 months of age, if available. The UNICEF regional office and six core country offices provided key country reports that contained information regarding the programmatic and policy context for complementary feeding in ECAR. Documents that were not in English (i.e. Armenia, Russian, Turkish, etc.), were translated into English, with the aid of UNICEF country offices. Eligible literature regarding programmatic and policy context for complementary feeding in ECAR (e.g. programs and policies regarding strategies, implementation, monitoring, legal and trade environment for complementary foods, cost studies and value chain data of key complementary foods, any efficacy and effectiveness intervention trials and program data on complementary feeding) were searched within the below databases.

[ii] The State of the World's Children 2019. Children, Food and Nutrition: Growing well in a changing world. UNICEF, New York.

The following databases were used in the literature searches:

- Web of Science (especially for grey literature)
- PubMed (peer-reviewed literature)
- Cochrane Library and Cochrane Reviews
- Scopus, included Medline (especially for the peer reviewed literature)
- PAIS Index (especially for policy papers)
- Policy File Index (especially for policy papers)
- Global health

The literature search was restricted to human studies, among children 6-23 months of age, from January 2010 – to date. A combination of relevant search terms (medical subject heading or MeSH terms; and keywords) to find articles/reports on the programmatic and policy context for complementary feeding in ECAR included:

"complementary feeding"	"infant diets"
"complementary feedings"	"Eastern Europe"
"complementary foods"	"Central Asia"
"Infant food"	"Tajikistan"
"infant feeding"	"Kazakhstan"
"child feeding"	"Georgia"
"feeding behavior"	"Bosnia and Herzegovina"
"nutrient intake"	"BiH"
"infant nutrition"	"Bosnia"
"child nutrition"	"Armenia"
"children's diets"	"Serbia"

The above search terms returned the broadest results which were narrowed down with the addition of the following search terms (using the combination of "AND" and "OR" words):

"Access"	"Effectiveness"
"Services"	"Cost"
"Delivery of Health Care"	"Cost-effectiveness"
"Health Services Administration"	"Barrier" "Facilitator"
"Efficacy"	"Program"
"Outcome Assessment"	"Policy"
"Treatment Outcome"	

We retrieved 1029 articles, obtained 181 articles and based on initial screening by abstracts, and 72 based on screening by full text. Of these, 22 articles were included in the final selection of articles for the landscape analyses.

Descriptive analyses of Key IYCF indicators

The descriptive analyses featured the regional and country complementary feeding indicators from DHS/MICs and associated definitions, extracted from UNICEF Global Databases on IYCF , updated in 2019, (https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding).The descriptive analyses included the following indicators: infant feeding patterns < 6 months of age (breastmilk and non-milk liquids, breastmilk and other milk/formula, breastmilk and complementary foods) – to ascertain extent and type of early introduction of foods prior to 6 months of age, introduction of solid, semi-solid and soft foods, continued breastfeeding at 12-23 months of age, 1 year and 2 years, minimum dietary diversity (MDD), minimum meal frequency (MFF), minimum acceptable diet (MAD). For these descriptive analysis, we presented on data from all countries in the UNICEF ECAR region with available data for breastfeeding and complementary feeding indicators, with countries grouped by subregions (i.e. Balkans, Caucasus, and Central Asia). For infant feeding patterns, data are presented for the six focus countries. In addition, trends in complementary feeding were presented for focus countries with available data (i.e. two of six focus countries), which were contextualized alongside data on child nutritional status (i.e. overweight, stunting).

IYCF Indicators in ECAR region

The following table describes breastfeeding, complementary feeding and infant feeding pattern indicators, which were the focus of this descriptive analyses. It should be noted that in the ECAR region there are large gaps in survey data for complementary feeding indicators. There is no available data for: introduction of complementary foods at 6-8 months in 4 countries, MMF in 8 countries, MDD in 11 countries and MAD in 13 countries (see figures in the findings section, for further information and details).

TABLE 1 IYCF indicator definitions, according to WHO/UNICEF

Indicator Name	Indicator Definition, according to WHO/UNICEF
Early initiation of Breastfeeding	Percentage of newborns put to the breast within one hour of birth
Exclusive Breastfeeding, 0-5 months of age	Percentage of infants 0–5 months of age who are fed exclusively with breast milk
Introduction of solid, semi-solid or soft foods 6-8 months	Percentage of infants 6–8 months of age who receive solid, semi-solid or soft foods
Minimum Meal Frequency (MMF)	Percentage of children 6-23 months of age who received a minimum meal frequency Numerator: • Number of breastfed children 6–23 months of age who received solid, semi-solid or soft foods the minimum number of times or more during the previous day AND the number of non-breastfed children 6–23 months of age who received solid, semi-solid or soft foods or milk feeds the minimum number of times or more during the previous day. • Minimum is defined as: 2 times solid, semi-solid or soft foods for breastfed infants 6–8 months of age; 3 times solid, semi-solid or soft foods for breastfed children 9–23 months of age; and 4 times solid, semi-solid or soft foods and/or milk feeds for non-breastfed children 6–23 months of age. Denominator: • Breastfed children aged 6-23 months AND Non-breastfed children aged 6-23 months
Minimum Dietary Diversity (MDD) 6-23 months	Percentage of children 6-23 months of age who received a minimum diet diversity Numerator: • Number of children 6-23 months of age who received foods from ≥ 5 (out of 8) food groups1 during the previous day • The eight food groups are: (i) breastmilk; (ii) grains, roots and tubers; (iii) legumes and nuts; (iv) dairy products (infant formula, milk, yogurt, cheese); (v) flesh foods (meat, fish, poultry and liver/organ meats); (vi) eggs; (vii) vitamin-A rich fruits and vegetables; (viii) other fruits and vegetables. Denominator: • Children 6-23 months of age.
Minimum Acceptable Diet (MAD) 6-23 months	Percentage of children 6-23 months of age who received a minimum acceptable diet Numerator: • Breastfed children 6-23 months of age who had at least the minimum dietary diversity and the minimum meal frequency during the previous day AND Non-breastfed children 6-23 months of age who received at least two milk feedings and had at least the minimum dietary diversity not including milk feeds and the minimum meal frequency during the previous day Denominator: • Breastfed children aged 6-23 months AND Non-breastfed children aged 6-23 months
Continued Breastfeeding at 1 year 12-15 months	Percentage of children 12–15 months of age who are fed breast milk
Continued Breastfeeding at 2 years 20-23 months	Percentage of children 20-23 months of age who are fed breast milk

Indicator Name	Indicator Definition, according to WHO/UNICEF
	Infant Feeding Patterns
Breastmilk only, 0-5 months	Percentage of infants 0-5 months of age who received only breastmilk. (Children that were only fed breast milk in the 24 hours before the survey. These infants would not have received water-based liquids, milk based-liquids or food)
Breastmilk and plain water, 0-5 months	Percentage of infants 0-5 months of age who received breastmilk and plain water
Breastmilk and non-milk liquids, 0-5 months	Percentage of infants 0-5 months of age who received breastmilk and non-milk liquids. (Children that were fed breast milk plus plain water in the 24 hours before the survey)
Breastmilk and other milks/formula, 0-5 months	Percentage of infants 0-5 months of age who received breastmilk and formula/other milk. • Children fed breast milk plus non milk liquids (e.g. juice, herbal tea, sweetened water, flavored water, etc.) in the 24 hours before the survey. Children in this category may also have been fed plain water.
Breastmilk and complementary foods, 0-5 months	Percentage of infants 0-5 months of age who received breastmilk and solid, semi-solid or soft foods • Children fed breast milk plus formula and/or other milk (e.g. infant formula, liquid milk, canned milk, powdered milk, etc.) in the 24 hours before the survey. Children in this category may also have been fed plain water and/or non-milk liquids. • Children fed breast milk plus solid, semi-solid or soft food from any food group in the 24 hours before the survey. This may include grains, meat, eggs, fruits, vegetables, etc. Children in this category may also have been fed plain water, non-milk liquids and/or other milks/infant formula.

Qualitative data collection and analysis

To contextualize findings stemming from the literature and policy review, the qualitative component had a multi-sectoral perspective, based on the 2020 *UNICEF Action Framework to Improve the Diets of Young Children During the Complementary Feeding Period*[iii] framework and *Core Components of Situation Analysis for Complementary Feeding programming* . Using this lens, key informant interviews were conducted with country stakeholders on the following inter-related systems, pertaining to determinants (adequate foods, services and practices) of good diets for young children:

1. Agriculture/food system
2. Health/nutrition system
3. WASH system
4. Social protection system

[iii] United Nations Children's Fund (UNICEF). Improving Young Children's Diets During the Complementary Feeding Period. UNICEF Programming Guidance. UNICEF, 2020.

Qualitative data collection include two components: 1) key informant interviews (see Appendix 1 for interview guide) and 2) review of a few commercially available complementary foods, and local recipes for complementary foods from the ECAR focus countries (see Appendix 2 for checklist for recipes).

Qualitative interviews with diverse stakeholders in 6 ECAR countries

The UNICEF-ECAR regional office and selected country offices worked with Dr. Kavle in identifying and recruiting key informants. The key informants were purposefully sampled and represented individuals who could speak about complementary feeding through their country perspectives in the 6 ECAR core countries. To ensure a systems-lens, key informants included professionals working across various sectors (e.g. agriculture/ food, health/nutrition, WASH, social protection) from government, civil society, program/project implementers, multi-lateral organizations. In-depth interviews were conducted remotely using Zoom in English or with real-time translation from local language to English.

Interviews were guided by an in-depth interview guide (see Appendix 1) - developed in conjunction with UNICEF HQ and ECAR and based on results from the descriptive analyses, and grounded in the systems framework. Interviews were recorded and detailed notes were taken during interviews taken. Themes and subthemes were identified and interpreted, and reported with key quotes.

Qualitative review of nutrient content of commercially available complementary foods (CACFs) and local recipes

The nutritional content of complementary foods from focus countries were provided by UNICEF country offices, which included 1-2 common traditional recipes for complementary feeding (i.e. salt, fat, sugar, amount of time to prepare) per country and samples of commonly purchased CACFs, according to checklists (provided in Appendix 2). An analyses of the nutrient content were assessed through application of the WHO nutrient profile model, developed by the WHO Regional office for Europe.

TABLE 2 Number of key informant interviews, by ECAR and sector

Country	Number of Key Informant Interviews	Sector
Armenia	2	2 - health
BiH	3	2 - health 1 - social protection
Georgia	4	2- health 1 - social protection 1 - WASH
Kazakhstan	2	2- health
Serbia	2	2 – health, social protection information provided by health sector
Tajikistan	2	2 - health
Total	15	



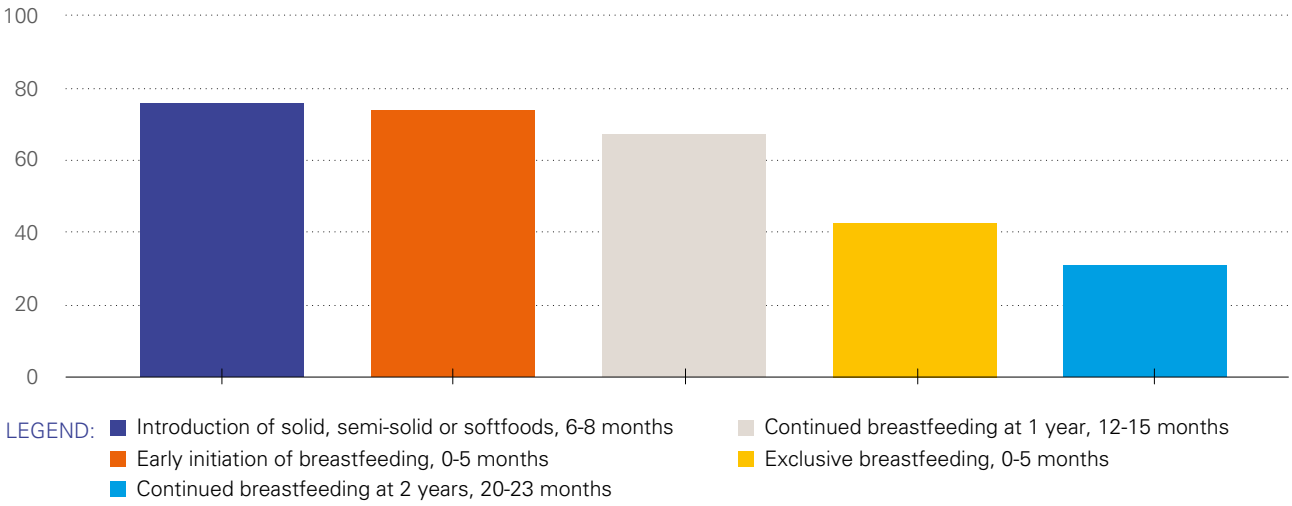
FINDINGS

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Status of key complementary feeding indicators

Regional estimates of IYCF indicators shown in Figure 1, reveal that rates of timely introduction of solid, semi solid and soft foods at 6-8 months and early initiation of breastfeeding was 75%. Yet, rates of exclusive breastfeeding were much lower at 42% and continued breastfeeding at 2 years is 31%. Regional estimates of key complementary feeding indicators (minimum meal frequency, 6-23 months, minimum dietary diversity, 6-23 months, minimum acceptable diet, 6-23 months, and infant feeding patterns [i.e. note below]) are not available for the ECAR region.

FIGURE 1 Regional IYCF indicators, ECAR region, 2013-2019



Source: Data is from the latest MICS and DHS surveys, from the UNICEF database: https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding/.

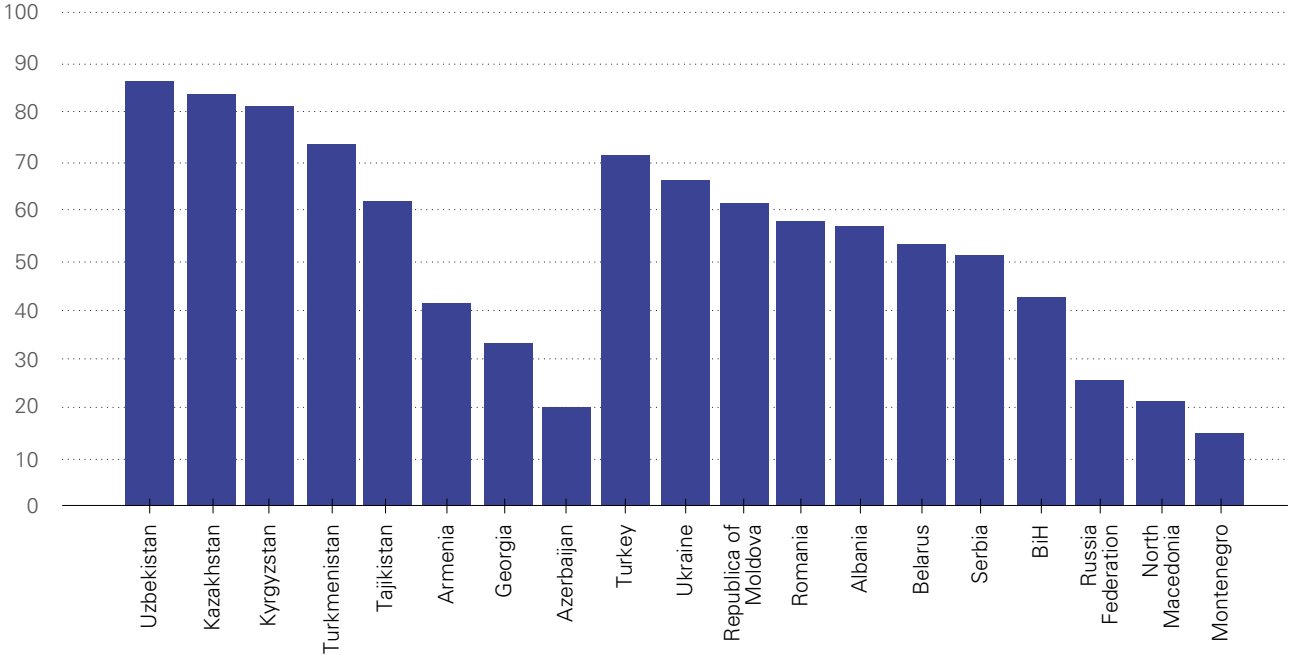
Note: No reported regional data for complementary feeding and infant feeding patterns: breastmilk only 0-5 months, breastmilk and plain water 0-5 months, breastmilk and non-milk liquids 0-5 months, breastmilk and other milks / formula 0-5 months, breastmilk and complementary foods 0-5 months, no breastmilk, 0-5 months. IYCF indicator data, Early initiation breastfeeding, 0-5 months, 2014-2019, Exclusive breastfeeding, 0-5 months, 2014-2018, Introduction of solid 2013-2018, Continued Breastfeeding at 1 year, 12-15 months, 2014-2019, Continued Breastfeeding at 2 years, 20-23 months, 2014-2019.*Note: No reported sample size for all indicators, at regional level.

The following graphs display IYCF indicators by region and color(s): Central Asian countries (blue colors), Caucasus countries (orange colors) and Central and Eastern Europe countries (green, grey and purple colors).

The regional estimate of early initiation of breastfeeding was 74%. Yet, early initiation of breastfeeding (i.e. within the first hour of childbirth) ranged widely in the ECAR region, from 14.4% (Montenegro) to 86.1% (Uzbekistan). The data reveal that the majority (12 of 19) countries reported that 50%+ of women initiated breastfeeding within the first hour.

In the ECAR region, 42% of children are exclusively breastfed within the first 6 months of life. The proportion of children 0-5 months of age exclusively breastfed in the region ranged from 12.1% (Azerbaijan) to 58.3% (Turkmenistan). Three countries had no reported data on exclusive breastfeeding.

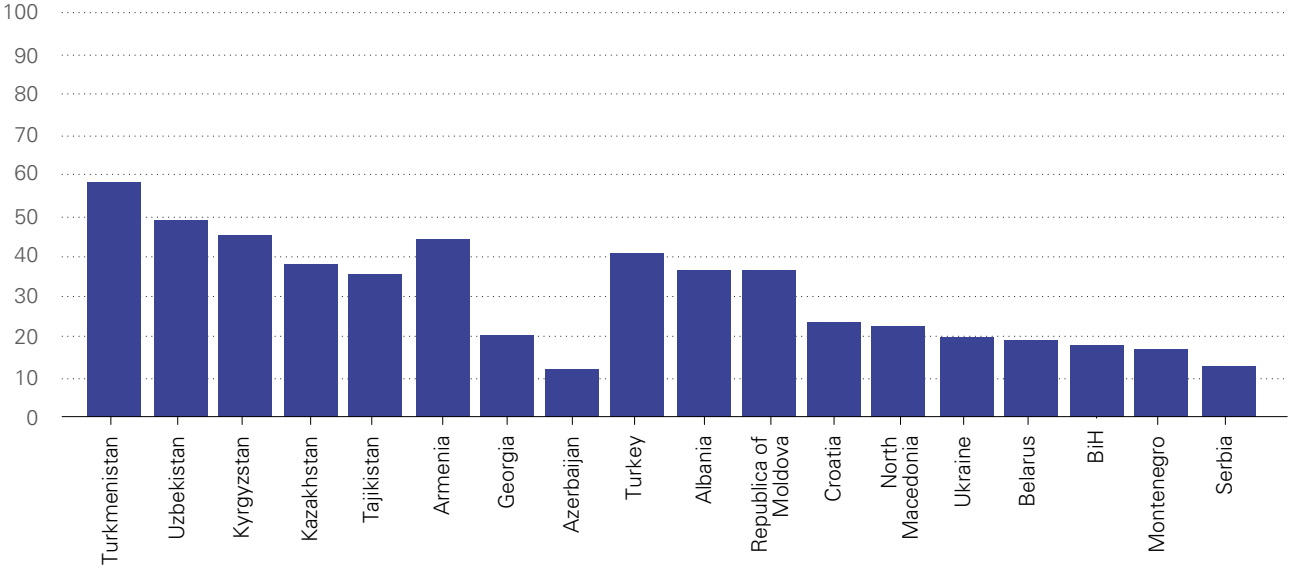
FIGURE 2 Percentage of infants put to the breast within the first hour of childbirth (early Initiation of breastfeeding (BF)), 2011-2018



Source: Data is from the most recent MICS and DHS survey, from the UNICEF database: https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding/

Note: Country data and sample size (n), Uzbekistan 2017 (n=939), Kazakhstan 2015 (n=2157), Kyrgyzstan 2018 (n=1349), Turkmenistan 2015 (n=1476), Ukraine 2012 (n=707), Tajikistan 2017 (n=2481), Republic of Moldova 2012 (n=750), Albania 2017 (n=1035), Belarus 2012 (n=730), Serbia 2014 (n=384), Bosnia and Herzegovina 2011 (n=298), Armenia 2015 (n=666), Georgia 2018 (n=900), North Macedonia 2011 (n=362), Montenegro 2013 (n=328).*Note: No reported sample size for Turkey, Romania, Russian Federation and Azerbaijan.

FIGURE 3 Percentage of infants, 0-5 months of age, exclusively breastfeeding, by ECAR country (n=18), 2011-2018

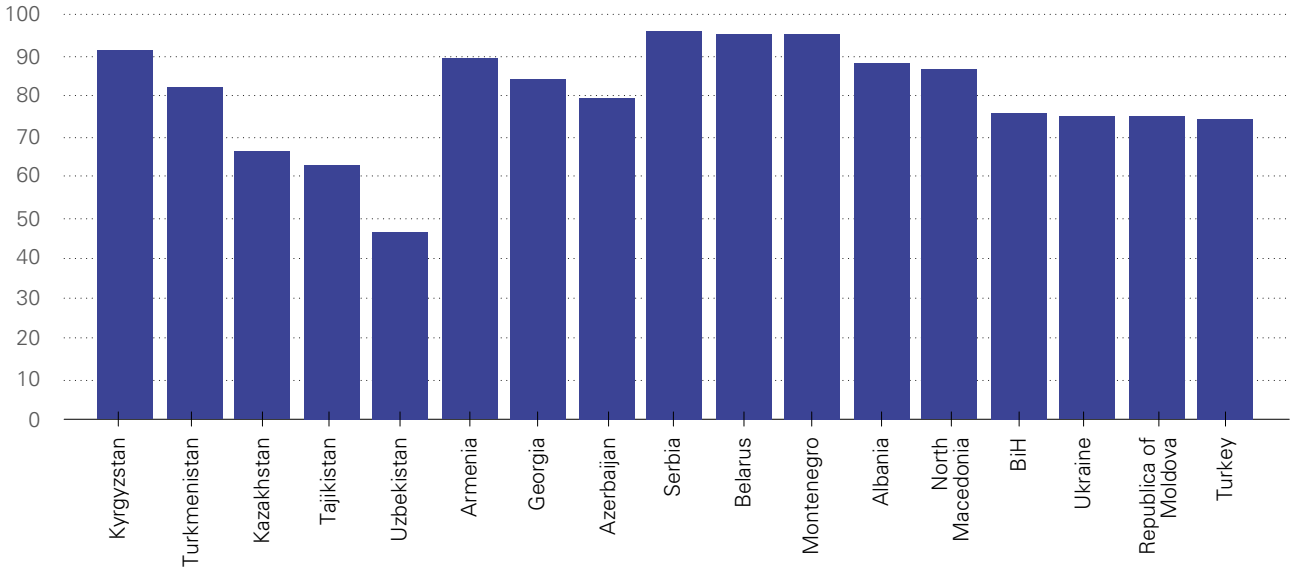


Source: Data is from the most recent MICS and DHS survey, from the UNICEF database: https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding/

Note: No reported data for Bulgaria and Russian Federation and Croatia. Ccountry data and sample size (n) , Turkmenistan 2015 (n= 343), Uzbekistan 2017 (n=247) Kyrgyzstan 2018 (n=382), Armenia 2015 (n=172), Kazakhstan 2015 (n=531), Albania 2017 (n=284), Republic of Moldova 2012 (n=179), Tajikistan 2017 (n=588), North Macedonia 2011 (n=114), Georgia 2018 (n=239), Ukraine 2012 (n=358) Belarus 2012 (n=288) Bosnia and Herzegovina 2011 (n=236) Montenegro 2013 (n=121), Serbia 2014) (n=321).*Note: No reported sample size for Turkey, Romania and Azerbaijan.

In ECAR region, timely introduction of complementary foods is 75%. Across ECAR countries, the introduction of solid, semi-solid or soft foods from 6-8 months of age ranged from 46.6% (Uzbekistan) to 96.6% (Serbia). The data reveal that in the vast majority of EECAR countries greater than three-fourths of children were introduced a solid, semi solid or soft foods, at the right time, from 6-8 months of age, with the exception of Kazakhstan (66.5%), Tajikistan (63.1%), and Uzbekistan (46.6).

FIGURE 4 Percentage of infants, 6-8 months of age, fed solid, semi-solid or soft foods in ECAR, by country, 2012-2018

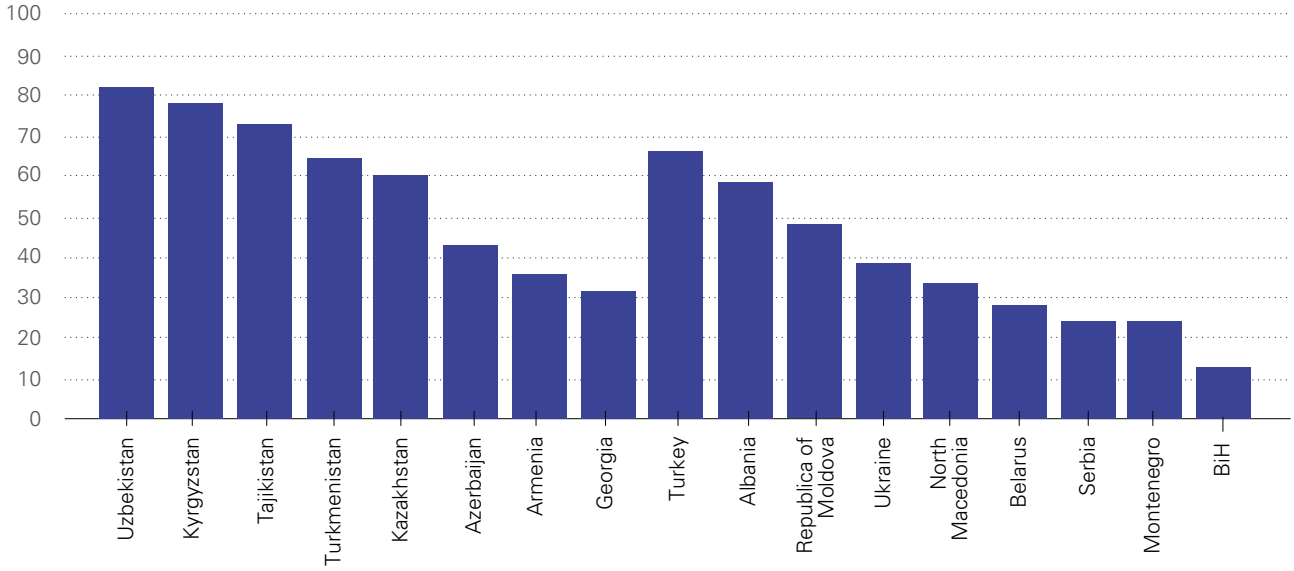


Source: Data is from the most recent MICS and DHS survey, from the UNICEF database: https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding/

Note: No reported data for Bulgaria, Croatia, Romania, Russian Federation. Country data and sample size (n), Serbia 2014 (n=139), Belarus 2012 (n=197), Montenegro 2013 (n=56), Kyrgyzstan 2018 (n=172), Armenia 2015 (n=86), Albania 2017 (n=112), North Macedonia 2011 (n=63), Georgia 2009 (n=124), Turkmenistan 2015 (n=185), Bosnia and Herzegovina 2012 (n=102), Ukraine 2012 (n=213), Republic of Moldova 2012 (n=111), Turkey 2013 (n=not reported) Kazakhstan 2015 (n=231), Tajikistan 2017 (n=307), Uzbekistan 2006 (n=273).*Note: No reported sample size for Azerbaijan and Turkey.

Continued breastfeeding at 1 year (12-15 months) ranged widely from 12.4% (Bosnia and Herzegovina) to 81.8% (Uzbekistan). Kyrgyzstan, Tajikistan and Turkey reported higher proportions of continued breastfeeding at 1 year of 77.4%, 72.2% and 65.6% respectively. Belarus, Serbia and Montenegro were at the lower end of the range, at 27.9%, 24.6% and 23.9% respectively.

