Urban Nutrition Mechanisms

Sindh

Pakistan

June 2019

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Contents

Brief Report on Literature Review for Nutrition in Large Urban Populations

Background

Maternal and child under nutrition are serious problems in Pakistan. Of the children under five, 44% were stunted and 32% underweight, according to the National Nutrition Survey 2011 (NNS 2011). Acute under nutrition (wasting) in children under-five was 15% (15% wasting rate is the threshold for a "nutrition emergency"). Severe acute malnutrition is at 5.8% and hence and extremely high in Pakistan. More than 20% of the children under 24 months of age acutely malnourished. The high levels of malnutrition among youngest age groups are indicative of the irreversible damage to cognitive ability and growth that is occurring during the first two years of life. Pakistan's children also suffer from vitamin and mineral deficiencies: the prevalence of anemia is 63% among children under five years of age, zinc deficiency affects 39% in children under five, iodine deficiency affects 37% of school age children. The NNS 2011 reported a high prevalence (15%) of women of reproductive age having chronic energy deficiency (Body Mass Index <18.5). One out of two (48%) mothers of children under five has iodine deficiency and 51% of mothers of children under five are anemic. A comparison of child stunting rates in Pakistan since the national surveys began in the 1960s indicates that there has been no change in the last 50 years in this indicator of chronic malnutrition.

The World Bank is supporting nutrition interventions through the Enhanced Nutrition for Mothers and Children Project in three provinces. The project is structured around four major components: a) Addressing general malnutrition (including promotion of maternal, infant and young child feeding practices, management of acute malnutrition); b) Addressing micro-nutrient deficiencies (focusing on multi-micro nutrients for children 6 to 24 months, Vitamin A, Iron Folic Acid, Iodine, Zinc plus low osmolarity ORS for treatment of diarrhea); c) Advocacy and behavior change communication (advocacy, mass media communication); and d) Strengthening institutional capacity (including human resources, capacity and technical assistance for delivery, planning, management, implementation, monitoring and evaluation and accountability for results, social accountability, inter-sectoral coordination. The basic components of the program are in place all three provinces have health-specific nutrition interventions operational. Health sensitive interventions in areas of water and sanitation are currently being processed for two provinces.

The nutrition program needs to ensure service delivery to the 90% of children who do not require therapeutic interventions. The information component and the behavior change component to improve the nutritional intake of children is a crucial aspect which is lagging. Going forward, the program needs to deliberate and strategize on how to deliver on this aspect.

At present the nutrition activities for health specific interventions have been launched at scale in all four provinces and by the end of 2019, all provinces will have some form of intervention ongoing in all districts. The current implementation design has shown its effectiveness in reaching children in the rural and semi urban areas, however the design does not cater for large urban populations (e.g. Karachi). This is an area which requires further consultations to develop an appropriate strategy to cater for the increased population density, availability of social media tools, increased coverage of electronic media, and comparatively better literacy rates. The actors available in the urban areas are also different from rural as a large number of private providers and NGOs are also available in the metropolises.

Introduction

Recent decades have seen unprecedented population growth in urban areas around the world. In 2014, just over half of the world's population lived in towns and cities; this is expected to rise to two thirds by 2050. Nearly 90% of these additional 2.5 billion urban residents will be concentrated in Africa and Asia.[i]

The population of Pakistan has increased from 132,352,279 in 1998 to 207,774,520 in 2017. The urban population grew at the rate of 2.70 per year from 45,497,046 to 75,584,989 during this period. The population of 10 major cities of the country has increased by 74.4 per cent since 1998, when the last census was conducted, according to the data of recently concluded 6th Population and Housing Census 2017. The total population of the 10 cities surged to 40,956,232 individuals as per the 2017 census from 23,475,067 registered during the 1998 census, the data revealed.[ii] [iii]

Rank	City	Population (1998)	Population (2017)	Change of Growth	Province
1	Karachi	9,339,023	14,910,352	37.37%	Sindh
2	Lahore	5,143,495	11,126,285	53.77%	Punjab
3	Faisalabad	2,008,861	3,203,846	37.30%	Punjab
4	Rawalpindi	1,409,768	2,098,231	32.81%	Punjab
5	Gujranwala	1,132,509	2,027,001	44.13%	Punjab
6	Peshawar	982,816	1,970,042	50.11%	Khyber Pakhtunkhwa
7	Multan	1,197,384	1,871,843	36.03%	Punjab
8	Hyderabad	1,166,894	1,732,693	32.65%	Sindh
9	Islamabad	529,180	1,014,825	47.86%	Islamabad Capital Territory
10	Quetta	565,137	1,001,205	43.55%	Balochistan

