

Field Article

Improving complementary feeding practices through a comprehensive health systems strengthening approach: experiences from Egypt

A complementary feeding awareness session at the primary health care facility, Egypt, 2017

KEY MESSAGES

- This article describes experiences of improving complementary feeding practices using a systems approach with particular focus on health systems strengthening.
- Achievements included: the development of national guidelines for optimum complementary feeding for children 6-23 months of age, inclusion of a specific indicator for complementary feeding in the new National Food and Nutrition Strategy, updated training packages to improve health worker counselling skills and strengthened social behaviour change communication activities.
- A systems approach requires strong coordination between all partners across sectors to ensure communities benefit from the synergistic effects of complementary interventions, while system strengthening was noted to improve the resilience of the Ministry of Health and Population to withstand the shocks of the COVID-19 pandemic and the subsequent Ukraine crisis.

stakeholder opinions from the central and peripheral levels, and UNICEF internal reports, we mapped the bottlenecks and barriers to optimum health and nutrition during the first 1,000 days period and then identified potential interventions to improve maternal, infant and young child health and nutrition that could be implemented while considering the community preferences and the capacity of the Egyptian MoHP. We used the UNICEF Action Framework (page 34) to pinpoint the interventions that could improve complementary feeding practices through the different systems including health. This was an iterative approach, revisited yearly to respond to the changing situation on the ground.

Key bottlenecks and barriers that we identified

Inadequate diets

We found that diets for children aged 6-23 months were inadequate: half of them consumed eggs and meat no more than twice a week and legumes and pulses three to four days a week and less than a third consumed the daily fruit and vegetable recommended (Ellaithy et al, 2022). The COVID-19 pandemic further reduced the ability of families to provide healthy diets for their children. Almost a fifth of households reported reducing their food consumption and one-tenth the quality of their diets (UNICEF, 2021). The drivers of poor diets for children included poverty, lower maternal educational levels (driven in part by early marriage for girls), precarious paternal employment, and poor household dietary diversity (Ellaithy et al, 2022).

Inadequate practices

We also identified that caregivers and communities had poor awareness of optimum complementary feeding and responsive feeding practices. Traditional practices were persistent, such as the early introduction of complementary

Background

In the context of a national drive to improve the nutrition status of its population, directed by the President of Egypt, UNICEF worked with the Ministry of Health and Populations (MoHP) throughout several sectors – health, food, social protection, water, sanitation and hygiene (WASH), and education – to strengthen the capacity of the health system to deliver quality maternal and child health and nutrition services. The programme focused on the first 1,000 days of life – from conception up to the age of two years – and one of its objectives was to raise public awareness of optimal complementary feeding practices.

This article relates the processes that we went through to give complementary feeding a higher profile within the health systems strengthening (HSS) approach. We also share the achievements and learnings we were able to achieve within the five years of programme implementation since 2017.

Programme framework and mapping

Using national published and unpublished data,

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foods, while the availability and desirability of 'junk' foods further reduced the quality of children's diets.

Inadequate services

While Egypt has a comprehensive network of primary health care (PHC) facilities that provide **health and nutrition services** to pregnant and lactating women and children under five years of age, we found that attendance was sub-optimal due to perceived low quality of care.

Overall, health care workers (HCWs) have limited capacities to provide appropriate complementary feeding counselling due to inadequate pre-service and in-service training, and the lack of information and educational materials. Many PHC facilities were understaffed, leaving HCWs overstretched.

Although there was near universal access (98%) to an improved water source in Egypt (MOHP, 2015), access to safe **water and sanitation** is constrained for the poorest households who often cannot afford to pay for access to piped water within their homes.

Outdated policies and strategies for nutrition

The National Nutrition Strategy had lapsed and there was no cross-sector coordinating body for nutrition. Although Egyptian law incorporates some aspects of the International Code of Marketing of Breast-milk Substitutes (the Code) and complementary foods, there was limited capacity to enforce, monitor, and prosecute violations. Up to the present, there is no legislation to limit the marketing of processed foods to children.

The national response to improve complementary feeding

Based on the identified barriers and bottlenecks, strategic actions focused on strengthening the health system as well as interventions for the food, WASH, and social protection systems.

Food system

National guidelines for optimum complementary feeding for children 6-23 months of age, and for women in the reproductive period, were developed and finalised in 2019.

Health System

At policy level, the MoHP coordinated with United Nations agencies to formulate a new National Food and Nutrition strategy (currently under finalisation) which includes a specific indicator of complementary feeding, i.e., to increase the proportion of children between seven months and two years who receive adequate complementary feeding alongside continued breastfeeding by 50% by 2030 (from a baseline of 23.3% in 2014).