FIGURE 5 Percentage of infants, continued breastfeeding at 1 year (i.e. 12-15 months) in ECAR, by country (n=17), 2012-2018

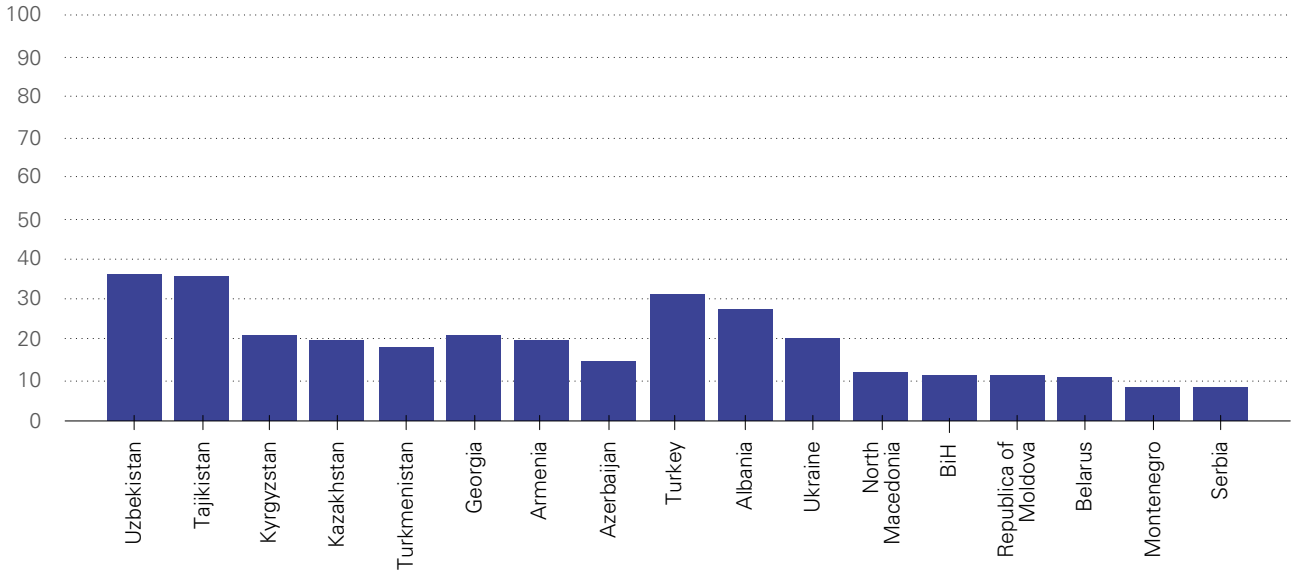


Source: Data is from the latest MICS and DHS surveys, from the UNICEF database: https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding/

Note: Country data and sample size (n), Bulgaria, Croatia, Romania, Russian Federation, Uzbekistan 2017 (n=183), Kyrgyzstan 2018 (n=220), Tajikistan 2017 (n=436), Turkmenistan 2015 (n=268), Kazakhstan 2015 (n=375), Albania 2017 (n=175), Republic of Moldova 2012 (n=120), Ukraine 2012 (n=305), Armenia 2015 (n=109), North Macedonia 2011 (N=104), Georgia 2018 (n=160), Belarus 2012 (n=214), Serbia 2014 (n=128), Montenegro 2013 (n=84), Bosnia and Herzegovina 2011 (n=148). *Note: No reported sample size reported for Turkey and Azerbaijan.

Continued breastfeeding at 2 years was low in most ECAR countries, and ranged from 8.9% (Serbia) to 38.8% (Uzbekistan).

FIGURE 6 Percentage of infants, continued breastfeeding at 2 years (20-23 months), by ECAR country, (n=17), 2011-2018

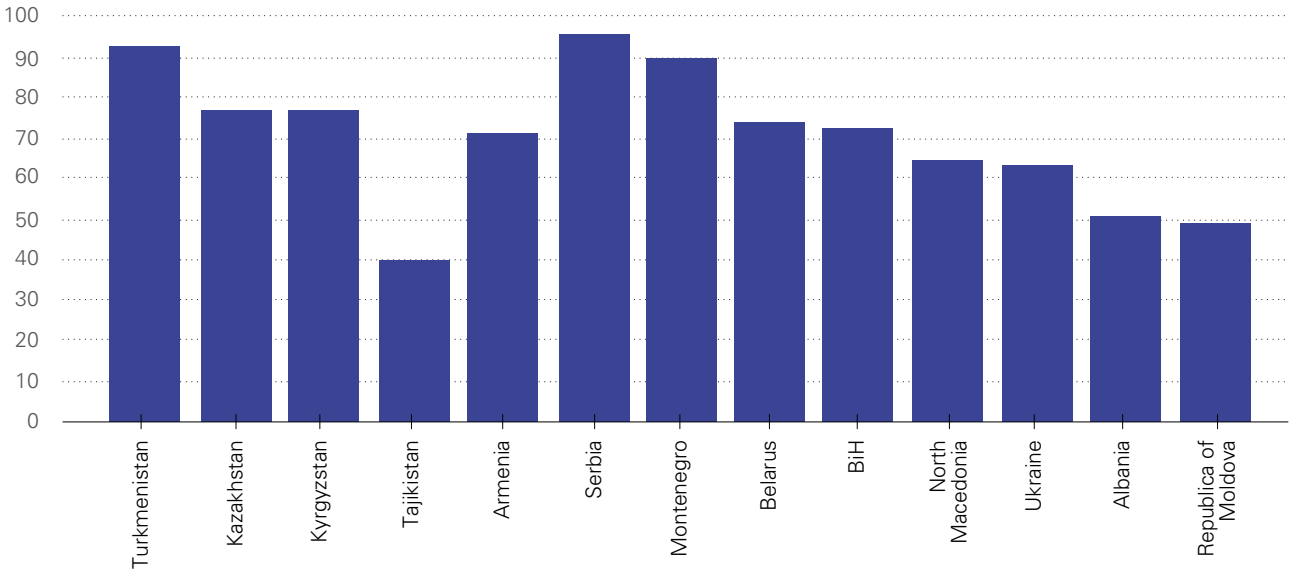


Source: Data is from the latest MICS and DHS surveys, from the UNICEF database: https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding/

Note: Country data and sample size (n), Bulgaria, Croatia, Romania, Russian Federation, Uzbekistan 2017 (n=138), Tajikistan 2018 (n=393), Turkey 2017 (n=0), Albania 2017 (n=150), Georgia 2018 (n=156), Kyrgyzstan 2018 (n=218), Ukraine 2012 (n=258), Armenia 2015 (n=82), Kazakhstan 2015 (n=355), Turkmenistan 2015 (n=234), Azerbaijan 2013(n=105), North Macedonia 2011 (n=82), Bosnia and Herzegovina 2011 (n=157), Republic of Moldova 2012 (n=132), Belarus 2012 (n=238), Montenegro 2013 (n=82), Serbia 2014 (n=154).

While a regional estimate of minimum meal frequency was not available, thirteen countries in ECAR had national level estimates available for this descriptive analysis. Minimum meal frequency ranged from 39.9% (Tajikistan) to 95.7% (Serbia). Eight out of thirteen countries in ECAR have minimum meal frequencies above 70%. Minimum meal frequencies of less than 50% were noted in two countries: the Republic of Moldova (49.2%) and Tajikistan (39.9%). There was no data on minimum meal frequency in eight countries in the region.

FIGURE 7 Percentage of children, 6-23 months of age, who received minimum meal frequency (MMF, 2011-2017, (n=13)

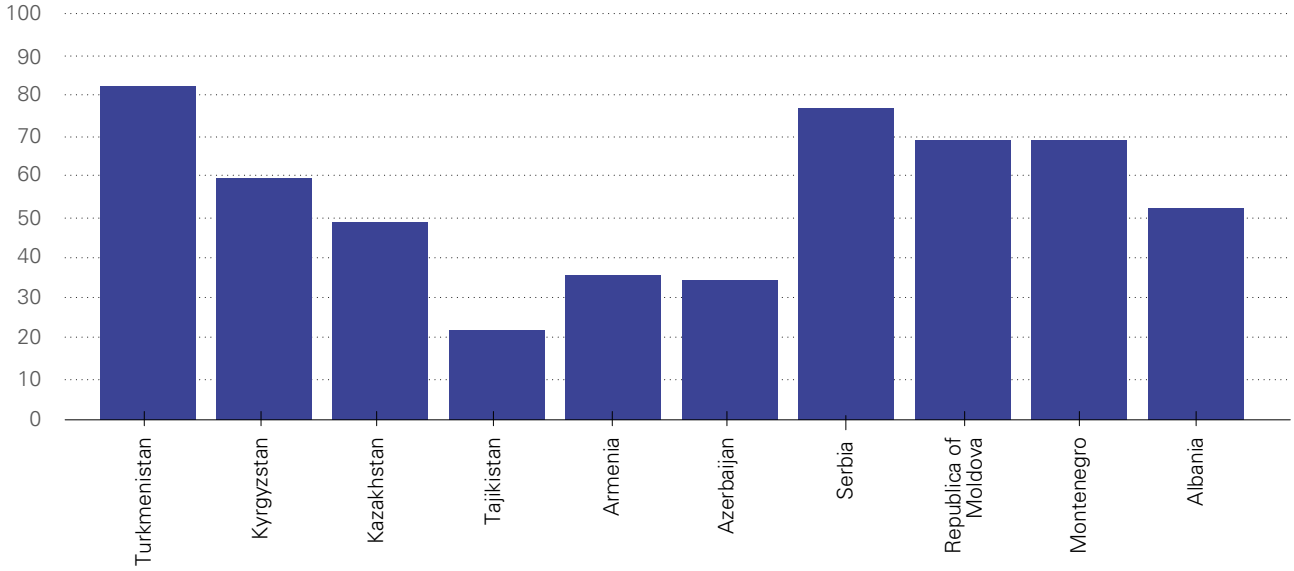


Source: Data is from the latest MICS and DHS surveys, from the UNICEF database: https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding/

Note: No reported data for Bulgaria, Croatia, Georgia, Romania, Russian Federation, Turkey, Uzbekistan and Azerbaijan. Country data and sample size (n), Serbia 2014 (n=734), Turkmenistan 2015 (n=1158) Montenegro 2013 (n=373), Kazakhstan 2015 (n=1611), Kyrgyzstan 2018 (n=1006), Belarus 2012 (n=1143), Bosnia and Herzegovina 2011 (n=685), Armenia 2015 (n=490), North Macedonia 2011 (n=427) Ukraine 2012 (n=1260), Albania 2017 (n=748), Republic of Moldova 2012 (n=607), Tajikistan 2017 (n=1845).

Data on minimum dietary diversity (MDD) was available in 10 countries in the region. Estimates ECAR range from 22.5% (Tajikistan) to 82.5% (Turkmenistan). Most countries reveal that more than half of the infants met requirements for minimum dietary diversity for children6-23 months of age.

FIGURE 8 Percentage of children, 6-23 months of age, who received minimum dietary diversity (MDD) requirements, by ECAR country (n=10), 2005-2018

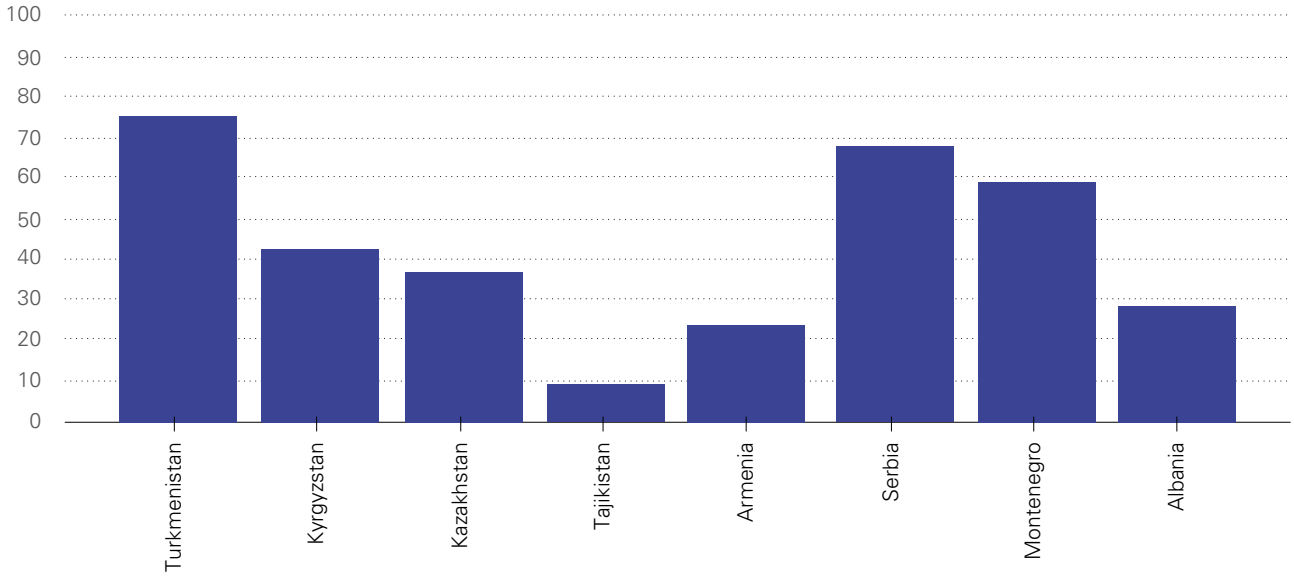


Source: Data is from the latest MICS and DHS surveys, from the UNICEF database: https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding/

Note: No reported data for Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Georgia, Romania, Russian Federation, North Macedonia, Turkey, Ukraine, Uzbekistan. Country data and sample size (n), Turkmenistan 2015 (n=1158), Serbia 2014 (n=734), Republic of Moldova 2005 (n=493), Montenegro 2013 (n=373), Kyrgyzstan 2018 (n=1006), Albania 2017 (n=748), Kazakhstan 2015 (n=1611), Armenia 2015 (n=490), Azerbaijan 2006 (n=631), Tajikistan 2017 (n=1845).

Only eight countries had data on minimum acceptable diet (MAD). MAD estimates ranged from 9.3% (Tajikistan) to 77.2% (Turkmenistan). Only 3 countries had a minimum acceptable diet of more than 50%: Turkmenistan at 77.2%, Serbia at 69.7% and Montenegro at 60.5%.

FIGURE 9 Percentage of children, 6-23 months of age who received a minimum acceptable diet (MAD) in ECAR, by country (n=8), 2013-2017

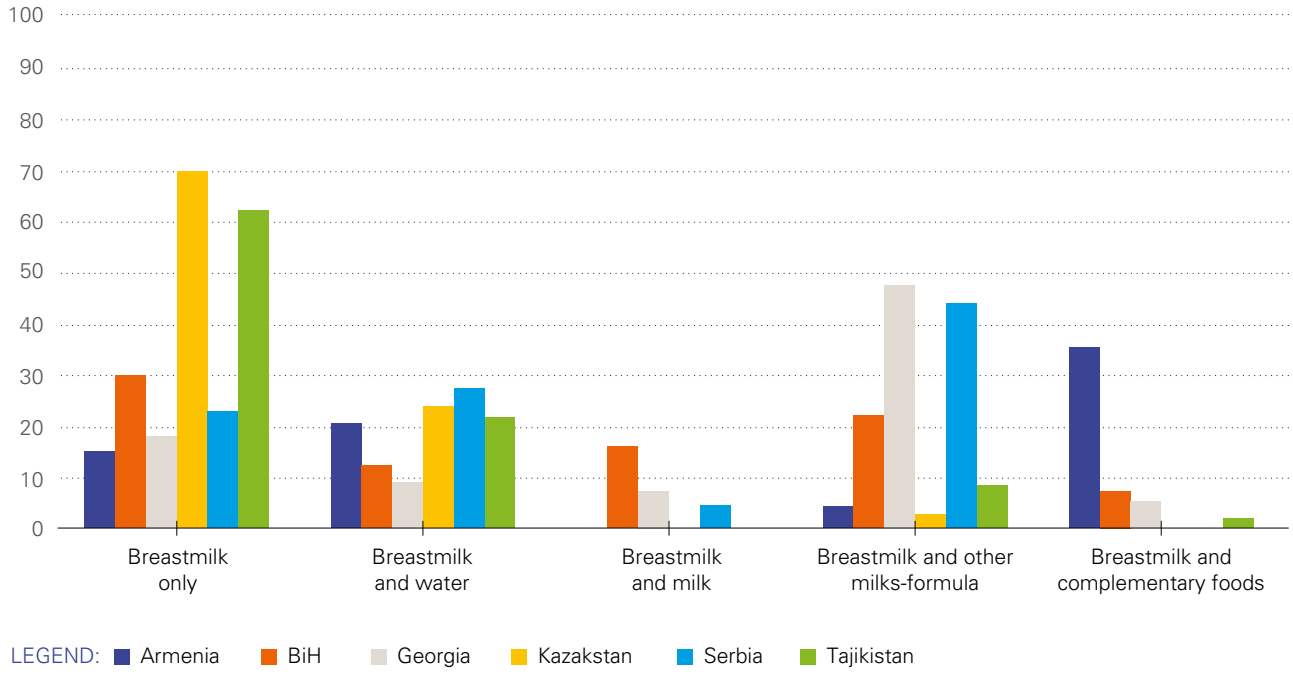


Source: Data is from the latest MICS and DHS surveys, from the UNICEF database: https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding/

Note: No reported data for Bulgaria, Croatia, Georgia, Romania, Russian Federation, Turkey, Uzbekistan, Azerbaijan, Belarus, Bosnia and Herzegovina, North Macedonia, Ukraine, Republic of Moldova, Country data and sample size (n), Turkmenistan 2015 (n=1158), Serbia 2014 (n=734), Montenegro 2013 (n=373), Kyrgyzstan 2018 (n=1006), Kazakhstan 2015 (n=1611), Albania 2017 (n=748) Armenia 2015 (n=490), Tajikistan 2017 (n=1845).

By 4-5 months of age, only 14.8-30.1 % of infants were fed breast milk only, with the exception of Kazakhstan. Data revealed that 22-47% of infants are fed other milks, such as infant formula in BiH, Georgia and Serbia, and to a much lesser extent in Tajikistan (8.4%), Armenia and Kazakhstan (3-4%). Early introduction of complementary foods was a notable problem in Armenia.

FIGURE 10 Proportion of infants who received breastmilk only or breastmilk and other milks, water, formula or foods, 0-5 months of age, by ECAR focus country (n=6), 2005-2015

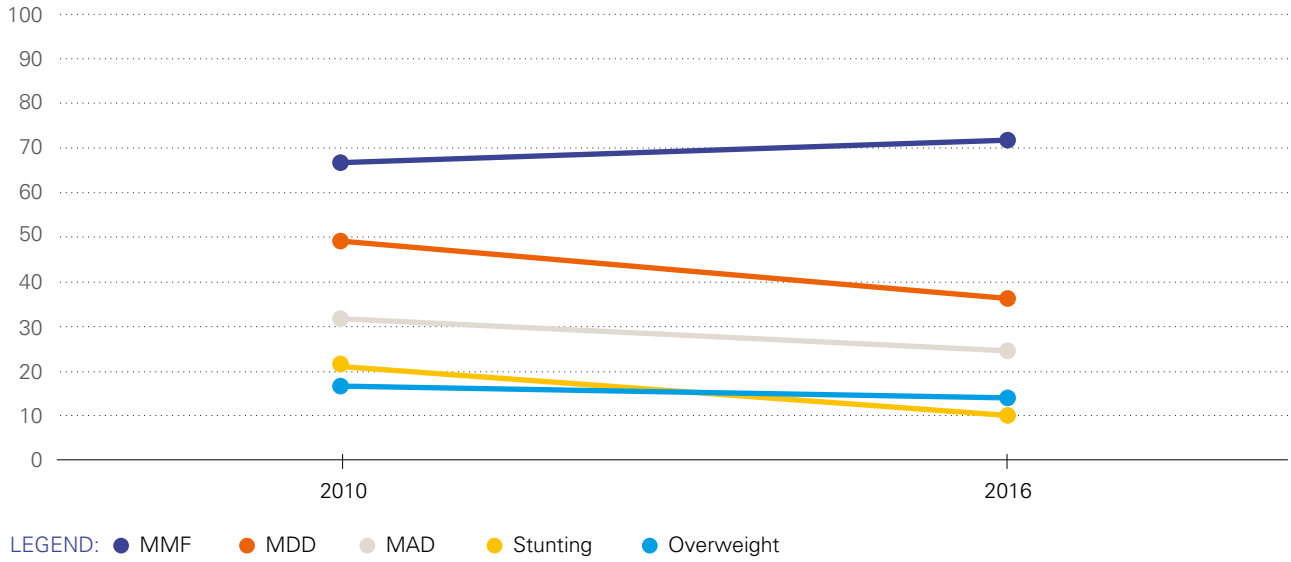


Source: Data is from the latest MICS and DHS surveys, from the UNICEF database: https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding/

Note: Breastmilk only data: Country data and sample size (n), Armenia 2015 (n=41), Kazakhstan 2015 (n=129) , Tajikistan 2012 (n=106), Bosnia and Herzegovina 2011 (n=30), Serbia 2014 (n=23), Georgia 2005 (n=46). *Breastmilk and plain water: Country data and sample size (n), Serbia 2014 (n=54Kazakhstan 2015 (n=129), Tajikistan 2012 (n=106), Bosnia and Herzegovina 2011 (n=86), Georgia 2005 (n=46). *Breastmilk and non-milk liquids, 0-5 months, (*n=12),* 2006-2015 No reported data for Tajikistan, Country data and sample size (n), Bosnia and Herzegovina 2011 (n=86), Georgia 2005 (n=46), Serbia 2014 (n=62), Armenia 2015 (n=41), Kazakhstan 2015 (n=129), Tajikistan 2012 (n=106), * *Breastmilk and other milks/ formula in ECAR* , Country data and sample size (n), Serbia 2014 (n=61), Bosnia and Herzegovina 2011 (n=86), Tajikistan 2012 (n=106), Kazakhstan 2015 (n=129), Armenia 2015 (n=41), **Breastmilk and complementary foods in ECAR*Note: No reported data for Kazakhstan, Serbia, Country data and sample size (n), Bosnia and Herzegovina 2011 (n=86), Georgia 2005 (n=46), Armenia 2015 (n=41), Tajikistan 2012 (n=106), Kazakhstan 2015 (n=129), Serbia 2014 (n=61).

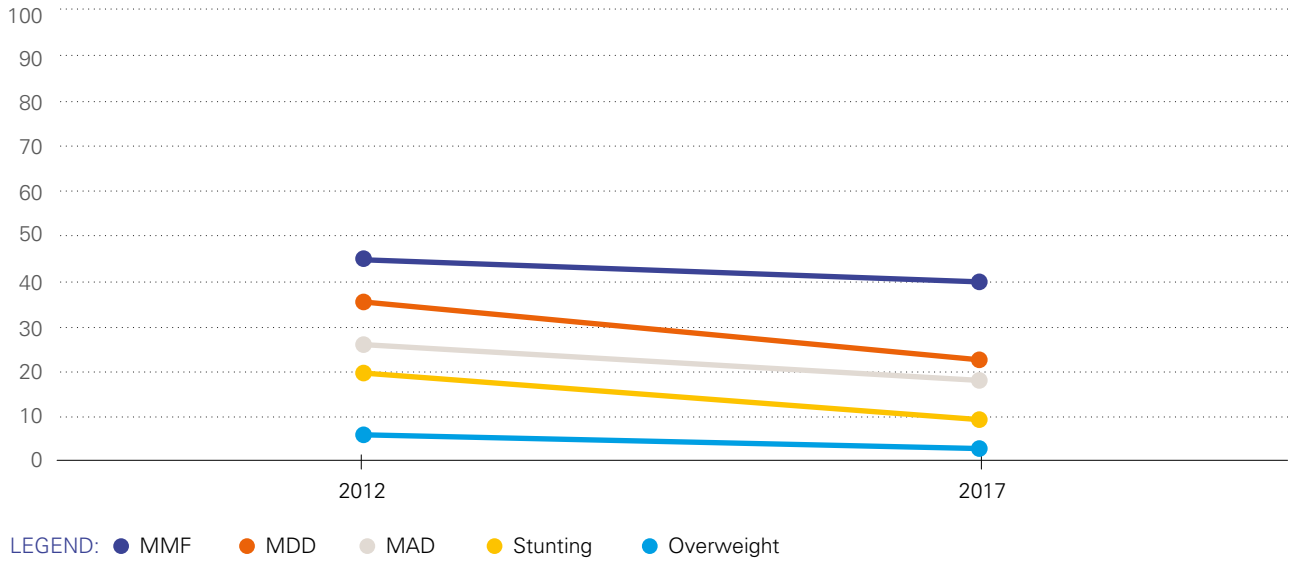
Regarding trends across complementary feeding indicators, only two ECAR countries (of the six designated core countries) have available data on complementary feeding from the last 10 years. In Armenia, minimum meal frequency (MMF) has increased, while other complementary feeding indicators have worsened, with decreases in minimum dietary diversity (MDD) and overall minimum acceptable diet (MAD) indicators from 2010-2016 (Figure 15) . This coincides with stagnant and high rates of child overweight, while child stunting was halved in the last five years. While data is not shown, it is notable that child stunting tends to decline with higher maternal education and richer wealth quintiles, while no clear relationship between child overweight and education or wealth quintile was found.

FIGURE 11 Trends in complementary feeding, child stunting and overweight, Armenia 2010- 2016



Source: Data is from the latest MICS and DHS surveys, from the UNICEF database: https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding/

FIGURE 12 Trends in complementary feeding and child stunting and overweight, Tajikistan, 2012-2017



Source: Data is from the latest MICS and DHS surveys, from the UNICEF database: https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding/

In Tajikistan, complementary feeding practices have worsened over time. While child overweight and stunting have declined in Tajikistan from 2012-2017, stunting still affects 40% of children under five years of age, and peaks at 24-35 months of age (22%). Children residing in urban areas are just as likely to be stunted as children living in rural areas.

While data is not shown, the prevalence of child stunting generally decreases with increasing mother's education and wealth. In Tajikistan, multiple forms of malnutrition exist, inclusive of stunting, overweight/obesity, and multiple micronutrient deficiencies. In addition to the data shown in Figure 12, anemia is a public health problem (data not shown). About 32% of children under five years of age were anemic (Hb< 110 g/dl) and 14.7% had moderate (70-99 g/dl) or severe anemia (< 70 g/dl), according to a study conducted in rural Armenia. Anemia prevalence peaks in children at 6-12 months of age (67.9%) and is associated with lower meal frequency per day and lack of meat in the diet[10].

Aside from Tajikistan and Armenia shown above, the nutrition situation for other ECAR focus countries is described here. In BiH, the majority (79%) of children

under age of 2 years are bottle fed, anemia affects 18.4% of children and 17.7% of children are overweight, which is highest in children 12-23 months of age (26.9%). In Serbia, 13.9% of children under five years of age are overweight and 6% suffer from stunting. In Kazakhstan, children suffer from micronutrient deficiencies, anemia, and overweight. Indicators of undernutrition such as wasting and stunting were low, at 3 and 8% respectively. Survey data from Kyzyl-Orda and east Kazakhstan in children 6-59 months of age (n=506), the prevalence of child anemia (Hb< 110 g/L) was 58.1%. Anemia was notably higher among 6-23 month old children (62%) in comparison to their older counter parts (24-59 months) (52.6%). In Georgia, low breastfeeding rates and high prevalence of infant formula use has been attributed to several factors including high c-section rates and prevalent marketing of infant formula.[11]

Summary of descriptive analyses

Regional estimates of MMF, MDD and MAD were not available, due to lack of data for 8, 11 and 13 countries, respectively. Most countries had high MMF (with eight out of thirteen countries in ECAR with above 70%). MDD ranged widely from 22.5% (Tajikistan) to 82.5% (Turkmenistan) in the region and about half of ECAR countries had at least 50% of children, 6-23 months of age, who reached MDD. The proportion of children who met MAD requirements was lower, with only three out of eight countries with a MAD above 60%. Infant feeding pattern data reveal that infants are often fed other foods and liquids other than breastmilk in the first 6 months of life. Several countries have notable use of infant formula, as well as introduction of other milks (i.e. Georgia, Serbia and Bosnia and Herzegovina, Azerbaijan), which disrupt exclusive breastfeeding. Water plus breastmilk was fed to 20%+ of infants, 0-5 months of age, in half of ECAR countries.

In addition, to these descriptive analyses, trends for complementary feeding indicators were assessed for the six core countries of this landscape analyses. Only two ECAR countries of the six core countries had available data on complementary feeding from the last 10 years: Armenia and Tajikistan. In Armenia, minimum meal frequency (MMF) has increased, while other complementary feeding indicators have worsened, with decreases in minimum dietary diversity (MDD) and overall minimum acceptable diet (MAD) indicators from 2010-2016 (Figure 11). This coincided with stagnant and high rates of child overweight, while child stunting was halved in the last five years. While data is not shown, it is notable that child stunting tends to decline with higher maternal education and richer wealth quintiles, while no clear relationship between child overweight and education or wealth quintile was found.



DETERMINANTS AND DRIVERS OF ADEQUATE DIETS DURING COMPLEMENTARY FEEDING PERIODS

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Availability

Availability was not viewed as a hinderance to adequate diets of young children during the period of complementary feeding in Balkans and Caucasus countries, according to information collected from key informant interviews. In Balkan countries, local foods, such as fruits and vegetables are available, and stakeholders relayed that most commercially produced foods tailored for children are fortified, including cereals, processed foods, and yogurt. According to key stakeholders from four countries, the problem lies in primarily in families' knowledge of the type of foods that should be fed to young children.

"There is enough food – not a problem of having food – and it's a problem of knowledge of what babies eat. People have gardens and all kinds of vegetables and yet, baby is anemic –they provide [infant] formula until 9-10 months, and they have a garden (peas, carrots, zucchini, potatoes) but do not feed the baby that food. They don't have enough knowledge." — Stakeholder BiH

In Caucasus countries, most families are reported prepare food at home. Stakeholders relayed that neither food availability nor access were issues in the country.

"All types of foods are available and is accessible and in towns there are a lot of different types of shops; Georgia is an agricultural country and people have their own land and products [even in rural areas] – and mostly is available and sometimes is costly. Depends on the amount of money the family has..." — Stakeholder, Georgia

In Central Asia, complementary feeding practices are hindered by seasonal fluctuations in agriculture and incomes, inadequately diverse agricultural production and diets, dependence on imported foods and their price fluctuations, climate change risks and insufficient availability of nutritious foods. Diets of families are primarily comprised of high-energy, nutrient-poor foods, such as grains, oils, sugars, roots and tubers (potatoes), which are available across the country and often fed to young children. For example, unfortified wheat, consumed as bread, provides 50-70% of per capita intake in Tajikistan – a prominent feature of the Tajik diet. According to recent formative research, meat and legumes were noted as the most available, iron-rich foods for young children sold in markets and small food stores. Limited availability of nutritious vitamin A-rich foods such as certain fruits and vegetables (i.e. pumpkin, carrots, apricots, and dark green leafy vegetables) were not commonly available in select villages in Tajikistan's Sughd, Khatlon, Dushanbe, and Gorno-Badakhshan Autonomous Province (GBAO) Region.