Urbanization is a complex and dynamic demographic phenomenon, which interacts with globalization, income growth, migration, population growth, income inequality, climate change, health and sustainability. Together, these interrelated drivers are shaping food systems in low- and middle-income countries to create a crisis of urban hunger and malnutrition – part of a wider global nutrition challenge in which 3 billion people are currently experiencing some form of malnutrition.[2] The Global Panel's 2016 Foresight report *Food Systems and Diets: Facing the Challenges of the 21st Century*[iv] describes how new policy initiatives and approaches to improving the quality of diets are critical to averting this nutrition crisis over the next two decades. As the Report makes clear: *Around the world, coordinated action [to improve diets and nutrition] needs to be accompanied by fundamental shifts in our understanding and in our policy actions... Food systems need to be repositioned from just supplying food to providing high-quality diets for all. This will require policy initiatives far beyond agriculture to*

encompass trade, the environment and health, which harness the power of the private sector and empower consumers to demand better diets.[v]

without decisive action, the crisis of urban food systems in low- and middle-income countries will deepen over the next decade. The threats are formidable but the opportunities for positive change on a significant scale are equally impressive. Continuation of current policies will result in crippling health and nutrition problems but implementing innovative policies and facilitating system-wide improvements could transform diets in urban areas.

Ending hunger, improving nutrition and achieving food security are crucial policy objectives in their own right, as embodied in Sustainable Development Goal-2. However, what people eat has major implications for wider areas of policy relating to the environment, markets, health costs, labor productivity, national economic growth and social cohesion. Policymakers need to understand that the SDGs relating to economic growth, health, well-being and life expectancy all depend on people having access to healthy diets. Policies that help shape healthy dietary habits should therefore be at the core of the combined SDG policy agenda and must take into account people's food tastes, choices, cultural norms and non-food purchasing power. In other words, it is what people actually eat that matters, not merely what foods.

The lack of adequate urban planning, management and an enforceable legal framework, as well as poor governance, are the root causes of health challenges and poor quality of life in cities. Access to safe drinking water, sewerage, air pollution, environmental hazards and unsafe housing is still below standard in many cities, particularly in the urban slum areas where vulnerability is higher compared with advantaged areas. In these areas, violence and injuries are rising and health coverage is often poor for many reasons, including lack of a well-structured health system; the presence of a variety of health care providers with no coordination mechanism; and the long working hours of most family members that mean that little attention is paid to health care services, particularly preventive care.

Health managers face many challenges in urban areas. The lifestyle-related health risks for both the rich and the poor have increased substantially due to urbanization. Unhealthy diets and a sedentary lifestyle with little physical activity are common characteristics of people living in urban areas[vi].

Decisions that influence the nutritional conditions of populations may be made at several different levels of administration[vii]. These decisions may be in relation to:

1. policies and programmes that can fundamentally affect people's living standards in the long term,
2. programmes that provide for more immediate alleviation of hunger and malnutrition, or
3. a number of intermediate possibilities.

   The decisions essentially involve the allocation of resources for the benefit of deprived groups of people through alternative activities. Generally, the objective of nutritional surveillance is to provide information so that decisions can be made that are more favorable to nutrition; this in turn will lead to the allocation of resources for the benefit of the malnourished in such a way that their nutrition will improve.

We have suggested a classification of policies and programmes that are related to nutrition as follows:

i. National policies
ii. Development programmes
iii. Public health and nutrition programmes
iv. Timely warning and intervention programmes

The information needed for decisions on national policies and programmes can be defined through answers to such questions as the following:

1. Are there certain population groups with worse nutrition than others, and what are their characteristics?
2. Is the overall nutrition situation deteriorating or improving? Is this the same for all groups? How are groups with particular problems defined? Can these trends be explained?
3. Are there indications of specific short-term nutrition problems at present?
4. Are there indications of future problems?

To answer these questions, data are needed on indicators of nutritional conditions, disaggregated by relevant groupings (such as area, occupation and resource endowment) and repeated over relatively long periods of time (i.e., usually years).