UNICEF and the MoHP followed a HSS approach to introduce the 'first 1,000 days' package which includes complementary feeding counselling. This holistic approach focused on maternal and child health and nutrition, and early childhood development, as an integrated package of services, aiming to strengthen the capacity of PHC facilities, improve community

trust, and tackle the root causes of child malnutrition. Focusing on the geographical areas with the highest burdens of malnutrition, the package was piloted in two districts of Gharbia and Qaliubia governorates from 2017 onwards and rolled out at scale to cover the approximately 400 PHC units in these two governorates in 2019. Starting in 2021, at the MoHP's request, interventions have been focused in selected districts of Gharbia, Qaliubia, Minya, Assiut, Matrouh and Alexandria governorates where the most vulnerable populations reside.

The Health Information System (HIS) of the MoHP was reviewed and strengthened to include new nutrition indicators including the coverage of iron and folate supplementation for pregnant women and children under five and the coverage of Growth Monitoring and Promotion (GMP) visits, while decision support and a data visualisation dashboard were added to enable managers to use quality data to monitor and improve services.

Training packages were produced in 2019 to improve the quality of HCW counselling skills on maternal nutrition and complementary feeding, and training was delivered to 1,100 HCWs and supervisors. Regular tests are given to HCWs, whether face-to-face during supervision visits or monthly meetings or through online platforms, to sustain knowledge after the completion of training.

To improve the early detection of malnutrition, national anthropometry training manuals and materials were produced in 2020, and anaemia screening laboratory protocols, trainings, and quality tools were implemented. Micronutrient supplementation and treatment protocols were updated and disseminated. Micronutrient procurement and supply chains were reviewed to prioritise pregnant women and children under five and to reduce stockouts.

Social and behaviour change (SBC) activities included the production and dissemination (to 675 PHC facilities) of informational awareness materials on complementary feeding (posters, flipcharts, nutrition counselling cards, videos) to be used during counselling and health awareness sessions. Social media platforms¹ were launched in 2020 to spread awareness of optimum complementary feeding, breastfeeding, maternal nutrition and WASH messages. WhatsApp groups at the PHC level linked mothers to the health facility to communicate with trusted HCWs at the local level.

To improve decentralised capacity for planning, monitoring, and improving health and nutrition services, training packages on results-based management, supportive supervision, and the HIS were rolled out to raise the capacity of 140 middle managers. Regular meetings were held at the district and governorate levels to review indicators, troubleshoot problems, and share success stories. Local WhatsApp groups were also used to follow up service delivery in the PHC facilities. UNICEF field supervisors played an important role in mentoring

middle managers and frontline HCWs, troubleshooting problems and improving data quality, and innovating on-the-ground solutions (such as activating local social media channels and improved laboratory services).

Social protection system

In 2015, the Government of Egypt (GoE) introduced the 'Takaful'² conditional cash transfer (CCT) for the poorest families, specifically targeting the first 1,000 days, on the condition that the beneficiaries attended routine antenatal care (ANC) and GMP services at PHC facilities, as a way of improving the health and nutrition of mothers and their children. By 2022, four million families were benefiting from CCTs.

Women's empowerment trainings were provided through the MoHP in intervention areas, targeting beneficiaries from the first 1,000 days services to improve women's decision-making and negotiation skills and to help women to launch their own micro-businesses to help with household finances and ultimately improve complementary feeding.

The SBC materials developed by UNICEF in the form of a 'Positive Parenting toolkit' provided advice to parents, focusing on five main thematic areas including complementary feeding for children 6-23 months of age. It is mainstreamed in collaboration with the Ministry of Social Solidarity (MoSS). MoHP and MoSS are also currently developing health and nutrition tips for families of children under five years of age using short message service messages, delivered by RapidPro.³ RapidPro is also being used to establish an integrated database for families targeted through MoSS programmes, guiding community-based organisations (CBOs) to direct their cash and in-kind nutritional food assistance to support the most vulnerable families. This complements MoSS's social protection CCT programmes and widens the reach.

Achievements

The following section uses reports generated from the MoHP HIS and UNICEF field supervisor reports.

Training and supervision systems

Regular meetings at different levels strengthened team building and both managers and HCWs expressed satisfaction with the improved supervision system that emphasised support and problem-solving rather than fault-finding. Supervisors appreciated the new tools used to monitor and improve performance. Strengthening the supervision system, on-the-job training and quality control measures were credited for improve-

¹ Facebook <https://www.facebook.com/First1000DaysEgyptandWhatsApp>

² Takaful ("Solidarity") is a monthly conditional cash transfer for households with children, aiming at promoting capital accumulation by providing family income support while incentivising poor households to invest in their children's health, education and nutrition by imposing conditions such as enrollment of children in schools (with a minimum of 80 percent attendance) and getting the necessary health check-ups, including child immunisation and growth monitoring for children aged below five years old, and antenatal care for pregnant mothers.

ments in laboratory performance, demonstrated by reduced measurement error in haemoglobin readings from 1.3 to 0.3 gm/dL within three months of establishing these systems. Close mentoring resulted in improved HIS data quality, as evidenced by the data quality reports automatically generated by the system that enabled middle managers to make sound data-driven decisions.