Processed, energy-dense food is increasingly available in urban areas, through street and market vendors, which threatens to disrupt availability of nutrient-rich foods consumed by families, and subsequently fed to young children. The FEEDcities Project of Eastern Europe and Central Asia characterized food offered in vending sites in Kazakhstan[12]. While these data are not specifically characterizing foods for young children, the data point to the increasing availability of these foods in the region. There was a notable lack of availability of nutritiondense rich fruits and vegetables, especially in urban populations (i.e. Almaty), across markets and street food vendors. Fruit was sold by only 1.0% of vending sites, with 37% selling only industrially processed foods (36.6%)[12]. Wide availability of sugary drinks and high content of trans fat and sodium in commercial and homemade street foods have been documented in the capital cities of Central Asia[13]. For example, a 2.4 fold increase in sugar-sweetened beverage consumption (i.e. soft drinks) was noted following a 10 year period (2006-2016) in Tajikistan.

In Central Asia, most households (60 percent) experienced seasonal scarcity, due to geographic conditions, such as road freezing and reduced access to village markets, or due to reductions in economic and agricultural resources in winter and early spring, according to a recent study[14]. Thirty-five percent of Tajik households borrowed food from neighbors or family to manage periodic scarcity, ranging from occasional shortages to household dependence on charitable gifts.

"We are facing [some] unavailability during wintertime and issues with storing foods – we are mostly eating bread. Each household must produce their own food, [and] domestic food provides 80% of what we need. We must import some foods from Russia and Kyrgyzstan – such as flour. We are producing 800 metric tons in wheat, yet our [country] needs 1.6 million tons per year." — Stakeholder, Tajikistan



Access

In Balkan and Caucasus countries, access to adequate foods was not seen to affect young children's diet, as supermarkets and open markets are available to the public**,** according to stakeholders' views. Yet, access was described as an issue for the most vulnerable segments of the population (i.e. poorest).

In Central Asian countries, while stakeholders also voiced that access to food was not of concern in urban and rural areas, seasonal availability of certain food items (i.e. fruits and vegetables) were seen to affect dietary intake.

As one stakeholder described, "We have everything in the market, and physical access there isn't a problem. Financial and physical access, may be a problem in remote areas, though generally we have all foods. We do have those that are under the poverty line, which may have less access [financially]." — Georgia

In Central Asian countries, access to foods through local shops and markets remains a vital source of nutritious foods, alongside household food production, which is increasingly important for diversification of young children's diets in rural areas. According to recent research, in rural areas, Tajik residents purchased staples, such as flour, oil, cereals, and macaroni from local stores on a daily basis.

Affordability

Cost is not viewed as a major prohibitive influence on young children's diets in the region, according to stakeholders, yet data from the literature review provides further insight on affordability in the ECAR region. In Balkan countries, views on affordability of food varies, some families may perceive that processed foods are expensive while others may view certain foods as cheap (i.e. biscuits). As a consequence, some families may prioritize processed food consumption due to lack of time for food preparation, and affordability of some processed foods. Convenience can influence decisions on household food purchases and food choice.

"Some mothers think these foods are expensive, and other processed foods are cheap- some really bad food is really cheap (puddings, cakes, snacks -processed peanuts; processed corn)"
—Stakeholder, BiH

In Caucasus, countries, some families express a willingness or desire to start complementary feeding early than recommended 6 months of age (around 4 months of age), as breastmilk substitutes (BMS) are not always affordable, families may replace BMS (i.e. cost 8-9 U.S. dollars for one can of formula) with family foods to avoid this expense. Generally, processed foods are viewed as more expensive by stakeholders, in comparison to locally available foods.

"For processed foods, it's quite expensive and there are imported quality cakes – it depends on financial affordability- there is an increase in this direction for [families] eating these foods."
— Stakeholder, Georgia

In Central Asian countries, cost can be a prohibitive factor for increasing intake of nutrient-rich foods, according to data extracted from the literature review. According to a World Food Program analyses, food consumption patterns in Tajikistan have changed between 2003 and 2017, dramatic increases in consumption of eggs and meat by 217 and 106 percent respectively. Vegetable oil and sugar consumption have also shown a significant increase by 75 percent.[15] While there are no notable difference in food consumption by household wealth status, the richest households consume more diversified diets with greater quantity and share of vegetables and animal protein (meat, milk/dairy products, eggs). Yet, two thirds of respondents named foods their household could not routinely afford (most commonly meat, followed by fruits and vegetables). Given male members of households often work abroad, in their absence women, as heads of households work in agricultural activities to supplement income from overseas remittances.[9]

"It is not so expensive for basic nutritious food; people prefer to buy local food and has more trust to it and less expensive. There is not a problem of access, we have open access in every region from the city to the bazaars, and in rural areas – there are little shops are available. In the autumn [and winter], vegetables are available and fruits are more expensive. In big cities we have imported foods (for example apples from Poland and apples, cabbage, tomatoes from China). Sometimes these [imported foods] are cheaper than local apples. Meat (beef, lamb, chicken) and even horse meat [families] [is possible] to eat it every day." — Stakeholder, Kazakhstan

According to stakeholders, who relayed that most households in rural areas have gardens and/or orchards (i.e. growing fruits and vegetables such as apricots, apples, grapes, or almonds or green onions / potatoes), and raise livestock (i.e. cattle , sheep), other families sell their harvests in central markets, as relayed below:

"There is home production and people also purchase[foods], it is difficult to purchase all things in the village due to lack of funds for seven family members; in the mountain areas, families have livestock, and other rural areas produce vegetables and purchase meat. For the price is high for meat, so it's easier for families to raise poultry and eggs. — Stakeholder, Tajikistan

Rural villages typically only have small stores with limited offerings, especially during winter and early spring, due to seasonal scarcity, and freezing of roads[14]. Families with transportation can access larger markets with more favorable pricing and variety; while, poor families often pay higher prices for limited foods at village stores, of which they have access. On the national level, data from a recent study reveal that 29% to 56% of households were unable to afford nutritious diets in the four regions of Tajikistan[16].

"Our local products are very expensive, for example 1 kilogram of oranges is $8-9 USD and the average salary is 50-60 USD. In rural areas, 70% of families depend on agricultural production. The financial situation of the Tajik household/Tajik doesn't allow purchase of high quality food from markets or supermarket." — Tajik stakeholder

In Central Asia, remittances, as male heads of households work abroad for seasonal work, are an essential source of cash income (i.e. 31% of households in Tajikistan). Two out of three households grew their own food crops or kept livestock for household consumption in rural Tajikistan. Another study noted that almost all rural households grew food in gardens and orchards, 77% kept livestock (typically chickens and cows), and half owned a means of transportation[14].

Mothers who had a household garden and raised livestock and had sufficient food had high dietary diversity, whereas this child had inadequate dietary diversity, as their dietary intake were not prioritized in comparison to mothers. Mothers viewed and fed mashed potatoes, soup from beans, and semolina porridge with cow's milk as healthy first foods to children. Cost, availability of foods and equity with older children, limited dietary diversity for young children. Most participants saw infant foods as a subset of the usual household diet. When asked about buying IYCF foods, what came to mind was formula or other commercial infant foods, rather than healthful common foods.

Consumption of sugary and salty foods, including snacks with high energy content and low nutrient content raises the cost of nutritious diets among children[16]. A recent Cost of the Diet analysis found that across regions, the cost of a nutritious diet, with unhealthy snacks, for a child, 12-23 months of age, in Tajikistan is almost 1.7 times higher in comparison to the daily cost in Tajik somoni (TJS) of a staple-adjusted nutritious diet. The consumption of unhealthy snack foods can further increase diet costs and make it more difficult to meet nutrient needs. Other data also indicate children's diets appear to be rarely planned, and few households purchase foods exclusively for young children (e.g., fortified baby cereals)[14]. IYCF food purchases are often limited to infant formula or sweetened liquids, even when a child is breastfed.

Desirability and convenience

In Balkan countries, convenience, lack of time for food preparation, and parents' lack of knowledge of *healthy.*

> *"When she [the mother] tries with complementary feeding, there are issues[with feeding the child], and then she goes back to infant formula for a long time until the baby gets older and gets teeth. Biscuits, cookies, sweet pastries with chocolate fillings are seen as convenient for babies"*
> — Stakeholder BiH

In Caucasus countries, while processed food is available in markets, parents prefer to prepare local homemade foods for their children due to high cost. The demand and desirability for processed foods is more widespread amongst older children (school children, adolescents) than for young children.

> *Armenians are attached to local cuisine and homemade foods. We prefer homemade foods.... as no one can cook better than your mother is the motto. The issue of prepared [processed] food- there is a negative tendency growing in the country of people competing with each other – as they are "able" to buy these foods. Cakes, sodas, sweets and, ice cream are available in the family – if they have several children, and one is 5 years old – will also be attracted to that. Some families consume these foods every day, twice a week or twice a month.."* — Stakeholder, Armenia

In Central Asian countries, cost, convenience, desirability and acceptability of processed foods influence food purchases and processed food consumption in school-age children and adults in Kazakhstan. While most consumption has been noted in school age children and adults, it is increasingly seen in young children, and can affect children's preferences and demand for energy-dense foods, given these foods are consumed by family members.

According to one stakeholder, Kazakhstan:

> *"Processed foods are convenient, acceptable and desired, culturally most mothers prepare food at home –however it is {processed] snacks and the weekend consumption of eating outside of the home and having fast foods. It depends on the families; they may eat outside the home or have food delivered once per week or depending on events. These foods are not expensive and the snacks are affordable. This could be different in villages vs. cities -whereas sweets and drinks are more available."*

While little data is available, one study revealed that greater than 80 percent of young Tajik children eat sweets most of them starting between the ages of 6–8 months.[13]

> *"They (parents) give them soda drinks, industrial juices, and baby juices, fruit jam for children, industrial food for children (Russian), Mothers can afford can buy – and it is not quality; a lot of sweets and chocolates and little chips. It's a huge problem....When she [the mother] goes to vaccinate the baby, and with money that's left in her pocket and she gets cola, and gives to baby and drink the cola/FANTA – and likes – sometimes give to stop child crying"*
> — Stakeholder, Tajikistan



Food quality and safety

In Balkan countries, complementary feeding guidance is primarily about the *do's and don'ts* of consumption of certain foods, which are dictated by concerns around development of child allergies and allergic reactions to foods, preservatives, and use of pesticides and concerns around food safety. While WHO does not restrict foods for young children, with exception of processed foods prior to one year of age, in BiH guidelines, certain foods are restricted/prohibited and specifications on order of foods by child age . In the BiH Health Guidelines for Children under three years of age, food selection, must be fresh, and of controlled origin and quality. Fruits and vegetables should be *ripe, fresh, healthy, seasonal, preferably unsprayed with chemicals, pesticide-free and grown naturally*. It is recommended to avoid vegetables from vegetable gardens that are artificially fertilised (uncontrolled amounts of nitrates from nitrogen fertilisers), close to major roads (lead from exhaust gases), fruit sprayed with chemicals, meat and eggs from animals that are grown using hormones, antibiotics and other unnatural ways. Families are advised using fruit and vegetables, be sure to wash them properly.

"There is a rumor between mothers – that you can be sure if there is control of pesticides (if you buy food in the jar) and they market that it is best for baby. They believe what is written on jar is the true.... There is a mixture of practices –they cook at home and others are concerned about preservatives and purchase foods." — Stakeholder, Serbia

For children to *tolerate* foods, in relation to complementary feeding guidance, families in BIH, for example, are advised to 1) introduce new foods one at a time at intervals of 5-7 days to see the child's reaction in small amounts (2-3 tablespoons per serving), and then increase the amount (i.e. up to 125 ml and then 250 ml) 2) never introduce two or more foods together for the first time due to the possibility of intolerance (allergies, skin rashes, diarrhoea and vomiting), 3) if infant exhibits any allergic symptoms consult a doctor and 4) do not use frozen food, and use food within 24-48 hours. Stakeholders recognized that sugar, salt and fat needs to be regulated and decreased in foods. In addition, flour fortification efforts have stalled and fortified foods for children are not available in Balkan countries.

In Central Asian countries, high levels of trans fatty acids (TFA), are present in processed foods, such as cookies, pastries, fast food, savory snacks and margarines found in common homemade and industrial foods and are widely consumed by the population[12]. The widespread availability is indicative of families' food preferences, and drives food choice, which increases likelihood that young children are exposed and/or fed these foods.

For example, in Kazakhstan, the highest levels of TFA were found in common street foods, such as homemade sweet and savory snacks (e.g. *pirozhnoe, samsa*) and sandwiches (e.g. *doner kebab*) and in industrial foods (i.e. wafers)[12]. In some foods, the TFA content reached or exceeded the recommended daily maximum. The study found that a significant proportion of salt in the diet comes from processed foods and salt added by the cook/vendor during the preparation of food, which was 85-112% of recommended maximum daily intake[12]. In Almaty, Kazakhstan, for example, the mean TFA content per serving was highest for homemade *pirozhnoe* (3.20 g), industrial wafers (1.98 g) and homemade *shashlik* (1.87 g), which was 144.3%, 96.1% and 84.5% of the recommended maximum daily intake, respectively (reference daily intake, 2000 kcal for an average adult)[12]. In 2018, as a member of the Eurasian Economic Union, Kazakhstan adopted a regulation on fats and oils in food products that prohibits a TFA content > 2 g/100 g of fat by 2018.

In the Balkan countries, while targeted marketing directed at children was not described by stakeholders, misleading labeling of foods targeted to children was noted.

"Some producers of these sweet things [chocolate milk] are marketing full with milk and vitamins and everything that the child needs" and is a "good food" — Stakeholder BiH

Stakeholders from Balkan countries have relayed that these regulations have not been adhered to in country.

We have an expert committee of pediatricians, neonatologists and gynecologists, , yet there are loopholes in the recommendations that allow for advertising of infant milk formulas and the (International Code of Breastmilk Substitutes) needs to be respected. Jarred baby foods (mashed vegetables or fruits), contain more sugar or salt than home prepared meals - proposition for MOH to tackle issue of advertising of those foods- such as f sweetened beverages, high amounts of salt and fat. Serbia –is a member of European Network of Reducing in Marketing Pressure on Children (WHO-related) working group and countries are trying to do scientific evidence-based research – how conventionally sold items can be used, and how to know through labelling whether foods are good for children, and to push governments and producers of these products – to change preparations of these products so they have less sugar. All those regulations are voluntary – we need to tackle broadcasting family viewing times (and watched by children) -high percentage of commercials are snacks and fizzy drinks – repetition of advertising is everywhere – we need to work both ways – limit advertising and work with producers – to reformulate products so they are healthier" — Stakeholder, Serbia

In Caucasus countries, marketing and advertising of processed foods, is not commonly targeted towards young children in comparison to older pre-school and school-age children.

Further, cases of bribery and sponsorship among health-care workers from infant formula companies are known to exist which is compounded by lack of awareness of the law's provisions still exists by health providers, and resistance of authorities at maternity health facilities to implement the Baby Friendly Hospital Initiative and law provisions. The laws and regulations have not been seen as effective, as a result[17].

Marketing of unhealthy foods in Central Asia has increased over the past decade, at a population level. No information on targeted marketing of infant foods or infant formula has been documented in the region. According to a recent WHO report, advertising of unhealthy food and beverages comprised of 53%-83% of advertisements in Asia[18]. In Kazakhstan, advertising laws are currently regulated by the law of the Rep of Kazakhstan of 19 December 2003, No. 508-II, "On Advertising" (with amendments and additions as of 9 January 2018).

We have advertising from soda companies (i.e. Coca Cola) aimed at children. IN addition, these campaigns target school children and their families, and advertise summer excursions and takes children to factory, as well as swimming, and camping. You can also find small soda bottles, with your name, that are in child-size quantities (250 ml). — Stakeholder,Tajikistan

While the law has general requirements for advertising, no specific measures restrict advertising of commercially available foods to children. In sampled TV channels in Kazakhstan, the majority of advertised foods and beverages (72.3%) were not permissible for advertising and marketing to children, according to the WHO. The study also found for labelling of food and beverages, has insufficient information on nutritional value/ content and difficulties in understanding text about product composition. In Central Asia, lack of controls in marketing and promotion of infant formula and unhealthy foods and drinks to children is of concern, as relayed by one stakeholder:

In Caucasus countries, traditional meals for children from 6 to 23 months usually consist of soup – such as *Bulioni* (chicken soup), *Gupta* soup (Georgian meatball soup made with beef), Borshi (cabbage and beet soup) usually all soups include some type of meat. Yet, country stakeholders relayed that soup/porridge is often too thin/ watery, and children consumed only the liquid broth, rather than meat, which was a gap. Another key feature of complementary feeding in ECAR region, was the careful and ordered introduction of foods, due to several food taboos and food restrictions (i.e. serving full egg, meat), from 6 months of age, which can limit the dietary quality and intake of young children's diets. For example, often parents elimination of the parts of egg or a reliance on fruit juice, instead of feeding mashed whole fruits or the whole egg. Emphasizing to parents the need to feed a diverse diet from all food groups and not to rely on certain foods (i.e. porridge) which can make the diet monotonous and may not give the child all the nutrients needed to grow and develop well. In addition, the porridge/soup should be thick (i.e. not fall off the spoon) and children should be fed the meat pieces and not just the broth (which will keep the child satiated and aid in the child's growth and development). A few local recipes are featured below from various ECAR countries:

TABLE 2 Local complementary feeding recipes, by ECAR focus country

Country	Recipe #1	Recipe #2	Observations of potential gaps/ dietary observations
Balkan country: Serbia	• 3-4 fresh or frozen broccoli florets • 2 slices of carrots • A small piece of chicken or turkey • 2 soup spoons of rice and millet • I small spoon of olive oil Boil it for 15 mins, and blend it with a hand blender, cool it for a while.		• Make sure the porridge falls off the spoon, so the child is not just fed watery broth/porridge • Ensure enough protein/meat- serve at least two heaped tablespoons of meat, chicken, turkey

Country	Recipe #1	Recipe #2	Observations of potential gaps/ dietary observations
Caucasus country: Armenia	**Vegetable soup with meat** • Vegetables • Half carrot (about 20g.), cabbage (about 20g.), ¼ potato (about 25g.), beets (about 25g.) • Beef meat – 50g. • Water – 150 ml • Butter – 5g. How to prepare – wash carefully vegetables and cut them into small pieces. Boil them until ready. Add preliminary prepared (boiled) meat. At the end add butter.	**Pure vegetables with poultry** • Vegetable – half carrot (20g.), half potato (50g), ¼ Bulgarian paper; rice 50g • Poultry – 50g. • Butter – 5g. How to prepare – wash carefully vegetables and cut them into small pieces, boil them about 20-30 minutes, then add rice, and boil until ready. Add pieces of preliminary prepared (boiled) poultry. At the end add butter.	• Stakeholders relayed that often the broth/ watery soup is fed, its important to give a portion of chicken, meat, once per day (at least two heaped tablespoons). • Remind mothers not to give just the broth that the chicken, meat, or fish was cooked in, but also the flesh. • Cut, pound, or shred the meat into very small pieces and cook it and feed this to the child • Mix this with mashed vegetables to be suitable for the child. • Make sure the soup or porridge is thick enough that it falls off the spoon
Caucasus country: Georgia	**Vegetable soup from 6 months:** • 2 leaf of celery • 1 piece of onion, • Small piece of carrot, • 2 leaf of cabbage • 1 piece of garlic • 1 potato To boil in water for 30 minutes, then put in blender and add 1 tablespoon of olive oil, don't add salt or sugar.	**Chicken soup (bulioni) recipe from one year (12 months of age** • One small chicken • 1 carrot • 1 onion • 50 gr Rice • 2 leaf of celery • 1 piece of garlic Put the chicken a large soup pot and cover with cold water and boil. Carrots, garlic celery, onion and rice can be added after 40 minutes. After 1 hour the meal is ready.	• Gaps are watery soup, its important to give a portion of chicken, meat, once per day (at least two heaped tablespoons). • Make sure the soup or porridge is thick enough that it falls off the spoon
Central Asia country: Tajikistan	**Mashed vegetables – MOH sample meal from 6 months** Start with 1-2 teaspoons (i.e. potatoes), daily increase this by 1-2 teaspoons, add 0.5 - 1 teaspoon of vegetable oil, within 2 weeks build up the amount of mashed potatoes to 200 gr, subsequently you need to give the child mix of mashed vegetables (potatoes, carrots, cabbage, pumpkin, turnips, and beets).	**Mashed vegetables** 200 g. (40 teaspoons) with 1 teaspoon of vegetable oil (3-5 gr), **yolk**[iv] start with 1/8 part, give one time and twice per week. **Fruit juice** (green apple) start with 1-2 drops and adding daily, build up to 10 ml (2 teaspoons). **Porridge** (rice, buckwheat, oatmeal) is boiled in water or boiled and breast milk is added, and given to the child. It is also required to start giving porridge with 1 teaspoon, increased daily - 150 - 200 gr (35-40 tablespoons) within a month + 3 - 5 gr butter	• Work with families to feed the entire egg – that is cooked, rather than just the yolk • Ensure porridge falls off the spoon • Feed whole fruits that are mashed rather than fruit juice, which can be added to porridge instead of vegetables

[iv] If the child is allergic, do not give the yolk.



In an assessment of a sample of commercially available complementary foods (CACFs) from ECAR focus countries, shown in Table 3, gaps exist in content on labelling, and disclosure of information on trans fatty acids, sugar content, age restrictions, as well as providing clear labelling (see * for gaps in content in comparison to standards and restrictions set by WHO European Regional Office). The nutrient content of these foods show high levels of sugar, sodium, and/or calories or low levels of protein (i.e. meat), in comparison to nutrient composition standards for CACFs, as well as lack of clarity on whether trans fatty acids is contained in these foods.

TABLE 3 CACF nutrient content and labelling, select ECAR countries (* denote failure to meet requirements)

Country	Dry or instant cereal – nutrient composition standards, and labelling requirements/ promotional restrictions, WHO European Regional Office	Name of CACF, nutrient content and label information, commercially available complementary food (CACF)
Balkan country: Serbia	**Type of food: Dry or instant cereals/starch** • No added sugar or sweetening agent • ≤ 10% by weight dried or powdered fruit • Sodium <50mg/100kcal • No industrially produced trans fatty acids • ≤ 4.5 g/ 100 kcals total fats • < 5.5 g/100 kcal total protein • Total sugar: front-of-pack flag if ≥ 30% total energy • Age restriction: ≥ 6 months only • No claims • Product name/ingredient clarity • No added sodium in liquid used to reconstitute product • Ingredients list should state the amount of dried and powdered fruit (%)	**Lino – chocolate flavored dry porridge with hazelnuts** • Added 38 grams of sugar • Energy: 417 kcal/1762 kj • No dried/powdered fruit in ingredient list • No sodium • 6 g/100g of fat, saturated fats 1.4 grams • No protein • No information on industrially produced trans fatty acids* • No label on front of pack on total sugar as > 30% of total energy* • No age restriction* • Claims: cereal with 7 vitamins, sources of protein and prepared with milk*

<table>
<tr><th>Country</th><th>Dry or instant cereal – nutrient composition standards, and labelling requirements/ promotional restrictions, WHO European Regional Office</th><th>Name of CACF, nutrient content and label information, commercially available complementary food (CACF)</th></tr>
<tr><td>Balkan country: Serbia</td><td>Type of food: Pureed meals with meat or fish (without first food in product name)
• No added sugar or sweetening agent
• ≤ 5% by weight fruit puree with a max. of 2% from pureed dried fruit
• Energy density ≥ 60 kcal/100 g
• Total protein ≥ 3g/100 kcal from all sources (of which ≥ 2.2 g/100 kcal protein from dairy if cheese mentioned in front-of-pack name)

Labelling
• Protein source mentioned in the product name must be ≥ 8% by weight of the total product
• Each named protein not less than 25% by weight of total named protein
• Sodium < 50mg/100 kcal and <50mg/100g (or < 100 mg/100 kcal and <100mg/100g if cheese is mentioned in front-of-pack name)
• No industrially produced trans fatty acids ≤ 4.5 g/100 kcal total fat</td><td>Frutek - porridge with beef and rice, with ingredients of water, vegetables (carrot 18%, peas17%, parsnip 5%, beef 8.5%, rice 3%- rice starch- 2%, sunflower oil, salt, onion powder). Allergens, does not contain: soybeans, peanuts, milk, eggs, sesame, celery, shellfish/mollusks, nuts, crustaceans, shell, gluten, mustard, sulfur dioxide or sulfite, fish

• No added sugar, no gluten
• No fruit added
• Energy 310 KJ/100 grams – over limit*
• Protein 2.9g/100 grams – less than 8% of weight*
• 2.9 grams protein of 100 grams, which is less than ≥8%*
• No other protein named
• 0.25 g/100 grams on label- which translates to 250 mg/100mg*
• No trans fatty acid mentioned*, contains sunflower oil, and contains 2.4 g fat/100 grams</td></tr>
<tr><td>Caucasus country: Armenia</td><td>Type of food: Dry or instant cereals/starch
• No added sugar or sweetening agent
• ≤ 10% by weight dried or powdered fruit
• Sodium <50mg/100kcal
• No industrially produced trans fatty acids
• ≤ 4.5 g/ 100 kcals total fats
• < 5.5 g/100 kcal total protein

Labelling:
• Total sugar: front-of-pack flag if ≥ 30% total energy
• Age restriction: ≥ 6 months only
• No claims
• Product name/ingredient clarity
• No added sodium in liquid used to reconstitute product
• Ingredients list should state the amount of dried and powdered fruit (%)</td><td><table><tr><th>Nutritional fact</th><th>In 100g of the product</th></tr><tr><td>Energy</td><td>358kkal</td></tr><tr><td>Protein, g</td><td>9</td></tr><tr><td>Fat, g</td><td>1,1</td></tr><tr><td>Carbohydrates, g</td><td>78</td></tr><tr><td>Including saccharose, g</td><td>13</td></tr><tr><td>Prebiotic – inulin , g</td><td>2,5</td></tr><tr><td>VITAMINS</td><td></td></tr><tr><td>A, mg</td><td>0,45</td></tr><tr><td>E, mg</td><td>6</td></tr><tr><td>C, mg</td><td>45</td></tr><tr><td>B1, mg</td><td>0,5</td></tr><tr><td>B2, mg</td><td>0,6</td></tr><tr><td>B6, mg</td><td>0,6</td></tr><tr><td>B12, mcg</td><td>0,5</td></tr><tr><td>PP, mg</td><td>7</td></tr><tr><td>B5, mg</td><td>2,35</td></tr><tr><td>B9, mcg</td><td>47</td></tr><tr><td>Biotin, mcg</td><td>10</td></tr><tr><td>MINERALS</td><td></td></tr><tr><td>Ca, mg</td><td>510</td></tr><tr><td>Na, mg</td><td>9</td></tr><tr><td>Fe, mg</td><td>8,5</td></tr><tr><td>I, mcg</td><td>50</td></tr></table></td></tr>
</table>

Country	Dry or instant cereal – nutrient composition standards, and labelling requirements/ promotional restrictions, WHO European Regional Office	Name of CACF, nutrient content and label information, commercially available complementary food (CACF)
Caucasus country: Armenia		**Vinni porridge** – 7 cereals • Sugar is 13 % by weight* • No mention of industrially produced trans fatty acids* • Fat is less than recommendations at 1.1 per 100 grams • Sodium is added – unsure if in liquid • No ingredients of dried and powdered fruit listed*
Caucasus country: Armenia	**Vegetable only purée** • No added sugar or sweetening agent • No added fruit/ fruit purée • Added water < 25% by weight • Sodium < 50 mg/100 kcal and < 50 mg/100 g • No industrially produced trans fatty acids • ≤ 4.5g/100 kcal total fat **Labelling:** • Total sugar: front-of-pack flag if ≥ 30% total energy • Age restriction: ≥ 6 m and < 12 m only • No claims • Product name/ingredient clarity • Statement about no sucking from spouts if in pouch • Ingredient list should state the amount of added water (%	**Gerber broccoli in a jar –(use of such food not commonly practiced in Armenia)** • Composition: 80% broccoli, 20% Water • Energy 21 kcal/100 grams • Protein 1.8 g/ 100 grams • Fat 0.2 and Carbohydrates is 3.3 g/100 grams • No added sugar or fruit • No sodium • No age restriction added* • No claims • Product name/ingredient clarity*
Caucasus country: Georgia	**Type of food: Dry finger foods and snacks: Category: Other snacks and finger foods** • No added sugar or sweetening agent • Total sugar < 15% of total energy (3.75 g/100 kcal) otherwise considered a sweet snack that should not be marketed (see 4.1) • Sodium < 50 mg/100 kcal and <50mg/100g • No industrially produced trans fatty acids • ≤ 4.5 g/100 kcal total fat • ≤50 kcal per portion or serve	**Liebe junior – No.1 licensed children's biscuit, from one year of age** Ingredients: Wheat flour, corn oil, sugar, corn starch, glucose-fructose syrup, eggs, milk powder, baking powder (food soda, ammonium carbonate) natural fragrance, • This Product contain the gluten vitamin A and E • Nutrition facts per 100 grams • Energy Value 473 kcal • Fat 18 grams, among them Saturated fatty acids 2.34 grams • Carbohydrates, 69,7 grams - sugar is 20.6 grams • Protein 7.4 grams • Salts 0.1 gr • Label states • Do not contain trans fat • Do not contain palm oil • Do not contain preservatives

Country	Dry or instant cereal – nutrient composition standards, and labelling requirements/ promotional restrictions, WHO European Regional Office	Name of CACF, nutrient content and label information, commercially available complementary food (CACF)
Caucasus country: Georgia	**Labelling:** • No added sugar or sweetening agent • Total sugar < 15% of total energy (3.75 g/100 kcal) otherwise considered a sweet snack that should not be • marketed (see 4.1) • Sodium < 50 mg/100 kcal and <50mg/100g • No industrially produced trans fatty acids • ≤ 4.5 g/100 kcal total fat • ≤50 kcal per portion or serve	• Sugar added • Sodium 100 mg/100 grams – over limit • High calories per portion/serving • Label doesn't mention sodium
Caucasus country: Georgia	**Type of food: Dry finger foods and snacks: Category: Other snacks and finger foods** • No added sugar or sweetening agent • Total sugar < 15% of total energy (3.75 g/100 kcal) otherwise considered a sweet snack that should not be marketed (see 4.1) • Sodium < 50 mg/100 kcal and <50mg/100g • No industrially produced trans fatty acids • ≤ 4.5 g/100 kcal total fat • ≤50 kcal per portion or serve **Labelling:** • No added sugar or sweetening agent • Total sugar < 15% of total energy (3.75 g/100 kcal) otherwise considered a sweet snack that should not be marketed (see 4.1) • Sodium < 50 mg/100 kcal and <50mg/100g • No industrially produced trans fatty acids • ≤ 4.5 g/100 kcal total fat • ≤50 kcal per portion or serve	**Semper children's biscuit with Banana from 6 months** 125 gr - contains vitamins, natural prebiotic, does not contain sugar, preservatives, fragrances Wheat flour, corn oil, grape juice, sunflower oil, oligofructose, corn starch, banana, eggs, milk powder, insulin, calcium, baking powder, Fe, Iodine, Vitamins C, B1, B2, • This Product contain the gluten • Nutrition facts 100gr • Energy Value 443 kcal • Protein 8.3 gr • Carbohydrates, 71.78 grams, sugar is 13,6 grams • Fat 11. 79grams = saturated fatty acids 1.08 grams • Vitamin c 24,1 mg • Vitamin B1 06.mg • Vitamin B2 0.6 mg • Niacin 6.2 mg • Sodium 310 mg • Calcium 474 mg • Fe 14.4 mg • Iodine 60 mg It is ready for use. You can use in dry also put the milk or tea or juice. Warm the liquid 40-50C and put the biscuit until it is opened. • Sugar added; yet label says no sugar added • Not sure if trans fatty acids added • Sodium– over limit • High calories per portion/serving • Label doesn't mention sodium

Country	Dry or instant cereal – nutrient composition standards, and labelling requirements/ promotional restrictions, WHO European Regional Office	Name of CACF, nutrient content and label information, commercially available complementary food (CACF)
Central Asian country: Kazakhstan	**Vegetable only purée** • No added sugar or sweetening agent • No added fruit/ fruit purée • Added water < 25% by weight • Sodium < 50 mg/100 kcal and < 50 mg/100 g • No industrially produced trans fatty acids • ≤ 4.5g/100 kcal total fat **Labelling:** • Total sugar: front-of-pack flag if ≥ 30% total energy • Age restriction: ≥ 6 m and < 12 m only • No claims • Product name/ingredient clarity • Statement about no sucking from spouts if in pouch Ingredient list should state the amount of added water (%)	**Gerber:** pureed carrot; pureed cauliflower Product is composed of 100 % of carrot. The nutritional value by 100 grams: • Energetic value is 138 kilojoule/33 of calories • Proteins 0.8 gr • Fat 0.2 gr • Carbohydrate 70 • K 110 micrograms • sterilized and fortified with Vitamin C "According to the law of the Republic of Kazakhstan, Belarusian Republic, and Russian Federation this product is recommended for children from 4 months." • NESTLE brand supports the WHO recommendations on exclusive breastfeeding of a child during first 6 months with a gradual introduction to the complementary meal from 6 months while keeping the breastfeeding as the basis of nutrition of the child. • Consultancy of a specialist is needed. Start introduction from 1 small spoon by gradually increase a volume. Don't use the iron spoon. It is ready for use. Please, keep it under the temperature of 6 30 Celsius degree. Open jar should be kept in the refrigerator no more than 24 hours. Do not use the product if it is not clicked during the opening. Date of expiration is on the top of the jar. *No sugar added, no information on trans fatty acids *Violated age restriction – under 6 months of age *No added water was included in ingredient list



ADEQUATE SERVICES

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Availability, affordability, quality and use of health and nutrition services

In the ECAR region, counselling on complementary feeding is weak for several reasons outlined in Table 4, based on key informant interviews with stakeholders. Countries faced challenges in rolling out IYCF counseling through primary health care facilities, due to lack of time, a shortage of health providers due to migration/ aging, and lack of incentives. Quality of counselling on complementary feeding was believed to be low at facility and community level, which is reflected in knowledge of providers and families about young children's diets. While guidelines/guidance on complementary feeding may exist, they were not always abided by health providers, and none of the health monitoring information systems, collect information on receipt of counseling on complementary feeding.