The challenges facing urban policymakers are formidable, but the opportunities for positive change are equally impressive, considering relatively higher incomes of urban residents, and better access to fruits, vegetables and fresh foods, as well as more beneficially processed foods. Also, economies of scale and higher profit in integrated urban markets can make it easier for businesses to innovate, develop new marketing approaches and cross-subsidise products. Four priority areas are laid out in a recent policy brief addressing policies concerning urban diets and nutrition that are in particular need of change[viii]:

Governance of urban food systems: Local leadership and governance are essential in addressing the challenges of poor diets and nutrition in urban areas. Close connection is needed with the differing nutritional challenges of diverse urban populations (such as class, age, gender, ethnicity, religion and culture, for example) and a clear mandate is needed to deliver high-quality diets as a key policy objective. Without focused urban governance, other actors from a wide range of sectors are likely to dominate the food system, often in ways that are not pro-poor or focused on positive nutrition outcomes. To be effective, however, this must be accompanied by appropriate fiscal devolution so that local authorities have the resources to act.

Wider aspects of urban governance: This includes spatial planning (including urban form, land management and tenure security), infrastructure and housing, transport planning, education policy, access to energy, water and sanitation, and pre- and ante-natal policies and interventions. Policymakers must engage with partners and other actors, which seldom happens at present. A widely shared, cross-government, nutrition-sensitive policy framework is one way of helping to secure greater policy coherence.

Policies relating to the informal retail sector: A fundamental shift in attitude is needed whereby the value of the informal sector is better recognised and misconceptions are set aside.

Triple burden of malnutrition: Policymakers in many low- and middle-income countries (LMICs) are already encountering the triple burden of malnutrition – underweight, micronutrient deficiencies and overweight and obesity – in urban populations. There are no quick fixes to address the challenge of

overweight and obesity. Instead, national authorities and municipalities must develop a long-term strategy to limit future rises as a minimum.

Recommendations

While most actions will depend heavily on local contexts, the Global Panel offers eight recommendations to policymakers which are universally applicable to help governments to address all forms of malnutrition in urban areas:

1. Policymakers need to urgently rebalance their efforts to make high-quality diets a priority for both urban and rural populations. This means making fresh fruit and vegetables, pulses, nuts and seeds and other nutrient-rich foods available to all. Importantly, rising urban incomes will not provide the solution alone. High-quality diets are as important as clean water, hygiene and sanitation, good health services and maternal and child care.

2. Policymakers at the local level need to take a leading role in championing better diets and nutrition – this requires them to be both mandated and empowered to act. Local leadership is essential in addressing the challenges within cities. But there is also a need for multiple actors to work together to address the complex and growing problems. Government, business/market actors, education and healthcare providers and civil society all have important parts to play.

3. It is essential to tackle the challenges of urban malnutrition by capitalising on opportunities offered by urban food systems. Urban contexts provide a ready-made environment for influencing the diets and nutrition of large numbers of people. A high priority should be given to national policies which regulate product formulation, labelling, advertising and promotion. These are especially important in urban situations where food marketing can be particularly aggressive and can encourage poor-quality diets. Investment in the education of consumers about healthier food choices is also essential.

4. There is a need to connect with wider areas of policy which are usually excluded from dialogues on urban diets and nutrition. Cross-sector engagement is needed, as described above. There are also opportunities to influence public institutions in towns and cities, such as schools, prisons and government offices, to offer enhanced dietary choice, quality and knowledge about nutrition.

5. It is essential to address the needs of all urban population groups. Populations within cities are diverse, covering a wide range of socio-economic levels, ages, ethnicities, cultures and religions. Recognising this diversity is essential for the development of effective strategies which aim to achieve improved consumer access and dietary choice for all.

6. Attitudes to the informal food sector need to change. This sector is vital for meeting the dietary needs of many urban dwellers – particularly the urban poor. Rather than penalising or seeking to eliminate it, measures are needed to improve the sector in order to better address sanitation and health risks.

7. Urban policymakers in low- and middle-income countries need to give more attention to the specific challenges associated with rising rates of overweight and obesity. The aim should be to limit further rises – no country has yet succeeded in reversing the trend of rising obesity. If allowed to develop, the associated non-communicable diseases could become very burdensome for health resourcing, economic development and individuals.
8. Effective action in tackling urban health and nutrition challenges needs to be carefully measured, rigorously analysed and quickly disseminated. Reviewing and disseminating empirical data on what works – and what does not work – can help inform policymakers and promote a variety of tailored actions.