Coverage of key services

Routine HIS reports revealed an improvement in the coverage of key services between January 2021 and April 2022 as summarised in Table 1. For coherence of reporting, only the results from the start of implementation in selected districts from 2021 onwards are presented below.

Improved attendance at ANC and GMP visits reflects that public trust in PHC maternal and child health and nutrition services increased. Regular ANC attendance (4+ visits) rose sharply (25 percentage points) since the beginning of the programme, while attendance at GMP services in the second year of life rose from 2.9 visits per child to 3.9 in 2022.

A total of 1.69 million caregivers were reached with complementary feeding messages, either face-to-face during GMP visits and health awareness sessions, or through engagement with the social media platforms.

Coverage of haemoglobin screening for children under two years of age improved from 83.2% to 95.1%, reflecting better supervision systems and improved procurement of testing supplies.

Coverage with iron folic acid (IFA) tablets for pregnant women and iron and folate syrup for children under five years of age was slightly improved by advocating for increased procurement at the governorate level.

Partnering with the private sector

Health teams reached out to community pharmacists and private laboratories to invite newly pregnant mothers to attend ANC services which helped to increase early ANC attendance. Health teams also communicated with private nurseries to improve nutrition awareness including optimal complementary feeding practices.

Community participation

Fundraising efforts at the local level resulted in communities donating essential supplies (including laboratory supplies, drugs, ultrasonography machines) to their local PHC facilities. They also contributed in-kind maintenance work such as plumbing and gardening services. This deepened connections between the PHC units and

the public. Local CBOs, mosques and churches provided venues for health information sessions with the public.

Lessons learned and the way forward

Health System

Higher ANC and GMP attendance enhances the continuity of care for the infant after birth since mothers receive nutrition counselling awareness on maternal nutrition and breastfeeding during pregnancy and after delivery, with complementary feeding counselling beginning when the infant reaches six months of age.

UNICEF's support to the GoE in strengthening the capacity of the health systems to deliver quality maternal, infant and young child health and nutrition services ensured the harmonisation and integration of essential nutrition actions into national systems and services. This improved the availability and accessibility of the essential services to address malnutrition in women and children through a more holistic, multi-sector approach. Considering the high burden of anaemia in Egypt, UNICEF will continue advocating for increasing the national budget to meet the needs for IFA supplements.

The MoHP appreciated the different nutrition training packages and materials and requested expansion to cover all 27 governorates through the training of 300 trainers. Training packages are now being digitalised to be used for pre-service training and to reduce the considerable time and costs of scaling up the trainings to the HCWs of the more than 5,000 PHC facilities in Egypt.

UNICEF will continue to support MoHP capacity to leverage social media to raise awareness. However, social media platforms, while well-appreciated, are not widely available to the poorest sections of the population (internet penetration currently stands at 71%) due to the lack of smartphones and/or internet connections and gender norms hindering women's use of social media.

Social protection system

To synergise the effect of the Takaful CCT programme to improve diets and practices, it is essential to improve the quality of health and nutrition services at the PHC level, to encourage the uptake of those services and as a pathway to improving health and nutrition outcomes for these vulnerable groups. Using the integrated package of services described in this article, HCW capacities nationwide should be further raised to provide tailored nutrition counselling, with a special focus

on complementary feeding, to ensure that the most vulnerable populations enjoy the maximum benefit from these services. Women's empowerment training programmes should be scaled up and innovative business models are needed to expand opportunities for these women.

Food system

In view of widespread poor diets and malnutrition among children, SBC programmes to improve dietary awareness should be developed and mass media channels considered to reach all segments of society. It is also essential to effectively implement the Code as well as the global recommendations on the marketing of foods and sugar-sweetened beverages to children. Providing productive assets, such as livestock, may encourage households to produce and consume their own food, leading to improved dietary diversity for households and children (Ellaithy et al, 2022).

WASH system

UNICEF will re-activate a 'revolving fund' in intervention areas so that families can afford the fees for a household water connection.

Education system

It is vital to combat early marriage to enable girls to complete their education, while ensuring comprehensive nutrition education in schools to enable young families to make optimal nutrition choices.

Conclusion

In conclusion, improving the complementary feeding of young children can be best achieved by providing a comprehensive package of health and nutrition services for mothers and children throughout the first 1,000 days, based on a systems approach to health, food, social protection and WASH, with support from widespread SBC activities. Coordinating interventions between partners is essential to ensure that families and communities all benefit from the synergistic effects of multiple approaches to support optimum nutrition. The health systems strengthening approach described here improved the resilience of the MoHP to withstand the shocks of the COVID-19 pandemic and the subsequent Ukraine crisis.

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³ RapidPro is a free, open source software used for building mobile-based applications.

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Table 1 Coverage of key health and nutrition services at primary health care facilities

	January 2021	April 2022
Average number of growth monitoring and promotion visits in the second year of life per child	2.9	3.9
Early antenatal care visits (within first trimester)	27.9%	38.1%
Regular antenatal care visits (4+)	29.1%	55.6%
Postnatal care visits within 48 hours	56.3%	77.1%