TABLE 4 **Reasons for weaknesses in quality of complementary feeding counseling, by ECAR subregion, according to key informant interviews**

Reasons	Balkans	Caucasus	Central Asia
Incorrect/lack of knowledge (training and/or implementation)		X	X
Time/workload	X	X	
Shortage of health providers (i.e. in rural areas/aging population of providers)	X	X	X
Lack of incentives to prioritize complementary feeding counselling (i.e. low pay)	X	X	X
No routine monitoring - receipt of counseling on complementary feeding in HMIS	X	X	X

For example, in Balkan countries, such as BIH recommendations from pediatric associations on early introduction of food or infant formula are contrary to global guidance on exclusive breastfeeding for 6 months. In addition, infant formula was often being promoted in health facilities from four months of age, which can interfere with timely introduction of complementary foods, as well as hinder exclusive breastfeeding.

Advertising on television and widespread availability of infant formula in health facilities continues to be problematic:

> *" Some pediatricians and pediatric associations start recommending food and infant formula from 4 months; this is contradictory from our recommendations in the federation/government. I really don't know why this is so.... But in fact, usually we hear this very often with mothers- they recommend and have no guidelines to improve breastfeeding, and instead they recommend formula –as it is recommended for weight gain and they [health providers] think breastmilk is not enough for the baby."* — Stakeholder, BiH

In primary health care settings in Balkan countries, lectures on healthy nutrition habits, including exclusive breastfeeding and introduction of complementary foods, were given during antenatal care by gynecologists (i.e. Serbia), and during postnatal care by pediatricians (i.e. BiH). Expert committees/working groups- and associations of pediatricians have developed materials (i.e. take home brochures), which provide feeding recommendations for parents on infants and young children. In addition, after the baby's birth in the first month of life, through "patronage" services, nurses conduct home visits up to 4-5 times, and counsel on breastfeeding. These visits provided an opportunity to see "*how well the child is fed, growing*", and provided information and counsel families, as relayed by stakeholders.

"Officially, we have regulations but in reality we are in bad position – 1) we have infant formula in health system 2) producers of infant formula provide donations which are not allowed according to regulations 3) all our maternities (58) have donations of infant formula (maybe 1 or 2 it is not allowed 4) if you have donation, you don't have control over it as the first feeding of baby [after baby} is mainly fed with infant formula and not by natural breastmilk from their mothers. It is because of this ..we have very low EBF." — Stakeholder, Serbia

In Caucasus countries, such as Armenia, IYCF training materials exist for health providers, and home visits and guidelines for parents provide information on breastfeeding and complementary feeding. For complementary feeding, key messages and content on frequency, quantity, and diversity of complementary foods, sample meal plans, nutritional value and benefits of foods (i.e. iron-rich), importance of responsive feeding, safe storage and preparation of food, and feeding during illness was provided across various modalities.

While complementary feeding content has been added to training materials, Caucasus countries face lack of prioritization of complementary feeding in health providers, given the aging population of health providers, the shortage of physicians to provide child health services at primary health care facilities (i.e. polyclinics or rural *ambulatories*), and the lack of incentives for physicians to work in rural provinces (i.e. including issues with local transportation and financial reimbursement)[19]. The number of pediatricians has declined from 1839 to 934 from 1995-2013[19]. Currently, 1.62 pediatricians per 1000 children, 0-14 years of age. Several stakeholders described this process in the following quotes:

" The health system, is facing an aging population of health providers, with few physicians working in the primary health care settings and a lack of pediatricians and family doctors. The current generation of health providers are becoming plastic surgeons and obstetricians/ gynecologists and work in hospital settings. The Ministry of Health has created a policy and incentives for young physicians to work in rural provinces, with targeted funding and benefits – however it is not working well. While medical students who agree to work in rural provinces will be fully funded, many are repaying the government so they don't have to return to provinces to work. The problem is the –distribution of workforce. — Stakeholder, Armenia

In addition, there is a lack of complementary feeding monitoring indicators within the HMIS system, as one Georgian stakeholder relayed:

We have these kind of programs but now adays [they] are not there. In the past, we were also training medical staff/doctors and PHC situation on nutrition (mostly on breastfeeding not complementary feeding). Continuing medical education is very important – and not everyone speaks the language to understand the new information or teach or have information in native language. They can do the counselling, but sometimes there are problems due to timeframe – approximately [visits} are only 20-30 minutes (due to insurance) – so not enough time to conduct good counselling in terms of looking into feeding problem and what to tell parents. Second, medicine is oriented towards treatment and not preventative medicine (like counseling and feeding). There are also gaps in information on young child feeding is a concern –such as the doctors think that after 3-4 months the child needs to start complementary feeding with juices." — Stakeholder, Georgia

"We don't have data on complementary feeding (on what children and how often they are fed); for more than 10 years through routine health statistics [system], we need these data to . identify feeding problems We also need survey data on complementary feeding interventions so we can further plan interventions, as [currently] we don't have the whole picture." — Stakeholder, Georgia

In Georgia, The State Healthcare Program: Maternal and Child health Program, aims to reduce maternal and newborn mortality, reduce the number of preterm births and consists of services in the form of state aid. Within the program description, no reference was made to breastfeeding or complementary feeding counselling as part of the program. Mothers may receive pre and postnatal services, which may include breastfeeding counseling, though the program primarily provides iron and folic acid supplements to pregnant women. Nutrition counselling was minimal and no educational material on IYCF are available through the program. The program also provided children of 6-23 months of age with micronutrient-containing food supplement for families registered in the database of socially unprotected families with a threshold level of living allowance not exceeding/ or exceeding 100,000. The Baby-Friendly Hospital Initiative (BFHI) is a key intervention for supporting the initiation of breastfeeding, outlined in legal frameworks, however BFHI was not functioning in the country and the Ten Steps to Successful Breastfeeding are often not adhered to in maternity health care facilities, according to stakeholders.

In Central Asia, there was limited prioritization of complementary feeding counseling by health providers and limited job aids for providers. There was also a notable lack of nutritionists due to the absence of nutrition as a discipline of study in universities in the region, as well as a lack of definition of the roles and responsibilities of a "nutritionist", as a health professional.

"At one point there was funding for cascade trainings [for health providers], yet I not sure of the quality of these trainings. Health providers are not fully updated on complementary feeding counselling, and while guidance has changed in some places the curriculum has not changed for medical providers. They also use outdated materials and recommendations [on complementary feeding]." — Stakeholder, Kazakhstan

"We have nutritionists trained at the Institute of Nutrition, yet they are very old and are trained [with a focus on] food safety and not on complementary feeding. We don't have a young cadre of nutritionists." — Stakeholder, Kazakhstan

In Central Asia, the health system has not prioritized health worker training and implementation of counseling on complementary feeding was weak or not conducted in primary health care settings. Stakeholders revealed a need to conduct refresher trainings and reinvigorate supportive supervision at community and health facility levels. In Khatlon Province, Kazakhstan, recently emerged food taboos, restricting consumption of foods by young children, were reported to be linked to recommendations from local. Moreover, children whose mothers report relying on health care providers for feeding advice are less likely to have adequate diversity or minimum acceptable diet (MAD) scores ($P < 0.10$)[14].

"The problem is the training of nurses, who conduct the newborn or home visits, as they are not well educated [on these topics], they do the recommendations but do not implement. We do not have systematic monitoring and evaluation, while 5-6 years ago, WHO supported a training of trainers of post- diploma specialists to provide supportive supervision visits on MCH including nutrition. This supportive supervision worked very well when there was funding to go to the field to do the assessments, whether at facility [or] community level. This needs to be restored."
— Stakeholder, Tajikistan.

Availability, quality and coverage of social protection services

In the ECAR region, while social protection programs exist, none of the countries have designated social protection policies specifically targeting improvement of young children's diets in households affected by food insecurity or poverty. The benefits for families with children, and use of these benefits for purchasing foods for young children is often unknown, according to key informant interviews. Further, social protection programs vary across the six focus countries within the Balkan, Caucasus and Central Asian sub regions, as described below.



Balkan Countries

Serbia: Social protection system has different funding sources at central, state, and municipal level. Benefits are provided by different social protection measures, including a designated child allowance which includes 1) cash assistance for newborn child and 2) assistance to mothers of children in the first 6 months of life. A few cash benefits are provided to mothers of children 0-12 or 0-18 months of age, yet how families use these benefits and if foods are purchased for young children was unknown. There was also lack of budget, legislation and the targeting and eligibility criteria may be too strict, as many families were without assistance. As relayed by one stakeholder:

" Social protection programmes acting as a safety net to enable vulnerable households with young children access to vouchers for foods/cash to purchase food/actual food, etc. – we don't know if they are using it for purchasing food. We don't have any evidence on how benefiting children and the volume/amount of benefits are too small and not enough to support good nutrition or any other costs when they have a new child. Amounts vary by canton; some receive $6 USD per month and the highest is-$70 per month."

Caucasus countries:

Georgia: social protection services do not target food or interventions for improving young child diets, though food and/or cash vouchers are received by families who are eligible.

According to a Georgian stakeholder, *" Anyone who is poor can apply, social agents are specific trained to do this application and assess the families. The score of the family determines if the family is eligible for a cash transfer. Social protection programmes acting as a safety net to enable vulnerable HH with young children access to vouchers for foods/cash to purchase food.. Currently UNICEF is assessing whether the cash voucher or cash and food vouchers together perform better in the country, as there is no evidence currently. Only the Targeted Social Assistance Program has a food benefit, which is the largest targeted program for child food vouchers –and only covers half of poor families. They have a credit card for food voucher which can be used at certain supermarkets/small markets. However we don't know kind of food items parents are buying and how food vouchers are used."*

Armenia Almost one in three children reside in monetary-poor households and are deprived, in two or more dimensions of poverty[20]. Recent UNICEF multidimensional analyses show that children in poor families are more likely to be stunted or overweight. One in four children living in extreme poverty are overweight and slightly less (24 percent) are stunted. As part of the government's social insurance program, childcare benefits are provided for children under 2 years old and a targeted family benefit (FB) focuses on targeting the poor[21]. Yet, integration of interventions that provide benefits to improve young child nutrition, as part of social protection, was largely absent.

Central Asian countries

In **Kazakhstan**, food baskets can be provided to the family, if they are eligible according to collective family income.

"For the social protection program, eligibility is based on income (total number of income by members of the family unit), where families can apply for social support and have a food basket provided on a monthly basis. It is not known if children receive food from this basket. During primary health care, if mothers are ill and cannot breastfeed for any reason (i.e. specified health condition), they may receive breastmilk substitutes (i.e. powdered infant formula)."
— Stakeholder, Kazakhstan

In **Tajikistan**, targeted social assistance (TSA) targets the poorest 15% of the population, and amounts to TJS 400 per year (TJS 33 per month), and school meals are provided to those in the first four years of primary school, though are not targeted to children less than five years of age. Social safety nets can be used to increase access for to food for young children, yet the current level of benefit was not sufficient for the population be able to afford nutritious foods, nor it was not known if those funds are spent on foods for young children[13]. According to a recent study, the TSA could increase access to fortified and complementary foods through in-kind provision, commodity-specific vouchers or cash transfers accompanied by strong social and behavior change communication.

Availability, quality, affordability and use of water and sanitation services

In the ECAR region, WASH is not viewed as a barrier to complementary feeding, according to interviews with stakeholders, Therefore, WASH and nutrition programming have not been prioritized nor focused upon as an issue in the ECAR focus countries.

In the Caucasus countries, most households do not have problems with lack of access to water. According to 2015-16 Armenia Demographic Health Survey, most households (98 percent) in Armenia have access to an improved source of drinking water, with nearly all (96 percent) reporting that drinking water was piped directly into the dwelling, yard, or plot. Flush toilets are widespread in urban areas (95 percent), while pit latrines are common in rural areas (47 percent). A hand washing station was observed in 96 percent of households, and of these households, 97 percent had soap and water available. While there are no distinct nutrition and WASH integrated programs or projects in Armenia, sources of water may be located outside the home, and in some areas, water supply may be restricted to certain hours of the day.

In Central Asia, some data indicate that water source and hygiene are issues. In a cross-sectional survey (n=2358) conducted in Kazakhstan, Central Uzbekistan and Kyrgyzstan showed that the odds of being stunted for children < 3 years of age were nearly 1.4 times higher in households without piped water compared to households with piped water. In addition, in another study in Tajikistan, water was available in nearly all households, soap was available in less than half of households and handwashing during meal preparation was not commonly observed.[15,22] There was limited to no information available on role of food safety authorities and policies to improve safety of foods given to young children in the region. In Central Asia, in a study conducted in Tajikistan, participants viewed cucumbers, watermelons, grapes, and tomatoes as unsafe and contaminated due to growing conditions in irrigated greenhouses. Food taboos related to greenhouse-grown fruits and vegetables may be indicative of broader issues relating to water, sanitation, and hygiene (WASH) as irrigation water can be a potential source of foodborne pathogens in Central Asia.



ADEQUATE PRACTICES

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Caregiver knowledge

Caregiver knowledge of good complementary feeding practices is of importance to change feeding practices/ behaviors, while also considering the multiple influences of household dynamics, caregivers' time and social norms as key drivers of optimal diets of young children, according to data from the literature review and key informant interviews.

In Balkan countries, early introduction of foods prior to 6 months of age, perceptions of insufficient breastmilk, and use of infant formula go hand-in-hand, which not only affects exclusive breastfeeding but also timely introduction of complementary foods and associated feeding practices. A study in Mostar, BiH with mothers of infants 0-12 months of age (n=326) revealed that by four months, only 27% of infants were exclusively breastfed[23].

Infants were primarily fed breastmilk substitutes, with early introduction of tea, water or both from the third month of life. In addition, the most frequently stated reason for early cessation of breastfeeding was lack of breast milk. By 10-12 months of age, all infants were fed follow-on BMS. It was notable that the knowledge of parents, coupled with the lack of compliance and the influence of infant formula companies is a significant obstacle for protection, promotion and support of breastfeeding through the Baby Friendly Hospital Initiative.[24]Perceptions of insufficient breastmilk, and insufficiency of infant formula to nourish the child in the first 6 months, often leads to early introduction of liquids (i.e. soup) or food by 4 months. Reliance on infant formula, as a means to ensure infant weight gain was also noted as a problem.

"Mothers start feeding soups (mostly without meat, water with little vegetables and then a little bit of meat; they get liquid, and then they add bread in soup. They feed the [child] earlier - at 4 months – the better, because they think breastmilk is not enough. Milk formula is not enough. They don't trust breastmilk or milk formula and in traditional areas of Bosnia and don't have much money to pay for formula – and transition baby as soon as possible to normal food, as soon as possible. Urban areas mothers follow pediatric advice – and depend too much on infant formula, mainly by 1 year of age – children are fed formula with very little vegetables or fruits, and start with bananas, and then babies like sweet foods or like vegetables – get used to banana and don't like (sweet. taste) and then babies don't like vegetables – based on pediatrician's advice."
— Stakeholder, BiH

Sometimes when the mothers have difficulty buying formula, because because doesn't have money to buy, they give babies cow milk. Our cultural background/practice to give babies cow milk with pre-packaged cakes for babies – it can pour liquid in milk (sugar, flour) – sometimes very early – 3 months." — Stakeholder BiH



A cross sectional study in Serbia which assessed knowledge, attitudes and practices regarding complementary feeding practices among mothers with children, 6-24 months of age (n= 492), while 57.1% of all mothers know that complementary food should be given after 6 months, 61.6% of mothers started feeding their babies with complementary food before 6 months[2]. There are no significant differences in mothers practices according to the level of education and age group, although there was higher percentage of incorrect practices among older mothers (70.8%) Most mothers (73.6%) were advised by healthcare workers regarding the time when they should start feeding their children with complementary food, though there was no difference by educational level or age group there are no significant differences. Stakeholders relayed the diet of young children is diversified, with starting children with carrots, apples or potatoes, or rice; with chicken soup, as first foods, followed by a variety of *meat, grains and bean, from 8-9 months of age*.

For complementary feeding, mothers usually give 1 meal – and they just use infant formula and basic source formula – and start 1-2 meals. Our problem is not so much complementary foods as is the low breastfeeding rate. They think that milk formula is very good food – and special food for babies and is enough and preferred by the baby, and don't see that babies need other foods –baby is satisfied and growing and seeing weight gain and don't see any reason or problem and this continues to 1-2 years, when family meals are given. Fruit juice is also fed to children. Advice on feeding is given by pediatricians. — Stakeholder BiH

Central Asia

There was limited information on caregiver knowledge and adequacy of complementary feeding practices in Central Asia, based on the literature review and key informant interviews. Stakeholders relayed that the problem was mothers and families' awareness of *what* and *how* to feed children, including food preparations and recipes. A perception that breastfeeding is sufficient until one year of age was mentioned, points to delayed introduction of complementary foods for some mothers.

In addition, a study conducted in Tajikistan found caregivers often held perceptions of insufficient breastmilk which prompted early introduction of foods prior to 6 months, as well. Recent study findings reveal that, mothers reported that their breastmilk as insufficient or "*not enough*" and introduced cow's milk, as a first food[15]. Mothers that ceased breastfeeding prior to 6 months of age, described feeding infants cow's milk, water and/or sweet tea, in addition to infant formula, as a substitute for breastmilk. While some mothers may purchase infant formula when breastmilk was insufficient, there was a preference to provide animal-source milk, as women cited that formula was "*too expensive*" as a breastmilk replacement or other mothers perceived "animal milk" to be more nutritious[15].

As one married woman explained: "*I am not in condition to buy formula, but I buy cow milk for my children which may be healthier.*" Mothers stopped breastfeeding their children on average at the age of 10.8 months (rural: 11.3 and urban: 10.0)[9]. Mothers relayed that solid and semi-solid foods, such as yogurt, cheese, cereals, and porridge and bread soaked in tea, vegetables and potatoes are fed early, prior to 6 months. Common foods fed to children 6-23 months of age, as reported in the previous week, were baby cereal (12.9 times), other cereals (8.1 times) and vegetables (7.9 times), potatoes/ white tubes (6.9 times) ,meat (6.8 times), and sweet foods, such as candy cookies and cake (6.4 times). Sweetened drinks, such as soft drinks, sodas, and compote, fruit and vegetable juice, were also fed 5.7 times in the last week.

Mothers demonstrated little awareness and knowledge of *what* foods to feed young children and often lack "*access to sound nutrition advice.*" Mothers relayed they were not aware of the need to avoid cow's milk prior to 9 months nor iron-depleting foods such as black tea and heavy sweetening foods were seen as a good approach to increasing a food's appeal. Research studies reveal that gradual introduction of food was common, without regard for diversity. As relayed by a mother from a recent study, *"Whatever food we eat, we give of bit to our babies too. The purpose being they should get used to it. We don't give them much, starting around 1 year old, little, little portions so it sits in their behavior*[14].

Foods such as meat were seen as costly and thus inappropriate for IYCF, and food taboos (i.e., fresh vegetables) further reduced diversity. Meats and vegetables were often avoided due to their "hard" consistency and belief that they are *too difficult to digest*.

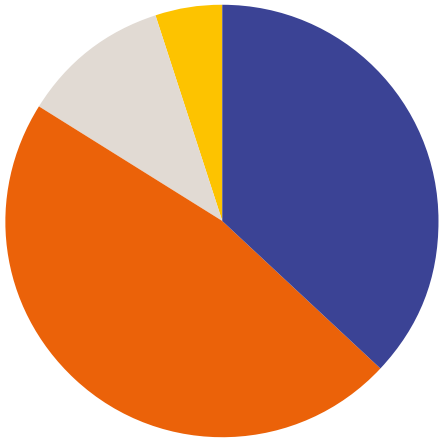
Food preparation methods for young children, such as grinding was seen as impractical, as mothers *"don't have time"* nor "*have a grinder*", and foods are often withheld until children develop teeth[14].

> *It is more about knowledge and practice than access. Our behavior is [eating] more carbs, and little fruits/vegetables. June is best period for fruits and vegetables and they are available on trees, and [they] are cheap. This is our practice – we like to eat carb, oily and greasy food. The problem is poverty – in communities, parents give children, 8 and 11 months of age, what parents in law eat. Often parents are not there to decide, so mother and father in law feed the child. Children eat what everyone else eats – even if it's a piece of bread and sweet tea."*
> — Stakeholder, Tajikistan

Recent IYCF formative research in Tajikistan found that in 47 percent of households interviewed, the mother's diet was adequately diverse, while the child's diet was not[13].

In another study of 36 mother-child pairs, adequate dietary diversity for both mother and index child was reported by 37% of households. In the remaining 58%, inadequate dietary diversity was reported for the index child, yet 84% of women with children aged 6–23 months had adequate diversity in their own diet (see Figure 13)[13]. Women's dietary consumption differs from children's in several ways, indicating children's nutrition was not prioritized in the household, in many cases. The diet of Tajik women of childbearing age was rich in cereals (wheat, bread, rice, pasta, and biscuits), potatoes, and other roots or tubers, as well as fats and oil, vegetables, and sweets, which were consumed by over 80% of the women in the previous 24 hr. Further, over 60% ate dairy products and meat, but only 3.9% consumed fish. There was no data from Caucasus countries.

FIGURE 13 MDD, children age 6–23 months and their mothers, based on 5+ of 10 MDD-W food groups for mothers, and 4+ of 7 WHO food group/ child (n= 36 pairs), Tajikistan Kwabata et al[13]



Minimum Dietary Diversity for Index Children age 6-23 months and their Mother in the past 24 Hours*

LEGEND:
- Both Mother and Child Adequate (37%)
- Mother Adequate, Child Inadequate (47%)
- Mother and Child Inadequate (11%)
- Mother Inadequate, Child Adequate (5%)

*Based on 5+ of 10 MDD-W food groups for mothers, and 4+ of 7 WHO food groups for child (37 pairs).

Caregiver time

In Balkan countries, mothers may have less time, due to return to work, or may not have grandparents/ family members to help with food preparation, due to changing support structures which may impact children's diets, according to data from the literature review and interviews with key informants. Screen time was also notable for young children, as relayed by stakeholders. There was no data from Caucasus countries.

Many mothers in order to make young children 8-9 months to eat put cell phone/cartoons/ TV on ….so children are obedient,. There are also families that don't have grandparents who can help with food preparation – sometimes they tend to eat take-away foods which they also give to children, it increases amount of sugar, salt and fat in their diet, which is not good.
— Stakeholder, Serbia

In Central Asia, while caregiver time and household dynamics was not mentioned as a determinant of complementary feeding in Kazakhstan, in Tajikistan, women in Tajikistan have limited time to care for children, due to household chores and increasing responsibility for agricultural production, as men migrate to other countries for work. The proportion of households relying on remittances ranges from <10% to upwards of 41%. Female-headed households have lower food security and high levels of poor dietary diversity, which can negatively impact complementary feeding practices.

Complex household dynamics exist around food purchasing, food preparation, and how and what young children are fed in Tajikistan. In rural areas, male out-migration for employment (i.e. 25-40% to Russia) has increased the burden of responsibilities for women[14,15]. This shifting macroeconomic forces have changed support structures, as with more absent fathers, women have increased burden to carry out agricultural activities and have less time to care for family, which may affect IYCF practices – i.e. women are less able to exclusively breastfeed, feed frequently enough and ensure that children receive a diverse diet. The fall of the Soviet Union catalyzed women's entry into larger scale, waged food production when a sudden drop in employment triggered men migrating for work . In the absence of men, women filled many traditionally masculine occupations- as three-quarters of women are involved in waged agricultural labor. In addition, the fall of the Soviet union was accompanied by a sudden decrease, by one-third, in agricultural inputs in former Soviet bloc countries[15]. Food systems changed, as women used their knowledge of low-input growing methods- yet received limited access to fertilizers, pesticides, improved seeds, high-quality irrigation - usually targeted towards male farmers. Thus, implementation of low-input agriculture accompanied women's entry into larger-scale farming as a result of necessity and familiarity.

Tajik women typically move to their husband's village and family home, following marriage, where diets are often shaped by multigenerational hierarchical dynamics within the household, which are affected by seasonal agrarian economics. In one study, rural household size ranged from 4 to 21 members with married sons, daughters-in-law, and children. Sixty-nine percent of mothers reported living in households headed by their fathers-in-law. While most mothers (65%) reported being the prime decision-maker regarding their child's feeding[14]. In 25% of homes, mothers-in-law decided how children were fed, and in 10% of families as husbands or fathers-in-law, had roles. Fathers-in-law were the most common person to purchase food, either alone or with other family members (i.e., mothers-in-law or adult sons) and mothers-in-law were the most frequent decision maker regarding household food purchases and meal planning. Formative research reveals that during meal observations, mothers prepared meals half of the time, while mother-in-law, sister or sister in law's prepared meals for the remaining observations. Food was not prepared separately half of the time. Specific micronutrient supplements are not given to children.

Furthermore, Tajik households often provided one main meal of stew or soup including starches, vegetables, and meat (as available), with bread and tea[14]. Therefore, infants and young children were often introduced gradually to aspects of the household diet, with early foods limited to broth, followed by mashed starches (i.e. potatoes). Sweetened tea, bread dipped in tea and/ or cookies were commonly consumed throughout the day by family members and it has been noted that infants may be offered these items as *first foods*.

Social norms

Food taboos, myths & perceptions regarding specific foods strongly influenced diets in the Balkan and Central Asian countries in the ECAR region due to fear of childhood allergies and food taboos, incorrect knowledge and incorrect beliefs among mothers and health providers, according to data from the literature review and key informant interviews. There was no data from Caucasus countries.