Finally, there is a need to act without delay. Urban populations are growing rapidly. Economic growth on its own is insufficient to secure improved diets and enhanced nutrition. Decisive action is needed to tackle the growing global health and nutrition crisis which is increasingly located in urban settings. Large concentrations of consumers with growing incomes offer a chance to change behaviour, choice and dietary patterns on a huge scale. A failure to act now risks locking in processes, behaviours and outcomes for decades.

To conclude Rapid urbanization is a trend seen across the developing world. This is due to both rural and urban migration into slum and informal settlement areas within major urban centers, and natural population growth. The urban poor living in these settlements face a unique set of challenges compared to their rural counterparts. Almost exclusively dependent on the market for food and other necessary items, slum dwellers are very vulnerable to price increases and other market shocks. The population density of slums, in combination with poor sanitation and limited access to clean water, also translates into high transmission risk for communicable diseases. Despite their increasing as a proportion of the overall population little disaggregated data is available on the communities living in the slums. Although this is slowly changing with new research focusing on slum dwellers, the body of knowledge on basic indicators, particularly health, food security and nutrition, is still very limited.

Whilst the socioeconomic, health and sanitation characteristics of urban slums vary within the same city, within the same country. Latin America, Asia and Africa face very different challenges in relation to governance, private sector engagement, and the nature of slum environments.

Urban development is a long-term process, and time is an extremely important factor in assessing the impact of policy and assistance. Urban areas are more complex than rural areas, at every level from governance to nutrition and food security. Assessments and analysis in urban informal areas/slums poses a challenge, as does accurate targeting and effective programme design and implementation. Big questions remain as to whether even the most experienced of INGOs can significantly scale up programmes in urban areas as they do in rural areas. Experience suggests that the complexity, additional negotiation and coordination, as well as the sheer number of potential beneficiaries, will be self-limiting, and international actors will need to work more closely to improve the capacity of Governments and national actors, as well as developing clearer ways of working with the private sector for service delivery and programme scale up.

The use of cut-offs derived for rural areas for global acute malnutrition (GAM) and mortality rates is questionable in urban areas as a relatively low percentage of GAM in an urban area can still translate

to thousands of children, and proportional increases may indicate an urban crisis without reaching rural thresholds. The absolute numbers of children are important and are often far greater when dealing with urban slums. In consistency with the increasing call to revise and reconsider thresholds for intervention in rural areas, attention needs to be paid as to whether appropriate indicators can also be determined for urban contexts or whether different indicators are more relevant, e.g. crime rates, food and fuel prices, in-migration rates, sanitation and health data.

The development community recognizes that it still has much to improve on in relation to responding to slow onset emergencies in rural areas. An even bigger challenge will be identifying and responding to slow onset crisis in urban slums. It is essential that effective early warning systems and triggers to indicate urban crisis are identified (especially for slow onset or protracted crisis) so that there is clear international agreement and buy-in from Donors, the UN, (I)NGOs and governments. Without this it is likely that there will be regular urban crises in the coming years will be ignored by duty bearers and the international community alike. Without clear delineation and triggers the differentiation between acute and chronic urban needs will remain a continued cause for debate and justification for continued stasis from the humanitarian community while donors fear that exiting urban slum programmes will be impossible.

It is clear that there needs to be more operational research, on urban programmes and policy interventions to better understand urban contexts, and how they differ, as well as evaluating the impact of adapted models applied from rural contexts. A number of agencies are beginning to do this, but there has been a lack of an effective urban coordination body or platform that promotes and shares this learning across sectors. A new humanitarian urban portal[ix] has just been opened with the aim of improving knowledge sharing in disaster preparedness, relief and early recovery in urban crises. Continued support and funding in this area is essential to ensure that current forums and groups do not develop silos in the different technical areas; and input from implementing agencies and governments is essential to ensure that the coordination mechanism does not function at a level which is too remote from the field.

While more recent NGO, think-tank, and academic literature has explored challenges pertaining to urban-based natural disaster preparedness and response, there has been far less discussion on how to respond to urban-based complex emergencies. This adaptation of programme response models has started, but more focus and resources are needed to support the development of best practice assessment, targeting and response methodologies for urban areas; with targeting in particular identified as a recurring gap in a number of urban evaluations.