In Balkan countries, most common complementary first foods are- low-allergy foods – fruit juices, cereal porridge, pureed fruit and pureed vegetables. These *foods have a sweetish taste similar to that of breast milk and milk formula, so the baby will accept these first meals more easily.* New food is recommended to be fed in small amounts, only one food at a time, every three to seven days. These are fruit juices, fruit purées, cereal gruels, vegetables, meat. Recommended fruits include apples, pears, plums, peaches; of vegetables: carrots. After a period of getting used to the new foods, it is recommended that the infant be offered vegetables purées.

Feeding practices are driven by the beliefs that breastmilk is insufficient, the adherence to pediatricians' advice who largely recommend early introduction of food at 4 months, combined with fear of development of food-related allergies in young children. Due to possible allergic reactions in the first year of year, Serbian health professionals (pediatricians) are relying on the recommendation of the European Society for Pediatric Gastroenterology, Hepatology, and Nutrition (ESPGHAN) for children.

There is a low percentage of EBF – and after birth they give newborn – water or offer tea – cramps/ bowls hurt/digestion issues; and [at 3 months, parents give a small amount of rice or something [infant formula] and usually think breastmilk is insufficient, [it is] not enough and feel child is hungry. Some mothers don't want to [breastfeed] because they are returning to work – and don't want to leave their milk for child to be fed with. There are pediatricians that follow of Assoc of Pediatric Gastroenterologists – and [they think that] infants taste other types of food (mashed, liquid) 17th and 23rd weeks -5th month –just tasting not eating. They tell parents to try certain types of foods as that will decrease [or make the child] less prone to food allergies later. This is why parents [specifically] introduce fruits or cereals at this age." — Stakeholder, Serbia

In **Central Asia,** some mothers introduce foods early before 6 months of age, and it may be a sweet food (i.e. cookie). Meat is a primary feature of the Kazakh diet, as is consumption of processed foods *'This is a lot of [early introduction of]food starting from 4-6 months. Mothers may start with something sweet – like is cookies dipped in tea – which is widely available or a glass bottle – prepared baby foods. Mothers find it easy to use. The policy /guidelines should emphasize that self-made foods are important, and primary health care setting is the right place to educate mothers and have some practical session for preparing these foods by themselves (i.e. vegetables – are not expensive and fruits are not available). Usually apples and carrots are fed to children or cabbage and we eat a lot of meat, which is fed as a puree or soup with vegetables and some meat.'* — Stakeholder, Kazakhstan

Post-Soviet Tajikistan faced the threat of severe food insecurity in the mid-1990s, from which emerged food taboos which likely led to greater value in domestically produced foods. Women (i.e. mothers and mothers-in-law) relayed that imported food and "*foods grown with chemicals* [i.e. fertilizer]" are *unsafe for human consumption*. Imported foods were viewed with distrust, as "impure", and *a cause of poor health*[15]. As described by one married woman: "*We don't eat imported chicken. We eat our chicken from our houses, but we don't eat imported chicken.*" Foods with additives and foods *"grown with chemicals"* were relayed by women to be avoided by all family members, regardless of age or gender. While fruits and vegetables were perceived as *"healthy"*, findings reveal that women grappled with consumption of *"fruits and vegetables [which] have a lot of fertilizer and chemicals."*

Early childhood taboos encompass certain foods restrict the dietary diversity of foods consumed by young children. Restriction or elimination of taboo foods are believed to protect children's health by lessening the risk of upset stomach, foodborne illness, and delayed language acquisition *(see Table 5)*[15]. Several studies revealed that family members believe that infants and young children, 6-24 months of age, were highly sensitive to gastroenteric upset based on the belief that they cannot digest foods as effectively as adults- the most common reason for excluding certain foods from young children's diets. In FGD findings, appropriate foods are light or soft – such as mild-tasting and carbohydrate-rich foods. Taboo foods are heavy/hard foods and are often diluted with water for greater palatability.

TABLE 5 Food taboos, children 6 to 24 months of age, Khatlon province, Tajikistan (Wood, 2018, Kwabata, et al, McNamara, et al)[13,15,26]

Taboo food, infants and young children	**Perceived harm(s**	**Family member who holds belief** *Married women (MW) , Mother-in-law (MIL), Fathers*
Egg	• Gastric upset • Delayed language acquisition (late speech) • High-calorie foods (fathers only)	MW, MIL, Fathers • "Babies who didn't start talking, they shouldn't eat eggs, because it will influence, they will start speaking very late. (MIL) • "if [children] eat eggs they have the problems with their stomach."(MIL)
Oily, and carbohydrate-rich staple foods • *Fatir* (a type of bread) • S*ambusa* (meat/vegetable-filled pastry) • *Osh* (rice dish) • *Mantou* (meat/vegetable-filled dumpling) • *Goat and lamb ("oily")*	• Too *hard or heavy* • Difficult to digest • Exclude from diet until child is greater than 2 years of age	MW, MIL • *"starting at two, three years, but in very small amounts starting from two years" (MW)* • *"for some children, these practices continue past the age of 2 years due to taste preference or household dietary practice" (MW)*
Some fruits and vegetables • Tomato • Cucumber • Watermelon • Grapes	• Gastric upset- Fruits and vegetables grown inside greenhouses (MW) or with contaminated irrigation water (MIL) • Food-borne illness	MW, MIL • "We don't give them [children] tomato, cucumber, watermelon, and grapes, because of diarrhea" • "Some people even died when they ate watermelons and melon…. from botulism" • "…we live in a village where kids might go to the garden and pick a cucumber and eat it without even washing off those chemicals. We should wash and peel then feed those types of things."
• *Plov* (rice) • Meat	• Gastric upset • Too early to eat, need teeth	MW "I don't give plov (pilaf) to my child. How can you feed a one year old with plov? It's still early. It depends on whether the child has teeth or not. We can give carrots from plov if not the rice from plov. Some children have teeth before they are one year old"



ENABLING ENVIRONMENT

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A key weakness of the enabling environment in the ECAR region is the lack of national dietary guidelines in the six focus countries, following the review of policies and associated country documents. While multisectoral coordination is mentioned in a few policies, "*how*" to achieve this, is not delineated. Complementary feeding indicators, targets, and timeframes for achieving targets is largely absent from country policies and strategies. In this section, the enabling environment is described for the subregions and for each of the six ECAR focus countries.

In Table 6 only one country had a nutrition policy, with only two countries with regulations on breastmilk substitutes and a singular country with regulations on infant foods. No WASH or social protection policies are targeted towards young children, and no specific agriculture and food chain policies, systems, nor services were identified by country stakeholders nor had services/ interventions to improve young children's diets. Several countries also have guidance on nutrition for preschool and school-age children in educational and child-care facilities (i.e. from six months of age).

TABLE 6 Health and Nutrition Policies and Guidelines, by ECAR country

Country, (group)	Health policy	Nutrition policy	Guidance for comp. feeding	Protection and support of breastfeeding /BFHI regulations	Regulations feeding of preschool/school age children
BiH (B)	X	X	X		X
Serbia (B)			X (project-basis)	X	X
Armenia (C)	X	X	X	X	
Georgia (C)	X		X	X	X
Kazakhstan (CA)			X		
Tajikistan (CA)	X			X	

*B = Balkans, C= Caucasus, CA = Central Asia

Other stakeholders relayed that while guidelines and regulations exist (see Table 7), advertising of infant formula and infant foods at health facilities is a problem, which violates World Health Assembly (WHA) Resolution 69.9.

TABLE 7 Laws and regulations on infant formula/infant formula, by ECAR country[27,28,29,17]

Country guidance	Labelling of infant formula and follow-on formula or commercial foods	Labelling of content	Regulated advertising of infant formula or follow-on formula
Armenia - law regulating commercial infant food was adopted in 2014,	Labelling also forbids any text putting commending formula or "*approximated to mother's/human's milk*", as well as statement in support of breastmilk as a "*perfect food for the health growth and development of infants, which protects from diarrhea and diseases.*"	Labelling requirements are: information on preparation and use, warning on health hazards, composition and origin of milk or breastmilk substitute, warning on incorrect use (i.e. infant formula for young children (> 6 months of age), not used for infants less than 6 months of age).	• Prohibits advertising and/or any forms of encouragement (i.e. prizes, awards, gifts, providing samples) *for any formula* • Complementary food advertising is allowed if any information provided on complementary feeding encourages exclusive breastfeeding for the first 6 months and continuous breastfeeding until age two. • The law prohibits the sale and encouragement of infant food by health care professionals, which includes receipt of gift, acceptance or provision of samples of infant food and related products, as well as demonstrations of use of infant food. • Manufacturers and distributors are prohibited from encouragement via donation of food, providing gifts to health care professionals or institutions , sponsoring events or activities for parents of infant and young children, or family.
BiH Regulations on Infant formula	Breastmilk substitutes: The product is suitable for infants from birth when they are not breastfed at all or sufficiently and 2) for follow-on formula the product is suitable only for infants over the age of six months, forms only part of a diversified diet, it is not to be used as a substitute for breast milk during the first six months of life	i.e. energy, protein, carbohydrates, fats, vitamins, mineras, per mL, instructions for preparaton, storage and disposal of the product,	States appropriate use of the products to be delineated, so as not to discourage breast feeding**, and** not use 'humanised', 'maternalised', 'adapted', or similar terms. • Include: '*important notice'*statement on the superiority of breastfeeding, use only on the advice of a nutritionist, medical or other professional, and no pictures of infants, nor other pictures or text that may encourage use of the product; • Advertising restricted to publications specializing in baby care and scientific publications and no point-of-sale advertising, giving of samples or any other promotional device to induce sales of infant formula is allowed in BiH.

Country guidance	Labelling of infant formula and follow-on formula or commercial foods	Labelling of content	Regulated advertising of infant formula or follow-on formula
Georgia Law on Protection and Promotion of Breast-Feeding	Breastmilk substitutes: Information on labels are *not to belittle the significance* of breast-feeding. Labels should indicate in capital letters the following : *"WARNING! MOTHER'S MILK IS THE BEST FOOD FOR YOUR BABY" and "WARNING! PLEASE APPLY TO YOUR PHYSICIAN TILL FEEDING YOUR BABY BY THIS PRODUCT; STRICTLY OBSERVE ALL INDICATIONS RELATED TO USE AND PREPARATION OF FOOD".* The labels are prohibited to 1) state that BMS are similar to breastmilk and 2) have an image of a baby that indicates the merits of bottle-feeding.	Include: food preparation and timing, feeding, inadmissibility of use of remainder of prepared food for baby feeding for the second time; age in figures, = nutrient composition products; ingredients used for preparation of products; conditions for storage and transportation; expiration date in various climatic and storage conditions; and number of lot and date of manufacturing.	Any advertising of bottle-feeding products, other than additional food, is prohibited. Hanging any advertising, informational and educational material about BMS as well as use or placing of such things that indicate a firm or another mark, name of picture of a manufacturer or distributor of BMS at medical institutions is not allowed. Law modified the code on advertising, which states, ''*It is prohibited to advertise and propagandize in any form of children artificial-feeding products, except complementary food.*" (* violation of WHA resolution 69.9[v]).
Legal frame and implementation of legal regulation on breast-feeding in the Republic of Serbia – Report	This decree mentions the need to amend the Law on Food Safety with including the provision that the Ministry of Health undertakes *the measures for the purpose of encouraging and protection of breast-feeding and promoting of the principles of WHO Codex.*	While no labelling information. The decree states health workers should be informed about their responsibilities which arise from the Codex, including information on *benefits and superiority of breast-feeding; nutrition of mother and preparation*	Amendments on rules of on the purity of dietary product and states that concrete obligations of Ministry of Health and health institutions related to the breast-feeding issues are to be included such as: it is *forbidden to the health institutions to promote infant formula or other products protected by the Codex (to*

[v] WHA 69.9: Ending the inappropriate promotion of foods for infants and young children and called on governments to implement its recommendations, such as ensuring that Code regulations cover all BMS (all milk products intended for children up to the age of 36 months); prohibiting the cross promotion of BMS through the marketing of other products and ending healthcare system conflicts of interest from the baby food industry.

Country guidance	Labelling of infant formula and follow-on formula or commercial foods	Labelling of content	Regulated advertising of infant formula or follow-on formula
		for breast-feeding and its maintaining; negative effects of partial nutrition through the bottle, to breast-feeding; difficulties of decision change not to breast-feed; correct use of infant formula, where necessary, social and financial implications of using, health risks of inadequate food or feeding method and, especially, health risks from unnecessary or inadequate use of infant formula and other substitutes for breast-milk.	*list the products) (with the exception of dissemination of information to health workers for the scientific and factual purposes); health institutions should not show the products protected by this regulation, placates or posters related to such products or should not distribute materials of producers or distributers.*

Advertising on television and widespread availability of infant formula in health facilities continues to be problematic:

> *Yes this is a problem. These companies- government public health facilities – offer big banners on processed foods/flyers for children – not only baby foods; but cookies/Nesquik. They may get some funds/money. Sometimes poster and flyers are in waiting rooms, sometimes [advice] is given by nurses or doctors. "* — Stakeholder BiH

In the Balkans, IYCF is not seen as a priority by the government, as implementation is weak, with a lack of activities and designated budget for activities.

> *"Mostly there are barriers [to health services] due to the presence of infant formula makers, which violate the International Code of Breastmilk Substitutes, as infant formula is in each health facility. Each facility has many recommendations from infant formula makers that are in cooperation with the pediatricians, and the government isn't doing anything about that. Both before and after 6 months – there is infant formula and there is no follow-up or evaluation in this area [violations]."*
> — Stakeholder, BiH

In Caucasus countries, like Georgia, protection and promotion of breastfeeding is challenging. In 1999, the implementation of the International Code of Marketing of Breast-milk Substitutes, through the joint efforts of the Ministry of Health and the International Baby-Food Action Network (IBFAN) Georgian group - "Claritas," resulted in a law on "*Protection and Promotion of Breastfeeding and Regulation of Artificial Feeding*" which prohibited advertisement and promotion in any form of infant-feeding products, with the exception of complementary food (Table 7). Yet despite the law, there is a high prevalence of marketing of breastmilk substitutes in maternity houses and the law is no longer implemented in Georgia, given the number of violations. The law requires updating to be in-line with the WHO Code of Marketing of Breastmilk Substitutes and subsequent resolutions (the Code).

Regarding national nutrition and health policies, in the ECAR focus countries, clear targets, interventions and activities for complementary feeding are largely absent. Moreover, no country has a national food-based dietary guideline, with a focus on diets of young children.

For the **Balkan countries**, such as BiH and Serbia, conflicting guidance on timing for introduction of complementary foods (i.e. 4 months vs 6 months) can disrupt exclusive breastfeeding practice as well as timeliness of starting complementary feeding.

BiH has number of national nutrition and health policies, legal frameworks (rulebooks) and guidance on IYCF for providers, pre-school/school and families, yet there are no food-based dietary guidelines. While multisectoral coordination is cited in the policies, *how* and *when* to achieve this, in terms of target and interventions are not described. In addition for infants and young children, while policies mention the importance of exclusive breastfeeding, complementary feeding, and avoidance of processed "empty calorie foods", conflicting guidance recommends that *exclusive breastfeeding or infant formula* can be provided under 6 months of age and complementary feeding is recommended for 12 months, with an option to continue to 24 months. This may be perceived by health providers, mothers and/or other public authorities, that infant formula is a recommended or equivalent option to exclusive breastfeeding and complementary feeding practices may be hindered. In addition, four months of age, is deemed *an appropriate age*, for feeding children processed cereals and commercial infant foods which can undermine exclusive breastfeeding. Other BiH policies and guidelines are further described below:

- The goal of the **Policy for Improvement of Health of the Population, Republic of Srpska**, is to improve the health of the population through creating a supportive environment for health and well-being to "enhance" early growth and development of children, no information is provided on efforts to improve infant and young child nutrition [30].

- Several regulations guide foods provided to children during the complementary feeding period. The BIH *Regulations on Processed cereal-based foods and baby food for infants and children* provides information on composition, labelling, and advertising during the complementary feeding period and/or for *progressive adaptation to ordinary food*[28]. The labelling of processed cereal-based foods and baby foods requires **appropriate age** - not less than four months, and nutrient composition information per 100 mg/100 ml of product.

- Regulations on nutrition, care, preventative health and social care for children in preschool institutions provides guidance on selection, preparation and quantity of foods and nutrient requirements of children in compliance with Nutrition Standards and Norms for Children In Preschool Institutions (children of 1-6 years of age)[31].The norms recommend twice yearly assessments for growth and development, as well as the guidance on hygiene, food safety, and daily meals according to a "my plate" model.

- The Ministry of Health and Social Protection of the Republic of Srpska: This Healthy Eating Guidelines for Preschool Children guidance emphasizes the need to address insufficient intake of food as well as "excessive eating which leads to becoming overweight or obese." The guidance describes the nutrition pyramid for children, with recommendations for daily servings of foods from seven food groups, as well as 3 main meals and two snacks. In BiH, "Choose well- grow well" guidance provides general information on food groups, types and portions of foods, food preparation, food safety and food allergies for preschool teachers and parents[32].

- The FBiH Ministry of Health *Guidelines for Healthy Nutrition of Children Under the Age of Three,* aims to create and establish conditions for healthy early childhood development FBiH[33]. The guidelines give information on when and how to start complementary feeding and provides tips on how to introduce complementary feeding and on the choice and type of food for 6-12 months of age. Nutrition of children 1-3 years of age is also discussed.

- **The Policy for Improving Child Nutrition in FBiH,** adopted by the FBiH Government in January 2013 aimed to galvanize action around *optimal nutrition for every child*, in line with global recommendations, such as WHO/UNICEF Global Strategy for IYCF , the IYCF: Standard Recommendations for the European Union and the WHO International Child Growth Standards and the International Code of Marketing of Breast-milk Substitutes[34]. Yet the guidance provides conflicting information on exclusive breastfeeding, while it recommends exclusive breastfeeding, infant formula is also not clearly discouraged, as it is presented as option prior to 6 months of age. The guidance states the: *World Health Organization (WHO), the European Society for Paediatric Gastroenterology Hepatology and Nutrition (ESPHAGAN), the European Union, the American Academy of Pediatrics (AAP) and other organisations recommend exclusive breastfeeding* **or infant formula** *during the first six months of life and the introduction of complementary feeding at six months.*[33] The rationale behind this recommendation is that *the young infant's digestive system is immature and naturally unready to accept complementary foods…as some food ingredients will slip across the intestinal barrier undigested and trigger the development of allergies that can appear on the skin and in the digestive or respiratory systems.*

For complementary feeding, the guidance emphasizes recommendations to provide foods to children at least until 12 months of age, with the option to continue to 24 months, which doesn't not follow global standards. *Introduction of complementary feeding (after 6 months) is recommended until at least until the age of twelve months, and beyond if mutually desired by the child and the mother.* The guidelines also state the exposure of *environmental chemical agents* – as a cause of the *vast majority allergies and gastroesophageal reflux.*

Serbia: There are no national dietary guidelines in Serbia. In addition, the European Association of Pediatric, Gastroenterology and Nutrition, and the University Hospital in Belgrade adopted its the recommendation that endorses early introduction of foods from 4 months of age which is not in line with WHO standards.

With regards to IYCF guidance, key messages to families were developed through the *It's a hit to be full and fit* campaign which provided information on: how to encourage children to eat (responsive feeding), exclusive breastfeeding through 6 months, timely complementary feeding (*and not to begin before the 17 weeks [about 4 months] and not after the 26th week*), and recommends the "*gradual introduction of foods, based on advice from your pediatrician and based on your child's needs*[35]. This conflicting guidance can hinder exclusive breastfeeding and timely complementary feeding practices. The guidance states *to introduce a teaspoon or two of foods* for children to "get" used to new flavors, smells, and mushy foods. Mothers are advised to introduce only one type of food every 3-4 days, preferably in the morning. It is advised that certain foods are appropriate for children at certain ages and this table also shows that foods prior to 6 months of age (at 5 months) are also allowable, which is not in line with global recommendations for exclusive breastfeeding. The specified order of foods, that are appropriate for child age are shown in Appendix 3 (Tables A and B)

In addition, the Government of Serbia issued a decree for the National Program for the Prevention of Obesity in Children and Adults to improve dietary habits in children and adults by 2025[37]. While the decree describes targets for increasing the percentage of mothers who exclusively breastfeed until the sixth months with continued breastfeeding alongside the **introduction of complementary feeding**, no targets or indicators or set for complementary feeding. In addition, "*stopping the trend and increase of incidence of overweight and obese children and increasing the number of children and adults with normal body weight for their age by 10%*;" was also mentioned. The decree also supports The Baby-Friendly Hospital Initiative (BFHI) to promote and support breastfeeding, which was first implemented in the Republic of Serbia in 1995 in all maternity wards. In addition to these decrees, there is a legal framework and implementation of legal regulations on breastfeeding in the Republic of Serbia, which are recommendations related to WHO Codex[38]. This decree mentions the need to amend the Law on Food Safety with including the provision that the Ministry of Health undertakes *the measures for the purpose of encouraging and protection of breast-feeding and promoting of the principles of WHO Codex*. In Serbia, there is also an ordinance outlining recommendations for the nutrition of children from six months of age up to school age in preschool institutions[39]. These include recommendations for number of meals and composition of meals to meet nutrient requirements.

In **Caucasus countries**, complementary feeding guidance needs to be strengthened and/or updated.

- **Armenia:** The 2014 Nutrition Strategy and 2016-2020 Action Plan of Armenia, focuses on the *necessary conditions* for child nutrition, health and well-being to ensure healthy growth and development in early childhood to prevent child morbidity and mortality[40]. The strategy emphasizes early and exclusive breastfeeding ,discourages the use of bottles and pacifiers, timely introduction of complementary feeding, and continuous breastfeeding for 2 years, as well as the need to address child nutrition status (i.e. stunting and overweight, which have deteriorated in the last 10 years. The national nutrition strategy and action plan prioritizes breastfeeding with a strong focus on improving the 10 steps for successful breastfeeding, through updating training manuals, building capacity and monitoring of BFHI. Targets for a number of breastfeeding indicators included: including calls to: improve early initiation (by 30%) and exclusive breastfeeding (by 25%), increase median exclusive breastfeeding duration (by 3 months), reduce bottle and pacifier use (by 33%) and increase implementation of Baby Friendly Hospital Initiative (BFHI) implementation by 25%. While the action plan also emphasizes raising awareness for health providers and parents/caregivers on child nutrition (i.e. booklets, TV programs, media), messages or interventions on complementary feeding are not clearly delineated. There is a singular target to increase *timely and adequate complementary nutrition by one year of age* by at least 20% and a target to improve mothers knowledge of nutrition of sick children (from 90% vs. 77%), though indicators and age groups, related to complementary feeding are not mentioned. While complementary feeding guidance exists, the guidance needs to be updated in line with global standards to address specified introduction of foods at certain ages and food avoidance. No national food-based dietary guidelines exist.

- **Georgia:** The Georgia Maternal & Newborn Health Strategy for 2017-2030 emphasizes the importance of improving maternal and newborn health care, and calls for quality of care thorough building human resource capacity[41]. The strategy calls for the *support for early initiation and exclusive breastfeeding* through the Baby-Friendly Hospital Initiative. The strategy also emphasizes the importance of supporting nutrition education within primary health service including community and home-based support. Georgia has guidelines for child nutrition until 2 years of age, which give information on the following: exclusive breastfeeding, breastfeeding for two years, and the risks and differences between infant formula, breastmilk and animal milk. While information is provided on complementary feeding in the guidelines, this information is outdated and not in accordance with global standards, according to stakeholders[43].

The guidance includes what to feed the child when he/she is ill and also the importance of food consistency from 6-12 months. In addition, in Georgia, nutrition norms in early and preschool institutions have been established for preschool and education institutions , which includes children of one to three years of age, and focuses on consumption of food groups of high nutritional value.

In Central Asia, there are several strategies:

- **Tajikistan:** The 2015-2025 '*Nutrition and Physical Activity Strategy for the Republic of Tajikistan'* aims to "*promote and protect the health of the population by improving their nutritional status, diet and physical activity through intersectoral actions*" which was developed according to the Constitutional Law and the WHO action plan for *nutrition and prevention of non-communicable diseases (NCDs)* for *Health-2020*[45]. The strategy emphasized the importance of *breastfeeding promotion and proper complementary feeding* practices (i.e. timely introduction of complementary feeding) as critical to mental and physical child development and prevention of NCDs. There are no clear indicators, interventions or activities specifically for improving complementary feeding nor for reducing micronutrient deficiencies (i.e. iron, iodine) and child obesity, which are mentioned in the strategy. Target activities for feeding of infants and young children, related to complementary feeding include: 1) implementation of national guidelines of feeding of young children, conduct WHO integrated course for primary health care trainers to counsel on feeding for children less than 2 years of age, 2) implementation of WHO program on monitoring the nutritional status of children less than five years of age through mobile communication, and 3) campaign on advertising of food, especially infant formula and 4) development of materials on nutrition, physical activity and NCD prevention in the curriculum of medical institutions.

In addition to the measures above, the Republic of Tajikistan adopted in August 2019, a law on *"supplying the population with fortified food products",* provides technical regulations for the fortification of staples vehicles (including wheat flour and salt) as well as other food products (i.e. milk and fermented dairy products, including those targeting child nutrition, juice, fruit and/or vegetable nectars, drinks based on fruit and/or vegetable juice), for the prevention of micronutrient deficiencies and associated diseases.

Tajikistan is part of efforts, led by the WHO European Region to adapt and identify key actions for the *WHO/ UNICEF/ World Bank Initiative, the Nurturing Care Framework*, which aims to enable young children to reach their full development potential, while providing adequate nutrition. Key nutrition actions proposed for young children include breastfeeding, responsive complementary feeding, improving social interaction and increasing child motor skills for eating and model learning. The framework also emphasizes that industrially processed complementary foods meet standards recommended by the *Codex Alimentarius Commission and the Codex Code of Hygiene Practice for Powdered Formulae for Infants and Young Children*.



- **Kazakhstan** has simplified complementary feeding guidance, yet no clear targets, indicators, or interventions to improve complementary feeding practices. This country guidance, developed by the Ministry of Health recommends exclusive breastfeeding for 6 months, and specifies *no artificial mixtures (i.e. infant formula), mix, or porridge, as well as no water, team and no juices* – prior to 6 months of age[46]. At 6-12 months of age, three meals for breastfed children (5 meals for non-breastfed) and a variety of complementary foods are recommended such as thick rice, semolina or buckwheat porridge, minced and lean meat, liver, fish, eggs, beans; vegetables, and fruits are recommended. From 12 months to two years of age, it is recommended that children consume 3 family meals with a variety of meat, vegetables, fruits nuts, dairy products (i.e. milk), and two additional snacks (i.e. fruits, bread with butter and kefir, meat pie, or cottage cheese with sour cream). Avoidance of specific foods from 6-12 months of age is recommended, though not linked specifically to food allergies (see Table 8). Development of local complementary feeding recipe books (how to prepare meats, vegetables) is currently underway, according to stakeholders.

TABLE 8 Food to be avoided for children 6-12 months of age, Ministry of Health, Kazakhstan

Age (months)	Avoidance of food items
6-8 months	• Whole cow, goat, or sheep's milk • Eggs • All kinds of nuts and seeds • Fruit and citrus juices; • Fish and seafood • Semolina, barley, wheat, oats, rolled oats, wheat, rye, barley flour, • Sugar, honey; salt, spices • All types of tea (black, green, herbal)
7-9 months	• Whole cow, goat, or sheep's milk - as a liquid for drinking (for preparing porridge only can be used diluted, by half) • Sugar, honey; salt, spices • Using soft cheeses • Whole nuts • All types of tea (black, green, herbal).
9-12 months	• Diluted cow or goat, sheep's milk • Sweet commercial non- and carbonated drinks, honey, sugar, sweets, candies, cookies; salt and spices; All types of tea (black, green herbal).



DISCUSSION

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In the ECAR region, the enabling environment has several key weaknesses. None of the ECAR focus countries have national food-based dietary guidelines, with a focus on young children's diets. Multisectoral efforts for nutrition across agriculture, social protection, and education sectors to improve young children's diets is largely absent from country guidance documents. There were no identified agricultural, water and sanitation and/or social protection policies and strategies that specifically target and/or include integrated activities and/or interventions to improve the diets of young children across the six ECAR focus countries. While multisectoral coordination is mentioned in a few health and/or nutrition country policies, the "*what*" and "*how*" to achieve this is not delineated. Complementary feeding indicators, targets, and timeframes for achieving targets are not discussed in available ECAR country policies, strategies and/or action plans. A review of regulations around infant formula, including follow-on formulas (i.e. for children older than 6 months of age), in relation to global guidance on exclusive and continued breastfeeding, as well as timely complementary feeding (i.e. at 6 months of age), is recommended for Balkan and Caucasus countries, as conflicting guidance exists in some country documents.

For strengthening health and nutrition services, it is critical for ECAR countries to address identified weaknesses in the provision of complementary feeding counseling through the health system - due to lack of time, shortage in numbers of health providers and lack of incentives. Providing updated training materials and/or refresher trainings on breastfeeding, complementary feeding and the harms of infant formula as part of pre-service (i.e. nursing, midwifery, medical and nutrition training) as well as in-service training (i.e. refresher trainings) is a key part of increasing provider knowledge on complementary feeding. Addressing health provider misperceptions around breastmilk sufficiency, infant formula use, timing for complementary feeding and food restrictions, taboos and/or allergies is needed. Equipping providers with communication skills and updated content, can improve the quality of complementary feeding counseling. With the exception of Tajikistan, in the ECAR region, countries may consider implementation of the recently revised WHO BFHI guidelines as part of efforts to strengthen breastfeeding protection and promotion in hospital settings. Such efforts can aid to combat any conflicting and incorrect advice on introduction of complementary foods too early (i.e. prior to 6 months of age due to misperceptions around breastmilk sufficiency) and can go far towards discouraging infant formula use, if such standards are harmonized and put in place across the ECAR region.

For strengthening the mothers and families' awareness and knowledge of complementary feeding, it is important to gain an understanding of cultural beliefs and social norms around food safety, food allergies and other drivers of food choice which can inform on behavior change strategies/platforms and tailored guidance for parents and families. Currently, there is a dearth of information on drivers of these beliefs, as well as misperceptions which influence infant and young child feeding practices among parents and key family members who make household decisions around complementary feeding. Aligning recommendations for complementary feeding in each of the six focus countries with global guidance for complementary feeding from WHO/UNICEF is important, while simultaneously addressing countries' concerns around food allergies, food safety, pesticide use, and/or feeding young children processed foods, which were documented as issues of concern in the ECAR region. These issues, if unaddressed, can negatively affect dietary intake of young children by limiting the quantity of nutrient-rich and protein-rich foods consumed, limit dietary diversity, and possibly encourage overfeeding of energy-dense, nutrient-poor foods. More information and data is needed to inform on next steps and actions for each ECAR focus country.

Regarding data, the region has a lack of quantitative and qualitative data on complementary feeding. Quantitative complementary feeding indicators should be integrated into HMIS, so routine data on complementary feeding practices can be accessed monthly and quarterly at national and subnational levels in the health system and used to strengthen nutrition program implementation. There is an absence of recent survey data in some ECAR countries, therefore collection of complementary feeding indicators (MMF, MDD, MAD, and timely introduction of complementary feeding) should be prioritized/mandatory, as part of standard indicators collected on nutrition in health and/or nutrition surveys. Future research directions for ECAR, can include conducting qualitative research on cultural beliefs, perceptions, and drivers of food choice for complementary foods. The high use of infant formula and follow-on formulas, early introduction of complementary foods at 4-5 months, ordered food introduction, and beliefs regarding food taboos and food allergies which can limit young children's dietary intake and diversity should also be addressed in future research efforts in the ECAR region.



KEY RECOMMENDATIONS

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Overall recommendations:

In ECA, overall key recommendations for improving young children's diets across health, food and social protection systems include:

- Develop national nutrition food-based dietary guidelines, which includes guidance on feeding processed foods to infants and young children, in relation to global standards
- Strengthen the capacity of health providers to counsel on breastfeeding and complementary feeding, including the harms of infant formula, through pre-service and/or in-service training, including physicians, midwives, nurses and nutritionists
- Update the law on protection and promotion of breastfeeding, and prohibit breastmilk substitutes, to include stricter enforcements on advertising, marketing, monitoring and enforcement of consequences for Code violations, in alignment with WHA resolution 69.9
- Develop and integrate complementary feeding indicators into routine health monitoring information systems
- Develop social protection policies and programming to improve the diets of young children, as part of efforts targeting poor and vulnerable families

Subregion recommendations:

Balkan countries

- Update policies and guidelines on complementary feeding to ensure they are harmonized and updated according to global recommendations, and address fears regarding food allergies, and food taboos
- Address human resource constraints and shortage of health providers
- Strengthen guidance on the harms, promotion and distribution of infant formula in health facilities
- Fully implement the International Code of Marketing of Breastmilk Substitutes to monitor and enforce violations for health providers/ health organizations that promote or distribute breastmilk substitutes and benefit monetarily , which will enforce WHA Resolution 69.9.
- Mothers should be supported through counselling structures in hospitals, clinics and community and via Baby-Friendly Hospital Initiative throughout the country.
- Enforce legislation on processed food high in fat, sugar and/or salt) for children

Caucasus countries

- Update manuals and guidelines on IYCF, including complementary feeding (which were developed in 2015), to emphasize the need for dietary diversity, reduce intake of carbohydrates, and overfeeding to prevent overweight/obesity for young children
- Address human resource constraints and shortage of health providers at the primary health care level in rural areas (i.e. funding, incentives, distribution of work for home visiting vs. outpatient clinics)
- Improve and expand awareness of optimal complementary feeding practices via mass media (TV, radio) and social media (i.e. Facebook groups) to reinforce evidence-based information for parents, grandparents and extended family members on complementary feeding practices
- Enforce legislation on advertisement /ban of sale of infant formula, as well as and processed food (high in saturated and trans fats, free sugars, salt) for children.
- Revise the existing guidelines on BFHI, based on the newly released WHO BFHI guidelines and implement BFHI nation-wide in maternity health facilities, which can aid to protect and promote breastfeeding in health facilities, and aid with monitoring of Code violations
- Generate greater public awareness on breastfeeding and complementary feeding, as well as the harms of BMS, the sufficiency of breastmilk only (i.e. for the first 6 months), and consumption of processed foods for young children

Central Asian countries

- Minimize exclusion of smallholder farmers to markets to facilitate access of families to nutritious foods and vegetables, fruits, pulses and wholegrain foods
- Address mothers and influential family members about the "why" of a high-quality, diverse diet, including food taboos,, and on "how" to economically diversify diets, as well as food storage or preservation methods to overcome seasonal scarcity.
- Develop nutrition education strategies include point-of-purchase campaigns to improve availability and appeal of IYCF-friendly foods, as well as influencing other key household members through mosques, schools, and health care providers.
- Assess and monitor compliance of salt and TFA levels in foods, in partnership with local food suppliers, through the national program on NCD prevention and control, as an entry point
- Adopt salt reduction targets for industrially produced foods (e.g. savory snacks, bread, drinks) for young children
- Develop legislative measures to restrict and regulate TV marketing of processed foods and drinks to young children



REFERENCES

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1. Food And Agriculture Organization, International Fund for Agricultural Development, United Nations International Children's Emergency Fund, World Food Program and World Health Organization. The State of Food Security and Nutrition in The World 2020: Transforming food systems for affordable healthy diets. (2020) doi:10.4060/ca9692en.

2. United Nations International Children's Emergency Fund. UNICEF Global Databases on Infant and Young Child Feeding, updated in 2019. *United Nations International Children's Emergency Fund Data Nutrition Infant and young child feeding* https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding/ (2019).

3. Stevens, G. A. *et al.* Global, regional, and national trends in hemoglobin concentration and prevalence of total and severe anemia in children and pregnant and non-pregnant women for 1995–2011: a systematic analysis of population-representative data. *Lancet Glob. Health* 1, e16–e25 (2013).

4. Hawkes, C., Ruel, M. T., Salm, L., Sinclair, B. & Branca, F. Double-duty actions: seizing programme and policy opportunities to address malnutrition in all its forms. *The Lancet* 395, 142–155 (2020).

5. Bégin, F. & Aguayo, V. M. First foods: Why improving young children's diets matter. *Matern. Child. Nutr.* 13, e12528 (2017).

6. Pan American Health Organization (PAHO) & World Health Organization (WHO). Guiding principles for complementary feeding of the breastfed child. https://www.who.int/nutrition/publications/guiding_principles_compfeeding_breastfed.pdf (2003).

7. World Health Organization. Commercial Foods for Infants and Young Children in The World Health Organization European Region: A Study of The Availability, Composition and Marketing of Baby Foods in Four European Countries. https://www.euro.who.int/__data/assets/pdf_file/0003/406452/CLEAN_Commercial-foods_03July_disclaimer_LV.pdf?ua=1 (2019).

8. SA/Tajikistan, S. A. under the P. of the R. of T.-, MOH/Tajikistan, M. of H.- & International, I. C. F. Tajikistan Demographic and Health Survey 2012. (2013).

9. Barth-Jaeggi, T. *et al.* Nutritional status of Tajik children and women: Transition towards a double burden of malnutrition. *Matern. Child. Nutr.* 16, (2020).

10. Demirchyan, A. & Melkom Melkomian, D. Main Barriers to Optimal Breastfeeding Practices in Armenia: A Qualitative Study. *J. Hum. Lact.* (2019) doi:10.1177/0890334419858968.

11. Republic of Kazakhstan. On approval of the State Program for the Development of Health Care of the Republic of Kazakhstan for 2020 - 2025. (2019).

12. World Health Organization. FEEDcities project The food environment in cities in eastern Europe and Central Asia – Kazakhstan. (2019).

13. Kawabata, M., Berardo, A., Mattei, P. & de Pee, S. Food security and nutrition challenges in Tajikistan: Opportunities for a systems approach. *Food Policy* (2020) doi:10.1016/j.foodpol.2020.101872.

14. Klassen, A. C. *et al.* "Then you raise them with Shirchoy or cookies": Understanding influences on delayed dietary diversity among children in Tajikistan. *Matern. Child. Nutr.* 15, (2019).

15. McNamara, K. & Wood, E. Food taboos, health beliefs, and gender: understanding household food choice and nutrition in rural Tajikistan. *J. Health Popul. Nutr.* 38, 17 (2019).

16. Bose, I. *et al.* Consumption of empty-calorie snack foods raises cost of nutritious diet: results from fill the nutrient gap analysis in Cambodia, Lao PDR, Tajikistan and Ecuador. *Sight Life Mag.* 32, 29–39 (2018).

17. Nemsadze, K. Report from the Country of Georgia: Protecting and Promoting Breastfeeding through Regulation of Artificial-Feeding Marketing Practices. *J. Perinat. Educ.* 13, 23–28 (2004).

18. World Health Organization. Monitroing Food and Beverage Marketing To Children Via Television in The Republic of Kazakhstan: National Center of Public Health of the Republic of Kazakhstan (Republic of Kazakhstan). (2018).

19. Sargsyan, S., Movsesyan, Y., Melkumova, M. & Babloyan, A. Child and Adolescent Health in Armenia: Experiences and Learned Lessons. *J. Pediatr.* 177, S21–S34 (2016).

20. UNICEF. *Child Poverty in Armenia: National Multiple Overlapping Deprivation Analysis*. vol. 2016/24 https://www.un-ilibrary.org/children-and-youth/child-poverty-in-armenia_f08da6fa-en (2016).

21. Europen Commission Directorate-General for Employment, Social Affairs and Inclusion. Armenia: Social Protection and Social Inclusion Country Report. (2011).

22. Bomela, N. J. Social, economic, health and environmental determinants of child nutritional status in three Central Asian Republics. *Public Health Nutr.* 12, 1871–1877 (2009).

23. Simić, T., Sumanović-Glamuzina, D., Boranić, M., Vuksić, I. & Boban, A. Breastfeeding practices in Mostar, Bosnia and Herzegovina: cross-sectional self-report study. *Croat. Med. J.* 45, 38–43 (2004).

24. Softić, I. Barriers and facilitators to be baby friendly hospital (BFH): The experience of tuzla hospital. *Cent. Eur. J. Paediatr.* 15, 107–112 (2019).

25. Berisha, M. *et al.* Knowledge, Attitudes and Practices of Mothers in Kosova About Complementary Feeding for Infant and Children 6-24 Months. *Med. Arch. Sarajevo Bosnia Herzeg.* 71, 37–41 (2017).

26. Wood, E. A., McNamara, K., Kowalewska, A. & Ludgate, N. Household decision-making around food in rural Tajikistan: A cross-sectional study to help extension workers in the field. *Food Nutr. Res.* 62, (2018).

27. Armenia. The Law Of The Republic of Armenia Encouraging Breastfeeding and Marketing of Infant Food. (2014).

28. Republic of Sprska, Federation of Bosnia and Herzegovina. Republic of Srpska Ministry of Health and Social Protection: Rulebook on Processed Cereal Based Foods for Infants and Young Children. (2018).

29. The Republic Of Georgia. *GEO 1999 Law of Georgia on Protection and Promotion of Breast-Feeding, Consumption of Bottle-Feeding Products (No. 2380).* (1999).

30. Republic of Srpska. Cite: year of publication unknown.

31. Republic of Srpska. Cite: Official Gazette of Republika Srpska, Rule book on terms and conditions of nutrition, care, preventive health and social care for children in preschool institutions, Number 88, October 17, 2016.

32. Dragana Stojisavljević, Ljiljana Stanivuk, Predrag Tošić, Šiljak, S. & Jelena Niškanović. Choose Well, Grow Well. (2014).

33. Primarius Mira Ademović *et al.* Guide for Healthy Nutrition of Children Under The Age of Three. (2013).

34. United Nations International Children's Fund. Policy for Improving Child Nutrition Federation of Bosnia and Herzegovina. (2013).

35. UNICEF, Delhaize Serbia. ' It's hit to be full and fit': Introducing complementary foods. (N/A).

36. Serbia. *Decree on the National Program for Supporting Breastfeeding , Family and Developmental Care of the Newborn.* (2018).

37. Serbia. *Decree on the National Program for the Prevention of Obesity in Children and Adults.* (2018).

38. Serbia. Legal frame and Implementation of Legal Regulation on Breast-feeding in the Republic of Serbia: Recommendations for improving regulation for infant formula marketing. (N/A).

39. Serbia. Ordinance on Closer Conditions and the Manner of Implementation of the Nutrition of Children in Preschool Institution. (2018).

40. Country Program Action Plan (CPAP) 2016-2020 Between The Government of the Republic of Armenia And The United Nations Children's Fund. http://files.unicef.org/transparency/documents/Armenia_CPAP_2016-2020.pdf (2014).

41. The Republic Of Georgia. Georgia Maternal & New Born Health Strategy 2017-2030 unofficial translation. (N/A).

42. The Republic of Georgia. Guideline on breastfeeding in the maternity houses in early neonatal period, Decree of the Government 459, Ministry of Internally Displaced Persons from the Occupied Territories, Labor, Health and Social Affairs of Georgia in 2017. (2017).

43. Guideline on Baby Nutrition till 2 years, Guideline/ decree of the Ministry #153/ , adopted by the Ministry of Internally Displaced Persons from the Occupied Territories, Labor, Health and Social Affairs of Georgia, 2009.

44. The Republic of Georgia. Nutrition and nutrition value norms in early and preschool institutions, Government of Georgia, Ordinance #487, adopted in 2017. It is about nutrition rules at preschool and education institutions (age 1-3 is included as well). (2017).

45. Tajikistan. Nutrition and Physical Activity Strategy for The Republic of Tajikistan 2015-2024: Annex 1 Approved by the Decree 808 of the Government of the Republic of Tajikistan on 31 December, 2014. (2014).

46. Kazakhstan. MOH Recommendations on Feeding and Caring for the Development of a Healthy Baby And During Disease.

47. UNICEF in Serbia. Situation Analysis of children and Adolescents in Serbia publication. (2019).



APPENDIXES

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APPENDIX 1
KEY INFORMANT INTERVIEW QUESTIONS

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ECAR country stakeholder interviews, UNICEF ECAR Landscape Analyses — April 2020

Introduction

My name is Dr. Justine Kavle, and I am consultant who is working on understanding the facilitating factors, barriers and gaps in programming around what and how young children, 6-23 months of age are fed (what is known as – complementary feeding) in Eastern Europe and Central Asia for UNICEF. Talking to you today will help us gain a better understanding of complementary feeding practices in your country and in the region to generate recommendations for improving young child nutrition. Thank you for sharing your experience and perspective on young child nutrition in your country (*name country*). I will be recording this interview, so it will be helpful in reviewing your responses at a later time, will that be alright with you? (Record response).

1. As *(key informant's current position)*, could you help me understand your role in the work you do? (Probe: responsibilities, how their work relates to young child nutrition)
2. Is there a written policy/ guideline on complementary feeding in the country? (yes/no) P
3. If there's a policy/ guideline on complementary feeding in your country, can you briefly describe what are the main principles? Probe on: time to start complementary feeding, foods that are often introduced and why, any foods that are prohibited and when (up to 12 months, 24 months), tips on consistency of the food (texture)
4. What key activities/interventions are you and your organization implementing in relation to complementary feeding/young child nutrition? Please describe. (Probe: how long, key successes, and challenges, any reports, information/links which can be sent).
5. Thank you very much. Can you please share your perspective on feeding practices for children from 6 months of age in your country?
    a. Probe on infant and young child nutrition situation (i.e. infant formula, dietary diversity, quantity, number of meals, probe on also age groups, 6- 11 months, 12-23 months)
    b. Probe on any key cultural practices/behaviors that affect young child feeding (i.e. early introduction of foods, processed foods, any preferred foods, consumption from specific food groups)
    c. Probe on trends – improving/not improve from the past; missing information/data
6. Could you describe any key factors that may affect complementary feeding in your country ?
    a. Are there any facilitating factors to optimal complementary feeding, from your perspective? Why do you say that? (i.e. family support)
    b. Are there any barriers to optimal complementary feeding practices, from your perspective? Why do you say that? Please explain.

***Transition:** Now I would like to talk with you about other sectors (I.e. food, WASH, health, and social protection) and young child nutrition.*

Food Access and Availability

7. Can you explain if you are aware of specific nutrition/ multisectoral policies, strategies, action plans or legislation that support and protect infant young child feeding? Probe: legislation on inappropriate promotion of foods for young children, , International Code of Marketing of Breast-milk Substitutes, actions on overweight/ obesity
8. Describe to me how **food availability** influences complementary feeding in your country?
    a. Probe on formal vs. informal markets
    b. Probe on consistency of nutrient-dense foods availability (seasonal or geographic variability)
    c. Probe on increased availability of commercially produced snack foods, sweetened drinks or convenient street foods
    d. Probe on increased availability of processed foods targeted for young children (such as milk-based formulas, commercial baby food, and convenient "on-the-go" products)
    e. Probe on role of advertising, food packaging, food placement in supermarkets, and nutritious food claims on commercial complementary foods on food choices/purchases
    f. Probe on existence of inadequate/misleading labelling of foods targeted to children
9. Could you also describe your experience on families' **access to nutritious foods**?
    a. Probe on factors that might limit access – price of nutrient rich foods, price fluctuations of nutritious foods

b. Probe on physical access to local markets (i.e. distance)

c. Dependence on market access vs. home production

10. Diets have shifted from traditional home-prepared meals to **greater consumption of processed foods**. What is your perspective on this in your country context and how it has affected feeding of young children? What are some reasons for this shift?

    a. Probe on convenience, desirability and acceptability of unhealthy/processed foods impact food choices

    b. Probe on reasons behind shift in diets from traditional home-prepared to processed foods – such as mothers working / lack of time/ urbanization. Probe on key recommendations

Your responses are very helpful – thank you. Let's transition now to discussing the health sector and health and nutrition services.

Health sector

11. Access to health services, including nutrition counseling services, can influence complementary feeding practices– can you describe the situation in your country?

a. Probe on how physical access to health and nutrition services at health facility

b. Probe on community-based services, if any

c. Probe on counseling on complementary feeding

d. Probe on health workforce (adequate numbers, rotation, capacity/training)

e. Probe on micronutrient supplementation (MNPs, iron syrups, stock outs)

f. Probe on barriers (i.e., cost of service, workload, trust of health system,)

g. Probe on any indicators collected in health information systems (HMIS)

h. Probe on key suggestions moving forward

12. Can you describe **any interventions** that have been used to improve complementary feeding in your country (name country)? Who implemented these interventions?

    a. Probe on health communication/social and behavior change communications (interpersonal, or campaigns)

    b. Probe on key successes

    c. Probe on key challenges

13. Can you briefly describe if there are any fortification of food efforts (i.e. flour, staple foods)? How about fortified complementary foods for young children?

WASH System

14. Now let's talk about WASH. What are key issues, if any, related to WASH and young children nutrition in your experience? (if not relevant for country can move on to question 16)

    a. Probe for a specific example from your experience

    b. Probe for additional contributing factors at multiple levels (policy, community, institutional, environment)

15. Describe the extent to which WASH interventions, if any, also focus on complementary feeding of young children?

    a. Probe on the use of safe food and water for young children

    b. Probe on WASH-IYCF integrated interventions and which implementing partners are conducting this work

    c. Probe on key recommendations considering WASH for nutrition

16. Improving WASH means improving both structural and behavioral barriers. Could you describe where interventions should focus their limited resources in your country ?

    a. Probe on short term focus

    b. Probe on longer term focus

Social protection sector:

Social protection is not often discussed alongside food security, so I would like to ask more detail about this sector.

17. Please describe any existing social protection programs. How do they influence young child nutrition based on your experiences?

    a. Probe on eligibility criteria (Probe: Is child malnutrition among the eligibility criteria) (vulnerable, orphans, food insecure households)

    b. Probe on equity – social protection programmes acting as a safety net to enable vulnerable HH with young children access to vouchers for foods/ cash to purchase food/actual food, etc.

    c. Probe on any cash transfer programs

18. Were there any benefits of these social protection programs in improving young child nutrition? If yes, what were they?
    a. Probe on dietary interventions (food supplements, micronutrient supplements, provision of food vouchers for young children, IYCF counseling, nutrition education, BCC)
    b. Probe on suggestions for improving this modality

Conclusion

19. Finally, if you had unlimited resources and funding, what would be the number one recommendation you suggest for improving the complementary feeding practices in your country ?
    a. Probe on short term recommendation
    b. Probe on longer term recommendation

Thank you for your time and ideas today.
Do you have any questions for me?



APPENDIX 2

CHECKLISTS FOR NUTRITION CONTENT FOR HOMEMADE TRADITIONAL RECIPES AND COMMERCIAL FOODS

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Checklist

For homemade, traditional recipes

- Ask for information on cooking method,
- Ask for ingredients used (animal source, Fruits and vegetables, added oil, sugar and salt all in grams) calculation of FAT, CHO and PRO content, and if possible calculation of micronutrient profile these calculations can be done centrally using a software)
- Whether used iodized salt or fortified flour (if relevant)
- Age appropriate consistency
- Age appropriate frequency
- Age appropriate amounts
- Safe preparation, storage and use tips respected

For commercial foods

- Ingredients used (animal source, Fruits and vegetables) table of macro and micronutrient compositions using the labels
- Salt, sugar and trans fatty acids content
- Age appropriate consistency (versus the age recommended on the package)
- Age appropriate frequency
- Age appropriate amounts (versus the amounts recommended on the package if any)
- Does Labeling include false claims
- Use of iodized salt
- Any fortification in the formula? What and to what extent (amounts)



APPENDIX 3
SERBIA'S TABLES

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TABLE A Types and recommended amounts of food for children aged 7-12 months, Serbia

Type of food	Age of children in months			
	Up to 6	7-8	9-10	11-12
Mother`s milk	Exclusive breastfeeding / adapted milk formula	Breastfeeding and complementary foods		
Fruit (tablespoons)		2-6 tbsp	7-8 tbsp	8-10 tbsp
Fruit juice from fresh fruit (ml)		80-100 ml	90-120 ml	120 ml
Vegetables (tablespoons)		6 tbsp	6-7 tbsp	8-10 tbsp
Meat, fish (tablespoons)		3 tbsp	3-4 tbsp	4-5 tbsp
Egg yolks cooked		1/8 gradually increase	+	+
Cereal products (tablespoons)		2-5 tbsp	6-8 tbsp	7-8 tbsp

TABLE B Recommended Complementary Foods Appropriate for Child Age, 5-12+ months, Serbia

Months (Age of Child)						
0-4	5-6*	7	8	9-10	11-12	12+
Mother`s milk	Rice, carrot, potato, zucchini, baked pumpkin Apple, apricot, peach, banana Meat broth, meat (chicken, veal, beef), egg yolk, (hard-boiled), Wheat, corn semolina, spinach, kohlrabi, cauliflower, chard Orange, lemon, mandarin	Fermented dairy products (Yoghurt, sour milk, sour cream) Pear, strawberry, raspberry, blackberry, plum Liver (cooked - chicken, turkey, veal, lamb) At 7 mo., when preparing a salty meal, you can add small amount of oil (teaspoon) of (unrefined, cold-pressed olive, sunflower)	Rye and wheat bread / biscuits Tomatoes, leeks, roasted peppers	Young mashed peas, (legumes-lentils/beans= must be soaked to avoid gas, borecole, parsley, dill Cheese (young) Fish – from 9 months (lean, boiled, mashed - as a substitute for meat) – food can be finely chopped in addition to mashed.	Cabbage Meat - finely chopped, minced meat stake	Egg whites, kiwi, walnut, almond, hazelnut, peanuts (only ground until 5 years of age due to the risk of choking), chocolate, canned fish, honey, salt Soybeans are not advised for infant nutrition until the age of three.

- Eggs are considered a food that can be gradually fed to children. The yolk (hard-boiled for 8 min) is recommended for gradual introduction --- first an eighth, twice a week, then a quarter, then a half, and finally the whole yolk for several weeks, it should be given 2-3 times a week. Egg white is only introduced after the first year of life of the child.

Other recommendations are:

- When meat is introduced, give alternately one day a yolk, the other meat. Meat and yolk are a great source of iron at this age. The meat is cooked and mashed with the addition of vegetables and cereals.
- Their nutrition should have an increased amount of liquid (water), but also fruits (for example, give a small amount of freshly squeezed juice: pear, peach, apricot) or plum compote.
- Food safety (and storage is also elaborated upon:. It is advised that families prepare fresh food, only refrigerated at home for 1-2 days, served at room temperature (for no more than 2 hours), in addition to feeding the baby from the entire jar if giving the entire quantity.



APPENDIX 4
POLICY BRIEFS

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POLICY BRIEF | To improve complementary feeding in Armenia

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Europe and Central Asia Regional Office conducted a regional landscape analysis on trends and predictors of young children's diets in select countries in the region in 2020. The findings from this analysis are intended to inform the development of a regional framework for complementary feeding that will guide countries in ECA on policy and programming to accelerate progress toward the prevention of child stunting and obesity. This brief summarizes key findings on the drivers of young children's diets in Armenia as well as major policy recommendations.

Complementary feeding refers to the introduction of semi-solid and solid foods to complement breastfeeding and takes place between 6 months and 2 years of age. Nutrient requirements increase significantly during this period. WHO global guidance recommends that children begin consuming foods other than breastmilk at 6 months of age, children are fed a diverse array of food groups, are fed frequently throughout the day, and continue breastfeeding up to 2 years of age.

Appropriate complementary feeding is essential to avoid the double-burden of malnutrition in Armenia

What, when and how babies are fed determines the quality of their diets during the first years of life – with impacts that last a lifetime. In Armenia, child stunting has decreased from 18% in 2005 to 9% in 2015-16, while the proportion of overweight children has increased from 11% to 14 percent in 2015-16. Moreover, only 45% of infants less than 6 months of age are exclusively breastfed. The Government of the Republic of Armenia has recognized breastfeeding practices are inadequate and are hindered by early introduction of liquids and juices prior to 6 months of age and extensive use of formula and cow milk as well as use of bottles and pacifiers.

This is compounded by issues with violations of the International Code of Marketing of Breastmilk Substitutes, including advertising of infant formula and lack of accountability of institutions and healthcare professionals that may cooperate with the infant formula distributors or manufacturers. While 89.8% of children are introduced foods at 6-8 months of age, only 36.3% of children have met minimum dietary diversity requirements, one of the lowest in ECAR. Only 24.5% of children 6-23 months of age have met criteria for a minimum acceptable diet, as Armenia ranks 7th out of 8 countries in the region with available data. In addition, according to a recent study, 32.4 % of children under five years of age were anemic (Hb< 110 g/dl) and 14.7 % had moderate (70-99 g/dl) or severe anemia (< 70 g/dl), in rural Armenia.[vi]

Lower daily meal frequency and lack of dietary intake of meat is associated with child anemia. To improve infant and toddler diets we need to consider the range of factors – both within and outside of the household – that influence what, when and how babies eat. These factors include adequate food, services and practices and an enabling environment that support good diets in a more coordinated manner.

Key drivers of the complementary feeding in Armenia

Enabling environment

In Armenia, a 2014 law regulating commercial infant food allows complementary food advertising if exclusive breastfeeding and continuous breastfeeding until age two is encouraged. The law prohibits the sale and provision of infant food by health care professionals, manufacturers and distributors, in alignment with World Health Assembly resolution 69.9. Labelling requirements include information on preparation and use, warning on health hazards, composition and origin of milk or breastmilk substitute, warning on incorrect use. The Government of the Republic of Armenia has galvanized efforts to improve breastfeeding practices through a law on marketing of infant foods and a national breastfeeding promotion program, the national nutrition strategy and accompanying 2016-2020 action plan. However, while efforts have largely focused on early, exclusive and continuous breastfeeding, and Baby Friendly Hospital Initiative (BFHI),with inclusion of the 1,000 day period, there is only a singular target for timely introduction of complementary feeding. Existing guidance on complementary feeding needs to be updated in line with global standards to address avoidance of certain foods as well as specified order of foods by child age.

Adequate Foods

Nutritious foods need to be available, accessible, affordable and desirable to children and their families. There was limited evidence in Armenia on the availability, accessibility, and affordability of food for young children. However, interviews with key informants indicated that availability and access is not perceived as a barrier to achieving improved complementary feeding. More evidence is required to further investigate how availability and access hinder complementary feeding practices in Armenia. According to the World Bank Global Consumption data, the proportion of household expenditures that is spent on food and beverage is 43%. Of these total expenditures, 19% is spent on meat and fish. While processed food is available, the high cost of these foods in comparison to locally available foods, translates into a parents' preference to prepare local, homemade foods rather than purchase commercial foods for children. However, parents and grandparents have a tendency to "overfeed" children and prefer children to be overweight, which is viewed as "attractive."

Adequate Services

Access to quality health and nutrition services, safe water and sanitation services, and effective social protection services for all children can help ensure their families have the support they need to provide their children with nutritious and safe foods. The absence of these services, or poor quality delivery, can instead hinder efforts to improve child diets. For example, in Armenia, health providers have insufficient knowledge on child nutrition and often provide inadequate counseling on complementary feeding. Updated information on infant and young child nutrition can be updated in existing curricula for pre-and post-graduate educational institutions. While infant and young child feeding (IYCF) training materials for facility-based

[vi] Demirchyan A, Petrosyan V, Sargsyan V, Hekimian K.Prevalence and determinants of anaemia among children aged 0-59 months in a rural region of Armenia: a case-control study. Public Health Nutr. 2016 May;19(7):1260-9. doi: 10. Epub 2015 Sep 2.

health providers, content for home visits and guidelines for parents provide information on breastfeeding and complementary feeding, it is difficult for health providers to prioritize complementary feeding counselling due to the shortage of physicians at primary health care facilities, the aging health provider population, and the lack of incentives for physicians to work in rural provinces. The country also lacks a cadre of nutritionists trained in provision of infant and young child nutrition counselling, which is a key gap. Complementary feeding practices are not monitored through the health monitoring information system (HMIS), limiting the ability of experts and policy makers in the health sector to identify potential problems in real time. For social protection services, childcare benefits are provided for children under 2 years old. Yet, Armenia does not have a designated social protection policy that targets the nutritional needs of infants and young children.

Adequate Practices

The feeding, care and hygiene behaviors of caregivers support good nutrition for children and their families. In Armenia, mothers often feed rice, buckwheat or oatmeal and a stew of vegetables blended with beans or peas, as "first foods", according to information collected from key informants. Yet, there is limited knowledge among caregivers and health providers about the importance of a diverse diet for children 6-24 months of age, which is hindered by outdated protocols (i.e. specified order of complementary foods by age, and avoidance of certain foods for young children), beliefs about when and which types of foods can be introduced, and an overreliance on infant formula.

Social norms can impact children's diets Limitations on working women's time can impact the type of foods fed to young children. Grandparents influence decision-making on food consumption and extended family members often share the responsibility of meal preparation with mothers. While commercially available complementary foods often contain high amounts of sugar, have no age restrictions and/or no information on trans fatty acids on labels, though encouragingly most families, according to key stakeholders prefer to feed homemade foods.

Key recommendations to improve complementary feeding

1. Develop a national food-based dietary guideline for the country, that focuses on nutritional needs of young children
2. Monitor and enforce implementation of international and national codes and legislations on marketing of breastmilk substitutes and commercially available complementary foods
3. Develop a social protection policy targeting improvement of young children's diets
4. Update manuals and guidelines on IYCF, including addressing beliefs about the harms of infant formula, the timely introduction of complementary foods, and the addressing the types of foods to feed children, including avoidance of certain foods
5. Address shortage of numbers of health providers in the country
6. Strengthen the capacity of health providers to provide interpersonal counselling on complementary feeding
7. Devise and operationalize strategies to promote complementary feeding through classic and innovative channels of communication (digital platforms)
8. Integrate key IYCF Indicators into the HMIS and monitor progress



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POLICY BRIEF | Improving complementary feeding in Bosnia and Herzegovina (BiH)

Europe and Central Asia Regional Office conducted a regional landscape analysis on trends and predictors of young children's diets in select countries in the region in 2020. The findings from this analysis are intended to inform the development of a regional framework for complementary feeding that will guide countries in ECA on policy and programming to accelerate progress toward the prevention of child stunting and obesity. This brief summarizes key findings on the drivers of young children's diets in Armenia as well as major policy recommendations.

Complementary feeding refers to the introduction of semi-solid and solid foods to complement breastfeeding and takes place between 6 months and 2 years of age. Nutrient requirements increase significantly during this period. WHO global guidance recommends that children begin consuming foods other than breastmilk at 6 months of age, children are fed a diverse array of food groups, are fed frequently throughout the day, and continue breastfeeding up to 2 years of age.

Appropriate complementary feeding is essential to avoid the triple-burden of malnutrition in BiH

What, when and how babies are fed determines the quality of their diets during the first years of life – with impacts that last a lifetime. The quality of child diets in BiH remains suboptimal. Fewer than one in five children (18%) are exclusively breastfed in the first six months of life. While 76% of children aged 6-8 months are consuming solid, semi-solid or soft foods, only 72% are fed enough throughout the day to meet the recommend minimum meal frequency. There is no available data to report on the proportion of children consuming a minimally diverse or adequate diet in BiH. However, available data on all forms of malnutrition – including micronutrient deficiencies – indicate there is significant room for improvement: 18% of children under five years of age are anemic, 9% are stunted, and 18% of children are overweight or obese. In addition, the majority (79%)

of children under age of 2 years are bottle fed, which can not only disrupt breastfeeding, but displace solid foods, from 6 -24 months of age. In BiH, introduction of complementary foods from 6-8 months is 75.9% , which is the 11th highest (out of 17 countries with available data) in ECAR. Minimum meal frequency is the 7th highest in the region (72.2%).

To improve infant and toddler diets we need to consider the range of factors – both within and outside of the household – that influence what, when and how babies eat. These factors include adequate food, services and practices and an enabling environment that support good diets in a more coordinated manner.

Key drivers of complementary feeding in BiH

Enabling environment

BiH has a low rate of exclusive breastfeeding (18.2%) due to the following: baby-friendly standards not fully applied, increasing proportion of Caesarean sections, inadequate knowledge and skills of health professionals about breastfeeding; inconsistent enforcement of BMS marketing regulations, and promotion of BMS to maternity facilities. BiH, at the Entities level, has several national nutrition and health policies, legal frameworks (i.e. Regulations on Infant Formula and Follow-on Formula and Regulations on Processed cereal-based foods and baby food for infants and children) and guidance on infant and young child feeding for providers, pre-school/ school and families. However, while multisectoral coordination is cited in the policies, what, when and how to achieve target and interventions are not described for complementary feeding. In addition, while these policies mention the importance of exclusive breastfeeding, complementary feeding, and avoidance of processed "empty calorie foods," there is conflicting guidance on breastfeeding in the first six months of life. The Policy for Improving Child Nutrition in FBiH recommends that either exclusive breastfeeding or infant formula, which can be perceived as equal in benefit, be provided under 6 months of age. Complementary feeding is recommended to be continued through 12 months, with an option to continue to 24 months. Specifically, the policy states the the European Society for Paediatric Gastroenterology Hepatology and Nutrition (ESPHAGAN) and the European Union, the American Academy of Pediatrics (AAP) recommend exclusive breastfeeding or infant formula during the first six months of life and the introduction of complementary feeding at six months. This recommendation is not in alignment with the WHO/ UNICEF recommendation to exclusively breastfeed for 6 months[vii], and start complementary feeding at 6 months of age.[viii]

In addition, in contrast to World Health Organization recommendations[2], these policies indicate that four months of age is deemed an appropriate age for introducing infants to processed cereals and commercial infant foods, which can undermine exclusive breastfeeding. This may result in health providers, mothers and/or other public authorities viewing infant formula as an alternate option to exclusive breastfeeding, that early introduction of foods and liquids prior to 6 months of age is acceptable, and complementary feeding practices may be hindered as a result.

Adequate Food

Nutritious foods need to be available, accessible, affordable and desirable to children and their families. There was limited evidence in BiH on the availability, accessibility, and affordability of food for young children. However, interviews with key informants indicated that availability and access is not perceived as a barrier to achieving improved complementary feeding. More evidence is required to further investigate how availability and access hinder complementary feeding practices in BiH.

Adequate Services

Access to quality health and nutrition services, safe water and sanitation services, and effective social protection services for all children can help ensure their families have the support they need to provide their children with nutritious and safe foods. The absence of these services, or poor quality delivery, can instead hinder efforts to improve child diets. For example, in BiH there is weak to no counselling on complementary feeding by health providers due to time and workload, shortage of health providers, lack

[vii] WHO defines exclusive breastfeeding as feeding the infant only breastmilk, and no other food or drink, not even water, (including expressed breast milk) for 6 months of life. Infants are allowed to receive drops and syrups (vitamins, minerals and medicines).

[viii] WHO Fact Sheet: Infant and Young Child Feeding, August 24, 2020 https://www.who.int/en/news-room/fact-sheets/detail/infant-and-young-child-feeding.

of incentives to prioritize complementary feeding and lack of training on complementary feeding counseling. A key gap is the lack of nutritionists employed in the primary health care system and who are trained to support infant and young child feeding. In addition, infant formula is often promoted in health facilities which show inadequate enforcement of the national and international code on marketing of BMS. Monitoring of complementary feeding indicators, is not conducted as part of routine health monitoring information systems (HMIS), limiting the ability of experts and policy makers in the health sector to identify potential problems in real time. Further, social protection services in BiH do not provide national level nutrition benefits nor do not target food or interventions for improving young child diets among most vulnerable groups.

Adequate Practices

The feeding, care and hygiene behaviors of caregivers support good nutrition for children and their families. Evidence in BiH indicates that a lack of knowledge of recommended feeding practices in parents, coupled with the lack of compliance and the influence of infant formula companies, is an obstacle for protection, promotion and support of breastfeeding. Perceptions of insufficient breastmilk to nourish the child in the first 6 months which could be rooted in the recommendation of the national policy, often leads to early introduction of liquids (i.e. watery soup without meat or a little vegetables/little meat) or food by 4 months. It is notable that stakeholders relayed that infants are still receiving infant formula by 1 year of age and as a result, infants are fed very little solid food, like vegetables or fruits. An assessment of commercial infant foods in the region indicates that commercial foods available are often high in energy, low in protein (i.e. foods containing meat) and provide little information on the content of trans fatty acids.

Social norms can restrict young children's diets

Social norms in BiH are also a barrier. According to key informant interviews, parents often introduce first foods which are perceived to be - low-allergy foods, such as fruit juices, cereal porridge, pureed fruit (i.e. apples, pears, plums, peaches) and vegetables (i.e. carrots), and cereal porridges. Due to fear of development of child allergies, families are often cautious in the introduction of new foods, fruit juices, fruit purées, cereal gruels, vegetables, and meat. Certain foods are introduced, in small amounts, one food at a time every three to seven days. Such fears can result in restricted dietary intake and dietary diversity of protein-rich foods such, as eggs whites (full eggs), legumes, beans, meats to late infancy (11- 12 months of age).

Key recommendations to improve complementary feeding

1. Develop a national food-based dietary guideline, with a focus on young children, 6-24 months of age
2. Monitor and enforce implementation of international codes and national legislations on marketing of breastmilk substitutes and commercial infant food
3. Update guidelines to ensure they are harmonized with global recommendations for breastfeeding and complementary feeding with a focus on exclusive breastfeeding for the first 6 months of life, the harms of breastmilk substitutes which disrupt exclusive breastfeeding and the timely introduction of the complementary feeding at 6 months of age. It is also critical to address food allergies and food taboos which can limit dietary intake and dietary diversity of young children 6-24 months of age
4. Upon revision of the existing guidelines and policies, strengthen the capacity of health providers to counsel on breastfeeding and complementary feeding, to include guidance on the harms, promotion and distribution of infant formula in health facilities, by addressing providers' time, lack of incentives and training and shortage of health providers
5. Upgrade the Baby Friendly Hospital Initiative and scale up the approach as an essential service across the country
6. Integrate IYCF indicators in the HMIS and monitor progress



POLICY BRIEF | To improve complementary feeding in Eastern Europe and Central Asia (ECAR)

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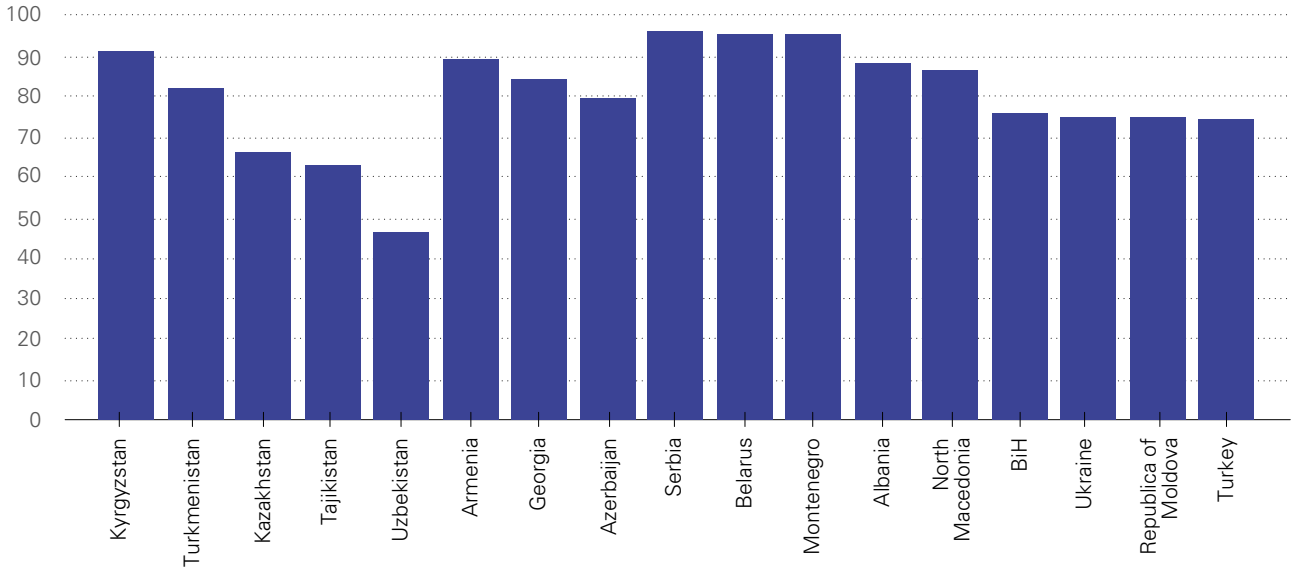
Europe and Central Asia Regional Office conducted a regional landscape analysis on trends and predictors of young children's diets in selected countries in 2020. The findings from this analysis will inform the development of a regional framework for complementary feeding to guide ECAR country policy and programming for prevention of the double burden of child malnutrition. This brief summarizes key findings on the drivers of young children's diets in the core countries of BiH, Serbia, Armenia, Georgia, Kazakhstan and Tajikistan as well as the Balkans, Caucasus and Central Asia sub-regions.

Infant and Young Child Nutrition Situation in ECAR Region

In the ECAR region, from 2000 to 2019, stunting among children under five years of age has declined from 20.2% to 7.7% and nearly 15% of children are overweight. Survey data reveals that timely introduction of solid, semi solid and soft foods at 6-8 months and early initiation of breastfeeding is 75%, while exclusive breastfeeding is 42 % and continued breastfeeding at 2 years is 47%. While there is available data from some countries, as a region, there is a lack of data on key complementary feeding indicators including minimum meal frequency, minimum dietary diversity, and minimum acceptable diet, for children 6-23 months of age.

In ECAR region, timely introduction of complementary foods is 75%. Across ECAR countries, the introduction of solid, semi-solid or soft foods from 6-8 months of age ranged from 46.6% (Uzbekistan) to 96.6% (Serbia).

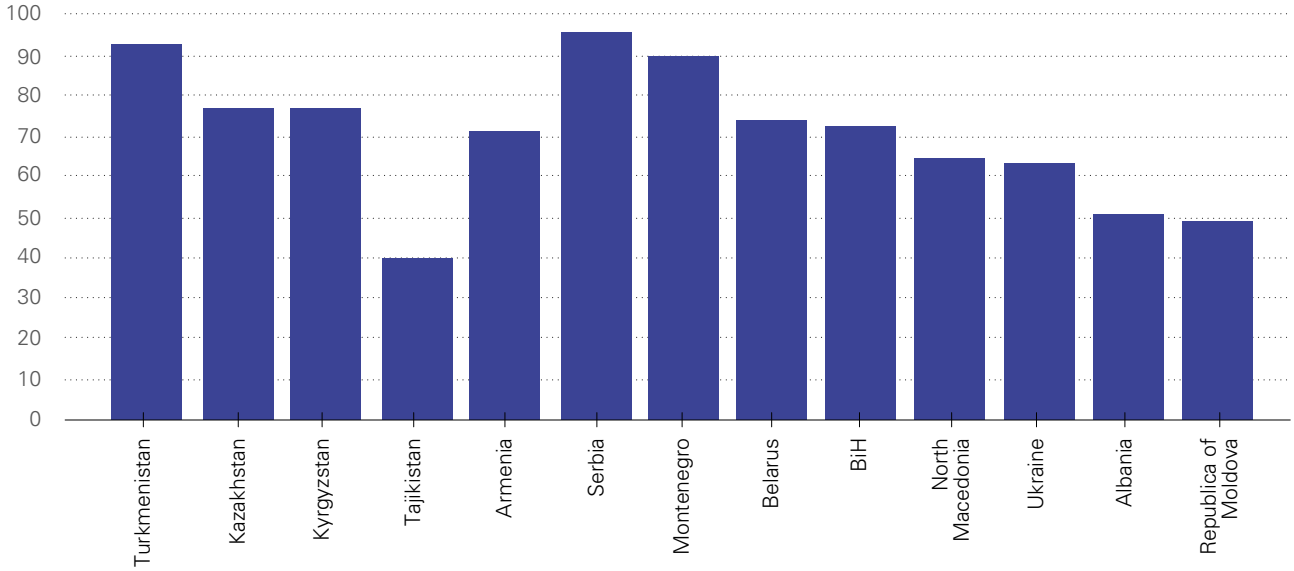
FIGURE 1 Percentage of infants, 6-8 months of age, fed solid, semi-solid or soft foods in ECAR, by country, 2012-2018



Source: Data is from the most recent MICS and DHS survey, from the UNICEF database: https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding.

While a regional estimate of minimum meal frequency was not available, thirteen countries in ECAR had national level estimates available for this descriptive analysis. Minimum meal frequency ranged from 39.9% (Tajikistan) to 95.7% (Serbia). Eight out of thirteen countries in ECAR have minimum meal frequencies above 70%. There was no data on minimum meal frequency in eight countries in the region.

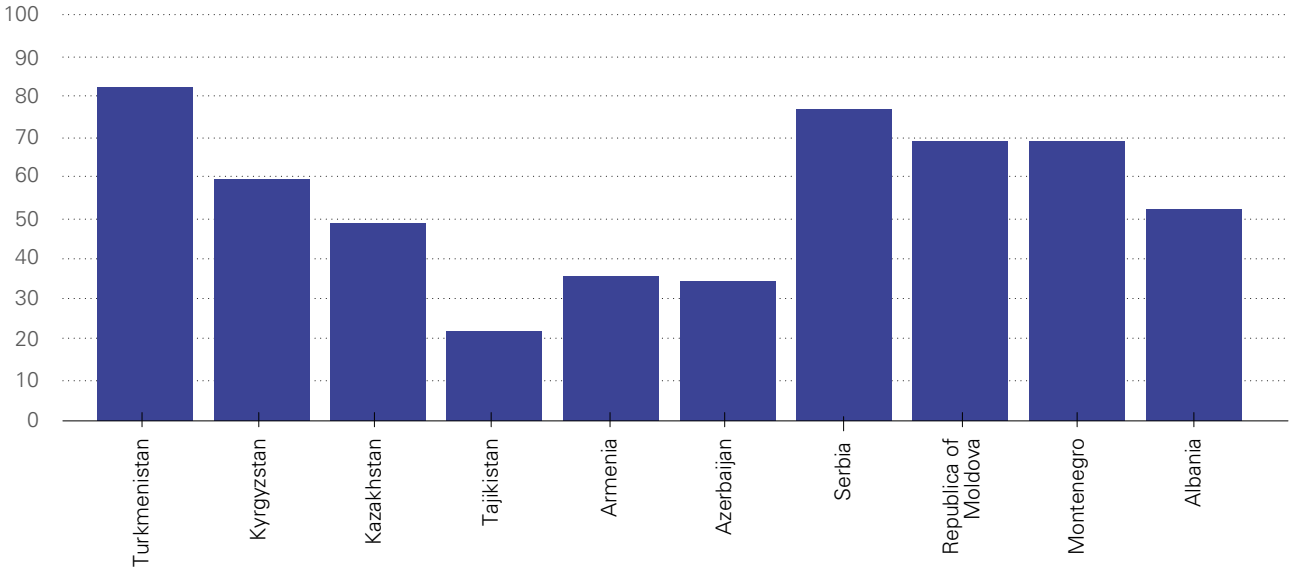
FIGURE 2 Percentage of children, 6-23 months of age, who received minimum meal frequency (MMF, 2011-2017, (n=13)



Source: Data is from the most recent MICS and DHS survey, from the UNICEF database: https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding.

Data on minimum dietary diversity (MDD) was available in 10 countries in the region. Estimates ECAR range from 22.5% (Tajikistan) to 82.5% (Turkmenistan). Most countries reveal that more than half of the infants met requirements for minimum dietary diversity for children6-23 months of age.

FIGURE 3 Percentage of children, 6-23 months of age, who received minimum dietary diversity (MDD) requirements, by ECAR country (n=10), 2005-2018



Source: Data is from the most recent MICS and DHS survey, from the UNICEF database: https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding.

To improve infant and toddler diets we need to consider a range of factors – both within and outside of the household – that influence what, when and how babies eat. These factors include adequate food, services, practices and an enabling environment that support good diets in a more coordinated manner.

Drivers of the complementary feeding in ECAR

Enabling environment

A key weakness of the enabling environment in the ECA region is the lack of national dietary guidelines. While multisectoral coordination is mentioned in a few policies, "how" to achieve this, is not delineated. Complementary feeding indicators, targets, and timeframes for achieving targets is largely absent from policies and strategies. Only one country had a nutrition policy, with only two countries with regulations on breastmilk substitutes and a singular country with regulations on infant foods. No WASH or social protection policies are targeted towards young children's diets, and no specific agriculture and food chain policies, systems, nor services were identified by country stakeholders nor had services/ interventions to improve young children's diets.

Adequate Foods

In Balkan and Caucasus countries, access to adequate foods was not seen to affect young children's diet, as supermarkets and open markets are available to the public. Availability was also not viewed as a hinderance to adequate diets of young children during the period of complementary feeding in Balkans and Caucasus countries, according to information collected from key informant interviews. In Central Asian countries, while stakeholders also voiced that access to food was not of concern in urban and rural areas, seasonal availability of certain food items (i.e. fruits and vegetables) were seen to affect dietary intake. Cost is not viewed as a major prohibitive influence on young children's diets in the region, according to stakeholders. In Central Asia, rural villages typically only have small stores with limited

offerings especially during winter and early spring, due to seasonal scarcity, and freezing of roads, which can affect access. In Central Asia remittances sent from men who work abroad for seasonal work are an essential source of cash income, which are combined with small scale farming activities carried out by female-headed households, as families produce their own food or keep livestock for household consumption. In Central Asia, complementary feeding practices are hindered by seasonal fluctuations in agriculture and incomes, inadequately diverse agricultural production and diets, dependence on imported foods and their price fluctuations, climate change risks and insufficient availability of nutritious foods. In Central Asia, processed, commercially available, energy-dense food is increasingly available in urban areas, through street and market vendors, which threatens to disrupt availability of nutrient-rich foods consumed by families, and subsequently fed to young children.

Adequate Services

In the ECA region, counselling on complementary feeding is either weak or absent. Countries face challenges in rolling out IYCF counseling through primary health care facilities, due to lack of time, a shortage of health providers due to migration/aging, and lack of incentives and lack of technical capacities on the matter and absence of counseling and inter-personal communication competencies and skills set. Quality of counselling on complementary feeding is believed to be low at facility and community level, which is reflected in knowledge of providers and families about young children's diets. While guidelines/guidance on complementary feeding may exist, they are not always updated nor abided by health providers, and none of the health monitoring information systems, collect information on receipt of counseling on complementary feeding.

Adequate Practices

Caregiver knowledge of good complementary feeding practices is of importance to change feeding practices/behaviors, while also considering the multiple influences of household dynamics, caregivers' time and social norms as key drivers of optimal diets of young children, according to data from the literature review and key informant interviews. In Balkan countries, early introduction of foods prior to 6 months of age, perceptions of insufficient breastmilk , and use of infant formula go hand-in-hand, which not only affects exclusive breastfeeding but also timely introduction of complementary foods and associated feeding practices. There was limited information on caregiver knowledge and adequacy of complementary feeding practices in Central Asia, based on the literature review and key informant interviews. Stakeholders relayed that the problem was mothers and families' awareness of what and how to feed children, including food preparations and recipes. There was no data from Caucasus countries.

Caregiver time

In Balkan countries, mothers may have less time, due to return to work, or may not have grandparents/ family members to help with food preparation, due to changing support structures which may impact children's diets, according to data from the literature review and interviews with key informants. Screen time was also notable for young children, as relayed by stakeholders. In Central Asia, while caregiver time and household dynamics was not mentioned as a determinant of complementary feeding in Kazakhstan, in Tajikistan, women in Tajikistan have limited time to care for children, due to household chores and increasing responsibility for agricultural production, as men migrate to other countries for work. There was no data from Caucasus countries.

Social norms

Food taboos, myths & perceptions regarding specific foods strongly influence diets in the Balkan and Central Asian countries in the ECAR region due to fear of childhood allergies and food taboos, incorrect knowledge of health providers and incorrect beliefs among mothers and health providers, according to data from the literature review and key informant interviews. In Central Asia, some mothers introduce foods early before 6 months of age, and it may be a sweet food (i.e. cookie). Meat is a primary feature of the diet, as is consumption of processed foods. Restriction or elimination of taboo foods are believed to protect children's health by lessening the risk of upset stomach, foodborne illness, and delayed language acquisition in Central Asia. These food taboos can restrict the dietary diversity of foods consumed by young children. There was no data from Caucasus countries.

Recipes from commercially available complementary foods (CACFs), show that foods are high in calories, have added sugar/high sugar or high salt, and are often low in protein (i.e. if meat based). Labels of CACFs are often unclear, and do not provide information on age appropriateness of foods for young children, and it is not known if trans fatty acids are part of ingredient lists.

Key recommendations to improve complementary feeding

In ECA, overall key recommendations for improving young children's diets across health, food and social protection systems include:

- Develop sub-regional food-based dietary guidelines, which includes guidance on feeding processed foods to infants and young children, in relation to global standards
- Strengthen the capacity of health providers to counsel on breastfeeding and complementary feeding, including the harms of infant formula, through pre-service and/or in-service training, including physicians, midwives, nurses and nutritionists
- Update the law on protection and promotion of breastfeeding, and prohibit breastmilk substitutes, to include stricter enforcements on advertising, marketing, monitoring and enforcement of consequences for Code violations, in alignment with WHA resolution 69.9
- Develop and integrate complementary feeding indicators into routine health monitoring information systems
- Develop social protection policies and programming to improve the diets of young children, as part of efforts targeting poor and vulnerable families

Subregion recommendations:

Balkan countries

- Update policies and guidelines to ensure they are harmonized and updated according to global recommendations, and address fears regarding food allergies, and food taboos
- Address human resource constraints and shortage of health providers
- Strengthen guidance on the harms, promotion and distribution of infant formula in health facilities
- Fully implement the International Code of Marketing of Breastmilk Substitutes to monitor and enforce violations for health providers/ health organizations that promote or distribute breastmilk substitutes and benefit monetarily , which will enforce WHA Resolution 69.9.
- Mothers should supported through counselling structures in hospitals, clinics and community and via Baby-Friendly Hospital Initiative throughout the country.
- Enforce legislation on processed food high in fat, sugar and/or salt) for children

Caucasus countries

- Update manuals and guidelines on IYCF, including complementary feeding (which were developed in 2015), to emphasize the need for dietary diversity, reduce intake of carbohydrates, and overfeeding to prevent overweight/ obesity for young children
- Address human resource constraints and shortage of health providers at the primary health care level in rural areas (i.e. funding, incentives, distribution of work for home visiting vs. outpatient clinics)
- Improve and expand awareness of optimal complementary feeding practices via mass media (TV, radio) and social media (i.e. Facebook groups) to reinforce evidence-based information for parents, grandparents and extended family members on complementary feeding practices
- Enforce legislation on advertisement /ban of sale of infant formula, as well as and processed food (high in saturated and trans fats, free sugars, salt) for children.
- Revise the existing guidelines on BFHI, based on the newly released WHO BFHI guidelines and implement BFHI nation-wide in maternity health facilities, which can aid to protect and promote breastfeeding in health facilities, and aid with monitoring of Code violations
- Generate greater public awareness on breastfeeding and complementary feeding, as well as the harms of BMS, the sufficiency of breastmilk only (i.e. for the first 6 months), and consumption of processed foods for young children

Central Asian countries

- Minimize exclusion of smallholder farmers to markets to facilitate access of families to nutritious foods and vegetables, fruits, pulses and wholegrain foods
- Address mothers and influential family members about the "why" of a high quality, diverse diet, including food taboos,, and on "how" to economically diversify diets, as well as food storage or preservation methods to overcome seasonal scarcity.
- Develop nutrition education strategies include point-of-purchase campaigns to improve availability and appeal of IYCF-friendly foods, as well as influencing other key household members through mosques, schools, and health care providers.
- Assess and monitor compliance of salt and TFA levels in foods, in partnership with local food suppliers, through the national program on NCD prevention and control, as an entry point
- Adopt salt reduction targets for industrially produced foods (e.g. savory snacks, bread, drinks) for young children
- Develop legislative measures to restrict and regulate TV marketing of processed foods and drinks to young children



POLICY BRIEF | Improving complementary feeding in Georgia

Europe and Central Asia Regional Office conducted a regional landscape analysis on trends and predictors of young children's diets in select countries in the region in 2020. The findings from this analysis are intended to inform the development of a regional framework for complementary feeding that will guide countries in ECA on policy and programming to accelerate progress toward the prevention of child stunting and obesity. This brief summarizes key findings on the drivers of young children's diets in Armenia as well as major policy recommendations.

Complementary feeding refers to the introduction of semi-solid and solid foods to complement breastfeeding and takes place between 6 months and 2 years of age. Nutrient requirements increase significantly during this period. WHO global guidance recommends that children begin consuming foods other than breastmilk at 6 months of age, children are fed a diverse array of food groups, are fed frequently throughout the day, and continue breastfeeding up to 2 years of age.

Appropriate complementary feeding is essential to avoid the double burden of malnutrition in Georgia

What, when and how babies are fed determines the quality of their diets during the first years of life – with impacts that last a lifetime. However, the quality of child diets in BiH remains suboptimal. Georgia has 11.3% of children under five years of age who suffer from stunting and 14.3% of children, under five, who are overweight. Anemia is a common health problem in Georgia, affecting 23% of children below five years of age.

In addition, Georgia has a low exclusive breastfeeding rate (20.4%) and high prevalence of infant formula use. Georgia ranks 8th in the region for timely introduction of complementary foods at 84.5%, yet does not have survey data on complementary feeding indicators (i.e. minimum meal frequency or minimum dietary diversity and minimum acceptable diet).

To improve infant and toddler diets we need to consider the range of factors – both within and outside of the household – that influence what, when and how babies eat. These factors include adequate food, services and practices and an enabling environment that support good diets in a more coordinated manner.

Key drivers of complementary feeding in Georgia

Enabling environment

The Government of Georgia, has a law on "Protection and Promotion of Breastfeeding and Regulation of Artificial Feeding" to prohibit the marketing and distribution of breastmilk substitutes (BMS), which monitors adherence to the International Code for Breastmilk Substitutes and regulates bottle feeding products in alignment with Codex Alimentarius.[ix] Yet despite the law, there is a high prevalence of marketing of breastmilk substitutes in maternity hospitals and the law is no longer implemented in country, due to a number of violations. This is compounded by high rates of cesarean section rates (47%), lack of provider capacity to counsel on infant and young child feeding (IYCF), and lack of monitoring or enforcement for Code violations. Baby Friendly Hospital Initiative (BFHI) has also languished in the country.

The Georgia Maternal & Newborn Health Strategy for 2017-2030 calls for the support for early initiation and exclusive breastfeeding through the Baby-Friendly Hospital Initiative, yet complementary feeding is not mentioned. The Georgia Guidelines for Child Nutrition up to 2 years of age provides information on exclusive breastfeeding, breastfeeding for two years, and the risks and differences between infant formula, breastmilk and animal milks. While brief information is provided on introduction of complementary feeding after 6 months of age and mentions food consistency and food "types" (i.e. transitional food - 6 months to 1 year and family foods from 1 year onwards), stakeholders relayed that this information is outdated and not in accordance with global standards, with regards to meal frequency, dietary diversity and quantity to be fed, according to child age.

Adequate Foods

Nutritious foods need to be available, accessible, affordable and desirable to children and their families. There was limited evidence in Georgia on the availability, accessibility, and affordability of food for young children, based on perspectives from key informant interviews. However, interviews with key informants indicated that availability and access is not perceived as a barrier to achieving improved complementary feeding. More evidence is required to further investigate how availability and access hinder complementary feeding practices in Georgia. While some families use breastmilk substitutes/infant formula in the first 6 months of life, which disrupts WHO/UNICEF recommendations for exclusive breastfeeding[x], some families desire to start complementary feeding earlier than recommended 6 months of age (around 4 months of age), to avoid the added expense of purchasing infant formula. Commercially available complementary foods (CACFs) are also considered to be expensive by families, in comparison to locally available foods. CACFs in Georgia can be high in sodium, high in calories and/or have added sugar.

Adequate Services

Access to quality health and nutrition services, safe water and sanitation services, and effective social protection services for all children can help ensure their families have the support they need to provide their children with nutritious and safe foods. The absence of these services, or poor quality delivery, can instead hinder efforts to improve child diets. In Georgia, with regards to complementary feeding counselling, health providers' (i.e. physicians) often lack time and/or have incorrect knowledge of on complementary feeding recommendations due to outdated guidance. This is compounded by providers' lack of time and long lines at health facilities. Another key gap is the lack of nutritionists who are deployed in primary health care facilities and are trained to support infant and young child feeding.

These gaps in numbers of providers and provider capacity can translate into absence of counseling, lower quality of counseling and limited prioritization of complementary feeding during health and nutrition services. Social protection services do not target food or interventions

[ix] International food products standard approved by the international commission for food standards

[x] WHO defines exclusive breastfeeding as feeding the infant only breastmilk, and no other food or drink, not even water, (including expressed breast milk) for 6 months of life. Infants are allowed to receive drops and syrups (vitamins, minerals and medicines). WHO Fact Sheet: Infant and Young Child Feeding, August 24, 2020 https://www.who.int/en/news-room/fact-sheets/detail/infant-and-young-child-feeding

for improving young child diets, though food and/or cash vouchers are received by eligible families. In addition, there is a lack of complementary feeding monitoring indicators within the health monitoring and information system (HMIS), limiting the ability of experts and policy makers in the health sector to identify potential problems in real time..

Adequate Practices

The feeding, care and hygiene behaviors of caregivers support good nutrition for children and their families. Early introduction of foods such as fruits (i.e. apples, peaches, bananas) vegetables (pumpkin, zucchini, potato) or porridge (oats, corn, rice) prior to 6 months of age is a common practice in Georgia, according to key informant interviews, consists of Late introduction of foods and prolonged breastfeeding are also common practices in some families. In the Soviet era , specific foods were recommended for children at certain ages, (i.e. meat is fed from 7 months, bread from 8 months, yogurt/cottage cheese 7-9 months), and these schedules and beliefs regarding these foods are still held today, which can limit dietary diversity and intake. In addition, cakes/sweets are fed as early as 8-9 months of age.

Key recommendations to improve complementary feeding

- Develop a national food-based dietary guideline that focuses on nutritional needs of young children
- Update the law on protection and promotion of breastfeeding to include stricter monitoring and enforcement of consequences for Code violations
- Develop a social protection policy that targets improvement of young children's diets
- Upgrade existing BFHI guidelines , based on recently revised WHO BFHI guidelines
- Update guidance in line with global recommendations for breastfeeding and complementary feeding. Address harms of infant formula, update information on complementary feeding (meal frequency, quantities, and dietary diversity), and address beliefs and norms around ordered introduction of foods and restriction of certain foods for young children
- Generate targeted communication strategies for parents and families on IYCF, as well as the harms of breastmilk substitutes , and optimal breastfeeding and complementary feeding.
- Update continuous medical education of health providers to counsel on breastfeeding and complementary feeding, includes guidance on the harms, promotion and distribution of infant formula in health facilities.
- Address providers' time, lack of incentives and training and shortage of number of health providers
- Integrate key IYCF Indicators into the HMIS and monitor progress



POLICY BRIEF | To improve complementary feeding in Kazakhstan

Europe and Central Asia Regional Office conducted a regional landscape analysis on trends and predictors of young children's diets in select countries in the region in 2020. The findings from this analysis are intended to inform the development of a regional framework for complementary feeding that will guide countries in ECA on policy and programming to accelerate progress toward the prevention of child stunting and obesity. This brief summarizes key findings on the drivers of young children's diets in Armenia as well as major policy recommendations.

Complementary feeding refers to the introduction of semi-solid and solid foods to complement breastfeeding and takes place between 6 months and 2 years of age. Nutrient requirements increase significantly during this period. WHO global guidance recommends that children begin consuming foods other than breastmilk at 6 months of age, children are fed a diverse array of food groups, are fed frequently throughout the day, and continue breastfeeding up to 2 years of age.

Appropriate complementary feeding is essential to avoid the triple-burden of malnutrition in Kazakhstan

What, when and how babies are fed determines the quality of their diets during the first years of life – with impacts that last a lifetime. In Kazakhstan, children under five years of age, suffer from stunting (6%), overweight (7.4%), and anemia. Survey data from Kyzyl-Orda and east Kazakhstan in children 6-59 months of age (n=506), the prevalence of child anemia (Hb< 110 g/L) was 58.1%. Anemia was notably higher among 6-23 month old children (62%) in comparison to their older counter parts (24-59 months) (52.6%).[xi] Survey data also reveals a high prevalence (23.2%) of vitamin A deficiency (VAD) (n= 1318 children less than 5 years of age).

[xi] UNICEF, Study on Prevalence of Anemia and Iodine Deficiency among Children under Five Years of Age and their Mothers in East Kazakhstan and Kzyl-Orda Regions, 2016.

Timely introduction of complementary feeding, 6-8 months of age is 66.5% , with the 4th highest minimum meal frequency (76.9%) and one of the lower minimum dietary diversity (49%) for children 6-23. Months of age, in the region. Minimum acceptable diet for young children is 37.9%. Regarding food group consumption, the majority of children (80-85%), 6-59 months of age consumed dairy, vegetables, and grain products on a daily basis, half of children consumed energy rich and/or nutrient-poor foods, such as saturated fat (butter, margarine, lard), processed sweets/cakes/ chocolates), or tea/coffee

To improve infant and toddler diets we need to consider the range of factors – both within and outside of the household – that influence what, when and how babies eat. These factors include adequate food, services and practices and an enabling environment that support good diets in a more coordinated manner.

Key drivers of the complementary feeding in Kazakhstan

Enabling environment

Kazakhstan has complementary feeding guidelines, however there are no clear targets, indicators, or interventions to improve complementary feeding practices in any country policies or strategies. Kazakhstan also does not have a food-based dietary guideline that targets improving the diets of young children.

Adequate Foods

Nutritious foods need to be available, accessible, affordable and desirable to children and their families. There was limited evidence in BiH on the availability, accessibility, and affordability of food for young children. However, interviews with key informants indicated that availability and access is not perceived as a barrier to achieving improved complementary feeding. More evidence is required to further investigate how availability and access hinder complementary feeding practices in Kazakhstan. Commercial complementary foods, such as jarred vegetables (i.e. carrot and cauliflower) are advised to be fed from 4 months of age, which is not in line with WHO/UNICEF recommendations for timely introduction of complementary foods at 6 months of age.

Processed, energy-dense food is increasingly available in urban areas, through street and market vendors, which threatens to disrupt availability of nutrient-rich foods consumed by families, and subsequently fed to young children. The FEEDcities Project of Eastern Europe and Central Asia characterized food offered in vending sites in Kazakhstan. While these data are not specifically characterizing foods for young children, the data point to the increasing availability of these foods in the region. There was a notable lack of availability of nutrition-dense rich fruits and vegetables, especially in urban populations (i.e. Almaty), across markets and street food vendors. Fruit was sold by only 1.0% of vending sites, with 37% selling only industrially processed foods (36.6%). Wide availability of sugary drinks and high content of trans fat and sodium in commercial and homemade street foods have been documented in the capital cities of Central Asia. While access to food was not of concern in urban and rural areas, seasonal availability of certain food items (i.e. fruits and vegetables) were seen to affect dietary intake. In Kazakhstan, access to foods through local shops and markets remains a vital source of nutritious foods, alongside household food production, which is increasingly important for diversification of young children's diets in rural areas.

Adequate Services

Access to quality health and nutrition services, safe water and sanitation services, and effective social protection services for all children can help ensure their families have the support they need to provide their children with nutritious and safe foods. The absence of these services, or poor quality delivery, can instead hinder efforts to improve child diets. For example, in Kazakhstan, health providers often do not prioritize complementary feeding counseling, largely due to inadequate job aids, a lack of pre-service training in complementary feeding, as well as lack of clear roles and responsibilities of nutritionists. The country also lacks a cadre of nutritionists trained in provision of infant and young child nutrition counselling, which is a key gap. Complementary feeding practices are not monitored through the health monitoring information system (HMIS), limiting the ability of experts and policy makers in the health sector to identify potential problems in real time. In addition, while income-eligible families receive food baskets, there is no designated social protection policy to improve young children's diets.

The guidelines on feeding and caring for the development of healthy child, developed by the Ministry of Health, recommends exclusive breastfeeding for 6 months, three meals for breastfed children (5 meals for non-breastfed) from 6- 12 months of age and a variety of complementary foods (i.e. thick rice, semolina or buckwheat porridge, boiled minced lean meat, liver, fish, eggs and beans, various vegetables, fruits and well-peeled, strained nuts. From 12 months to two years of age, it is recommended that children consume family meals with a variety of meat, vegetables, fruits and nuts, as well as dairy products (i.e. milk. Mothers are encouraged to continue breastfeeding to 2 years of age. Avoidance of specific foods at various ages is recommended (i.e. whole cow, goat, or sheep's milk, eggs from 6-8 months), though this was not linked specifically to certain food allergies or food taboos for early childhood. Development of local complementary feeding recipe books for young children (how to prepare meats, vegetables) is currently underway in Kazakhstan.

Adequate Practices

The feeding, care and hygiene behaviors of caregivers support good nutrition for children and their families. According to key informant interviews, mothers and families' awareness of what and how to feed children can be limited, with regards to food preparation and recipes. Mothers may introduce foods early before 6 months of age (such as processed food, cookies). Meat is a primary feature of the Kazakh diet as is processed food consumption. While there is little information on food taboos, there is a misperception that breastfeeding is sufficient until one year of age, which has contributed to delayed introduction of complementary foods. Commercial complementary foods are often recommended before 4 months of age, which can disrupt exclusive breastfeeding.

Key recommendations to improve complementary feeding

- Develop a national food-based dietary guideline that focuses on young children, 6-24 months of age
- Develop and enforce a legislation on advertisement of commercial infant foods Develop a social protection policy targeting improvement of young children's diets
- Put in place legislative measures to restrict and regulate TV marketing of HFSS foods and drinks to young children
- Restrict or disincentivize the availability of unhealthy foods and beverages with high levels of trans fatty acids, and salt, work with street food vendors to make street food healthier with use of healthier ingredients (i.e. less sodium, and healthier fats)
- Address shortage of numbers of health providers and nutritionists in the country
- Strengthen health providers' capacity to provide interpersonal counselling on complementary feeding
- Integrate key IYCF Indicators into the HMIS and monitor progress



POLICY BRIEF | Improving complementary feeding in Serbia

Europe and Central Asia Regional (ECAR) Office conducted a regional landscape analysis on trends and predictors of young children's diets in select countries in the region in 2020. The findings from this analysis are intended to inform the development of a regional framework for complementary feeding that will guide countries in ECA on policy and programming to accelerate progress toward the prevention of child stunting and obesity. This brief summarizes key findings on the drivers of young children's diets in Armenia as well as major policy recommendations.

Complementary feeding refers to the introduction of semi-solid and solid foods to complement breastfeeding and takes place between 6 months and 2 years of age. Nutrient requirements increase significantly during this period. WHO global guidance recommends that children begin consuming foods other than breastmilk at 6 months of age, children are fed a diverse array of food groups, are fed frequently throughout the day, and continue breastfeeding up to 2 years of age.

Appropriate complementary feeding is critical to avoid all forms of child malnutrition in Serbia

What, when and how babies are fed determines the quality of their diets during the first years of life – with impacts that last a lifetime. In Serbia about 12% of children suffer from overweight, while child stunting levels are low (3.7%). According to survey data from 2014, Serbia has the highest timely introduction of complementary foods in the region at 96.6% and minimum meal frequency at 95.7%. Serbia also has the second highest minimum dietary diversity in the ECAR region (77%). Serbia has one of the lowest exclusive breastfeeding rates in the ECAR (i.e. 12.8%), due to high use of breastmilk substitutes (i.e. infant formula).

To improve infant and toddler diets we need to consider the range of factors – both within and outside of the household – that influence what, when and how babies eat. These factors include adequate food, services and practices and an enabling environment that support good diets in a more coordinated manner.

Key drivers of the complementary feeding in Serbia

Enabling environment

There are no national food-based dietary guidelines in Serbia that focus on improving young children's diets. The European Association of Pediatric, Gastroenterology and Nutrition, and the University Hospital in Belgrade has adopted the recommendation to start complementary feeding from 4 months of age which is not in line with WHO global standards, which recommends timely complementary feeding at 6 months of age.

Adequate Food

Nutritious foods need to be available, accessible, affordable and desirable to children and their families. There was limited evidence in Serbia on the availability, accessibility, and affordability of food for young children, based on perspectives from key informant interviews. However, interviews with key informants indicated that availability and access is not perceived as a barrier to achieving improved complementary feeding. More evidence is required to further investigate how availability and access hinder complementary feeding practices in Serbia.

Adequate Services

Access to quality health and nutrition services, safe water and sanitation services, and effective social protection services for all children can help ensure their families have the support they need to provide their children with nutritious and safe foods. The absence of these services, or poor quality delivery, can instead hinder efforts to improve child diets. In primary health care settings, counseling on healthy nutrition habits are provided during antenatal care, and include information on exclusive breastfeeding, introduction of complementary foods and responsive feeding, as recommended by pediatricians.

With regards to complementary feeding guidance, key messages to families were developed through the "It's a hit to be full and fit" campaign, supported by the private sector, which provided information on: encouraging children to eat (responsive feeding), exclusive breastfeeding through 6 months, complementary feeding (and not to begin before the 17 weeks [about 4 months] and not after the 26th week), and recommends the "gradual introduction of foods, based on advice from your pediatrician and based on your child's needs. The guidance on early introduction of complementary foods conflicts with recommendations for exclusive breastfeeding. The guidance states to introduce a teaspoon or two of foods for children to "get" used to new flavors, smells, and mushy foods. The timing for "combination of food" can occur after the initial introduction of several types of vegetables, cereals and fruits, mothers and families are advised to make "combinations" of various foods (for example, rice with carrots, pumpkin or zucchini, potatoes with zucchini and carrots) It is advised that certain foods are appropriate for children at certain ages, and such food restriction can limit dietary intake and diversity in young children's diets.

Expert committees/working groups- and associations of pediatricians have developed materials (i.e. take home brochures), which provide feeding recommendations for parents on infants and young children. In addition, after the baby's birth in the first month of life, through "patronage" services, nurses conduct home visits up to 4-5 times, to provide newborn care, as well as counselling on breastfeeding. These visits provide an opportunity to see "how well the child is fed and how well the child growing", and to provide information and counsel families on complementary feeding. One key challenge with providing quality health and nutrition services is that health providers often don't have time to counsel mothers on complementary feeding due to their heavy workload. Complementary feeding practices are not monitored through the health monitoring information system (HMIS), limiting the ability of experts and policy makers in the health sector to identify potential problems in real time. For social protection programming, benefits for families with children are provided, yet use of these benefits in purchasing foods for young children is unknown.

Adequate Practices

The feeding, care and hygiene behaviors of caregivers support good nutrition for children and their families. According to a study with mothers of children, 6-24 months of age (n= 492), 57% of mothers knew that complementary food should be given after 6 months, while 62% of mothers started feeding their babies with complementary food prior to 6 months. There were no significant differences in these practices according to the level of education and age group, yet a higher percentage of incorrect practices among older mothers (71%). Most mothers (74%) were advised by healthcare workers regarding timing to introduce complementary foods. Commercially available complementary foods in Serbia often have high sugar content, low levels of protein and/or lack of information on trans fatty acids or restrictions on child age.

Social norms may support harmful nutrition practices

Early introduction of complementary foods are driven by the widespread perception that breastmilk is insufficient, the widely-followed advice of pediatricians who recommend early introduction of food at 4 months and the fear that their child will develop food-related allergies which are associated with food taboos. Mothers often start feeding children boiled rice or rice cereal, alongside milk or breastmilk, and a watery meat-based broth (with no pieces of meat), which is inadequate to meet nutrient needs for healthy growth and development of young children. Later, children are often fed pieces of meat, vegetables (i.e. carrots) and fruits – like boiled or jarred apple. Stakeholders mentioned that families may lack time to prepare meals for the family, which would allow for greater consumption of processed foods.

Key recommendations to improve complementary feeding

- Develop a national food-based dietary guideline that focuses on young children, 6-24 months of age
- Monitor and enforce implementation of The International Code on Marketing of Breastmilk Substitutes and enforcement of World Health Assembly resolution 69.9
- Develop a social protection policy that targets improvement of young children's diets
- Update guidelines to ensure they are harmonized according to global recommendations for breastfeeding and complementary feeding, which would reinforce timely introduction of complementary foods at 6 months of age, and address food allergies and food taboos that can restrict children's dietary intake
- Strengthen the capacity of health providers to counsel on breastfeeding and complementary feeding, addressing providers' time and misperceptions around early introduction of complementary foods prior to 6 months of age
- Implement the Baby-Friendly Hospital Initiative throughout the country to protect and promote breastfeeding
- Integrate infant and young child feeding indicators in the HMIS and monitor progress
- Collect up-to-date data on breastfeeding and complementary feeding practices, including infant formula use, through surveys



POLICY BRIEF | To improve complementary feeding in Tajikistan

Europe and Central Asia Regional Office conducted a regional landscape analysis on trends and predictors of young children's diets in select countries in the region in 2020. The findings from this analysis are intended to inform the development of a regional framework for complementary feeding that will guide countries in ECA on policy and programming to accelerate progress toward the prevention of child stunting and obesity. This brief summarizes key findings on the drivers of young children's diets in Armenia as well as major policy recommendations.

Complementary feeding refers to the introduction of semi-solid and solid foods to complement breastfeeding and takes place between 6 months and 2 years of age. Nutrient requirements increase significantly during this period. WHO global guidance recommends that children begin consuming foods other than breastmilk at 6 months of age, children are fed a diverse array of food groups, are fed frequently throughout the day, and continue breastfeeding up to 2 years of age.

Appropriate complementary feeding is essential to avoid the triple-burden of malnutrition in Tajikistan

What, when and how babies are fed determines the quality of their diets during the first years of life – with impacts that last a lifetime. Tajikistan faces the triple burden of malnutrition, inclusive of stunting, overweight/obesity and multiple micronutrient deficiencies. While national prevalence of stunting among Tajik children less than five years of age has steadily declined from 29% to 18% from 2009 to 2017, regional stunting levels vary widely (15-32%). Child stunting increases markedly from 6-18 months of age. Moreover, wasting is highest in children less than 6 months of age (14%), while child overweight is low at 3%. Micronutrient deficiencies, such as vitamin A, iron, and iodine among children, are widespread and anemia (Hb < 11 g/dl) among

children ranges between 24-42% , according to recent surveys. According to a recent study, half of children (n=2149) were iron deficient (52.4%), 25.4% were anemic , one in three children were vitamin A deficient and half had inadequate iodine intake. With regards to complementary feeding, for children 6- 23 months of age, 63.1% of mothers introduced complementary foods by 6-8 months of age, while minimum meal frequency was 39.9% and minimum dietary diversity was only 22.5%, the which were the lowest in ECAR. For minimum acceptable diet was 9.3%, Tajikistan ranked 8th out of 8 countries, with available data.

To improve infant and toddler diets we need to consider the range of factors – both within and outside of the household – that influence what, when and how babies eat. These factors include adequate food, services and practices and an enabling environment that support good diets in a more coordinated manner.

Key drivers of the complementary feeding in Tajikistan

Enabling environment

The 2015-2025 *'Nutrition and Physical Activity Strategy for the Republic of Tajikistan' aims to "promote and protect the health of the population by improving their nutritional status, diet and physical activity through intersectoral actions."* The strategy emphasized the importance of breastfeeding promotion and proper complementary feeding practices (i.e. timely introduction of complementary feeding) as critical to child development and prevention of NCDs. Yet, here are no clear indicators specifically for improving complementary feeding nor for reducing micronutrient deficiencies (i.e. iron, iodine) and child obesity, which are mentioned in the strategy. Target activities outlined in country strategies related to complementary feeding include a focus on : 1) implementation of national guidelines of feeding of young children, conduct WHO integrated course for primary health care trainers to counsel on feeding for children less than 2 years of age, and 2)) implementation of WHO program on monitoring the nutritional status of children less than five years of age through mobile communication, and 3) a campaign on advertising of food, especially infant formula and 4) development of materials on nutrition, physical activity and NCD prevention in the curriculum of medical institutions. The Republic of Tajikistan adopted in August 2019, a law on *"supplying the population with fortified food products"*, which provides regulations for the fortification of staples vehicles (including wheat flour and salt) as well as other food products (i.e. milk, fermented dairy products, including those targeting child nutrition (i.e. juice, drinks based on fruit and/or vegetable juice).

Tajikistan is part of efforts, led by the WHO European Region to adapt and identify key actions for the *WHO/ UNICEF/ World Bank Initiative, the Nurturing Care Framework*, which aims to enable young children to reach their full development potential, while providing adequate nutrition. Key nutrition actions proposed for young children include breastfeeding, responsive complementary feeding, improving social interaction and increasing child motor skills for eating and model learning. The framework also emphasizes that industrially processed complementary foods meet standards recommended by the *Codex Alimentarius Commission and the Codex Code of Hygiene Practice for Powdered Formulae for Infants and Young Children*.

Adequate Foods

Access to foods through local shops and markets remains a vital source of nutritious foods, alongside household food production, which is increasingly important for diversification of young children's diets in rural areas of Tajikistan. According to a World Food Program analyses, food consumption patterns have changed between 2003 and 2017, with dramatic increases in consumption of eggs and meat by 217 and 106 percent respectively. Vegetable oil and sugar consumption have also significantly increased by 75 percent. Cost can be a prohibitive factor for increasing intake of nutrient-rich foods. While there are no notable differences in food consumption by household wealth status, the richest households consume more diversified diets with greater quantity and share of vegetables and animal protein (meat, milk/dairy products, eggs). Yet, two thirds of respondents named foods their household could not routinely afford (most commonly meat, followed by fruits and vegetables). Rural villages typically only have small stores with limited offerings, especially during winter and early spring, due to seasonal scarcity and freezing of roads. Remittances, as male heads of households work abroad for seasonal work, are an essential source of cash income (i.e. 31% of households in Tajikistan) and two out of three households were grew their own food crops or kept livestock for household consumption in rural Tajikistan, with women carrying out most of the agricultural activities.

Adequate Services

Access to quality health and nutrition services, safe water and sanitation services, and effective social protection services for all children can help ensure their families have the support they need to provide their children with nutritious and safe foods. The absence of these services, or poor quality delivery, can instead hinder efforts to improve child diets. In Tajikistan, the health system has not prioritized health worker training and implementation of counseling on complementary feeding is weak or not conducted in primary health care settings. Mothers who report relying on health care providers for feeding advice are less likely to have adequate diversity or minimum acceptable diet (MAD) scores. Complementary feeding practices are not monitored through the health monitoring information system (HMIS), limiting the ability of experts and policy makers in the health sector to identify potential problems in real time. Regarding social protection services, social safety nets can be used to increase access to food for young children, yet the current benefits are insufficient for families to afford nutritious foods, and it is not known if those funds are spent on foods for young children

Adequate Practices

The feeding, care and hygiene behaviors of caregivers support good nutrition for children and their families. Tajik households often provide one main meal of stew or soup including starches, vegetables, and meat (as available), with bread and tea. Therefore, infants and young children are often introduced gradually to aspects of the household diet, with early foods limited to broth, followed by mashed starches (i.e. potatoes). Sweetened tea, bread dipped in tea and/ or cookies are commonly consumed throughout the day by family members and it has been noted that infants may be offered these items as *first foods*.

Complex household dynamics exist around food purchasing, food preparation, and how and what young children are fed in Tajikistan. In rural areas, male ou-migration for employment (i.e. 25-40% to Russia) has increased the burden of responsibilities for women. This shifting macroeconomic forces have changed support structures, as with more absent fathers, women have increased burden to carry out agricultural activities and have less time to care for family, which may affect IYCF practices – i.e. women are less able to exclusively breastfeed, feed frequently enough and ensure that children receive a diverse diet. The fall of the Soviet Union catalyzed women's entry into larger scale, waged food production when a sudden drop in employment triggered men migrating for work . In the absence of men, women filled many traditionally masculine occupations- as three-quarters of women are involved in waged agricultural labor . Food systems changed, as women used their knowledge of low-input growing methods- yet received limited access to fertilizers, pesticides, improved seeds, high-quality irrigation - usually targeted towards male farmers.

Tajik women typically move to their husband's village and family home, following marriage, where diets are often shaped by multigenerational hierarchical dynamics within the household, which are affected by seasonal agrarian economics. In one study, rural household size ranged from 4 to 21 members with married sons, daughters-in-law, and children. Sixty-nine percent of mothers reported living in households headed by their fathers-in-law. While most mothers (65%) reported being the prime decision-maker regarding their child's feeding. In 25% of homes, mothers-in-law decided how children were fed, and in 10% of families as husbands or fathers-in-law, had roles. Fathers-in-law were the most common person to purchase food, either alone or with other family members (i.e., mothers-in-law or adult sons) and mothers-in-law were the most frequent decision maker regarding household food purchases and meal planning. Formative research reveals that during meal observations, mothers prepared meals half of the time, while mother-in-law, sister or sister in law's prepared meals for the remaining observations. Food was not prepared separately half of the time.

Social norms can reduce child dietary intake

Post-Soviet Tajikistan faced the threat of severe food insecurity in the mid-1990s, from which emerged food taboos which likely led to greater value in domestically produced foods. Women (i.e. mothers and mothers-in-law) relayed that imported food and *"foods grown with chemicals [i.e. fertilizer]"* are unsafe for human consumption. Imported foods were viewed with distrust, as "impure", and *a cause of poor health*. Foods with additives and foods *"grown with chemicals"* were relayed by women to be avoided by all family members, regardless of age or gender. While fruits and vegetables were perceived as *"healthy"*, findings reveal that women grappled with consumption of *"fruits and vegetables [which] have a lot of fertilizer and chemicals."* Early childhood taboos encompass certain foods restrict the dietary diversity of foods consumed by young children. Restriction or elimination of taboo foods are believed to protect children's health by lessening the risk of upset stomach, foodborne illness, and delayed language acquisition. Several studies revealed that family members believe that infants and young children, 6-24 months of age, were highly sensitive to gastroenteric upset based on the belief that they cannot digest foods as effectively as adults- the most common reason for excluding certain foods from young children's diets.

Key recommendations to improve complementary feeding

- Develop a national food-based dietary guideline that focuses on improving diets young children, 6-24 months of age
- Develop a social protection policy that targets improvement of young children's diets
- Strengthen health providers' capacity to provide quality interpersonal counselling on complementary feeding through refresher trainings and supportive supervision
- Address mothers and influential family members about the "why" of a high-quality, diverse diet, including food taboos, and on "how" to economically diversify diets, by increasing use of nonmeat proteins and Vitamin A rich vegetables, as well as food storage or preservation methods to overcome seasonal scarcity
- Address and dispel any beliefs concerning childhood taboos and food restrictions, during complementary feeding counseling and through targeted communication strategies to mothers and families
- Integrate key IYCF Indicators into the HMIS and monitor progress

For every child
Whoever she is.
Wherever he lives.
Every child deserves a childhood.
A future.
A fair chance.
That's why UNICEF is there.
For each and every child.
Working day in and day out.
In more than 190 countries and territories.
Reaching the hardest to reach.
The furthest from help.
The most excluded.
It's why we stay to the end.
And never give up.

unicef
for every child

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Jnauary 2021