There are serious challenges to food security and nutrition programme and policy work in urban slums. It is clear from evaluations and programme experience to date, that regular cash transfers can provide a safety net to meet immediate needs, as well as act as a social protection mechanism to protect the poorest households from becoming destitute during the hunger gap. Evaluations of social protection show a clear impact on food security and livelihoods, and there is some data on the impact on stunting, but there is a distinct gap in knowledge on the impact of both safety net and social protection programmes on acute malnutrition. Depending upon the design, social protection can include conditional or unconditional shelter improvement, access to clean water and sanitation, debt management or micro insurance (e.g. against medical costs), amongst others. Cash can be transferred through electronic transfer mechanisms, which can confer both protection and confidentiality to the

beneficiary. These social protection pilots can act as examples to governments and duty bearers of the impact, whilst change at a national policy level is advocated.

Acute and chronic malnutrition affects many thousands of children and women in the slums. Direct programme intervention and policy change, aimed at improving access to health service provision, water and sanitation, access to community-based management of acute malnutrition (CMAM), vaccinations and IYCF, are all appropriate interventions. However, the challenge of scaling up and replicating programmes means that direct intervention is only possible with a small proportion of populations that may constitute millions of people. Instead the focus needs to be on policy and legislation change at a national level, and building the capacity of civil society and local NGOs to support the needs of urban slum dwellers.

Areas to be addressed for further programming and planning interventions in urban areas:

Policy or program[x]	**Relevance of information**
National policies, e.g.: — resource allocations, by area and sector — legislative: e.g., price policy, commodity flows, minimum wages — programme directions: e.g., promoting different crops, preventive/curative health	Planning
Development programme measures, e.g.: — area development programmes — commodity programmes	Planning and evaluation
Public health and nutrition programmes, e.g. • — environmental health — primary health care	Planning and evaluation
Timely warning and intervention programmes _ for famine prevention — for alleviating seasonal food shortages	Initiating interventions

Urban Food Agenda[xi]**:**

Implementation of people-centered, needs- based, inclusive and integrated policies, plans and actions that create resilient and sustainable food systems, enhance livelihoods and job opportunities in both rural and urban areas and guarantee freedom from hunger and all forms of malnutrition. Capacity-building and policy assistance to national and provincial institutions for developing territorial food system approaches while also facilitating multi-scalar governance leading to sustainable food system and improved nutrition

Guiding principles for the framework:

1. Rural-urban synergies (Space matters)
2. Social inclusion and equity (Leave no one behind)

3. Resilience and sustainability (Safeguarding the future) 4. Food systems (inter)connections (Integrated perspective matters)

Targeted outcomes:

1. Mainstreaming and policy support
2. Governance
3. Knowledge generation and capacity development
4. Outreach and advocacy
5. Partnership and investment

Delivering through comprehensive areas of support:

1. National urban policies and transformative institutions
2. Local governance and food system planning
3. Short food supply chains and public food procurement
4. Agri-food innovation across small towns
5. Food environment and green public spaces for healthy cities
6. Optimized supply chains and sustainable bio economy for reduction food losses
7. Evidenced-based outreach for improved global urban food governance

Evidence-based nutrition actions over the life-course[xii]

Target group	Intervention areas	Evidence-based actions	Context/criteria
Infants (0–5 months)	Early initiation of breastfeeding	Counselling and support at facility and community level Implementation of the Baby-friendly Hospital Initiative Implementation of International Code of Marketing of Breast-milk Substitutes Maternity protection	All countries
	Exclusive breastfeeding		All countries
	Feeding of low-birthweight infants	Counselling and support	All countries, children born with weight <2500 g
	Infant feeding in the context of HIV	Counselling and support to HIV-positive mothers	All countries, children born to HIV-positive mothers

Target group	Intervention areas	Evidence-based actions	Context/criteria
Infants and young children (6–23 months)	Continued breastfeeding	Counselling and support at facility and community level	All countries
		Implementation of International Code of Marketing of Breast-milk Substitutes	
	Appropriate complementary feeding	Counselling and support for appropriate complementary feeding	All countries
		Use of multiple micronutrient powders for home fortification of foods consumed by infants and young children 6–23 months of age	Populations where the prevalence of anemia in children under 2 years is 20% or more
	Vitamin A status	Vitamin A supplementation in infants and children 6–59 months of age	Populations where the prevalence of night blindness is 1% or higher in children 24–59 months of age or where the prevalence of vitamin A deficiency (serum retinol 0.70 µmol/l or lower) is 20% or higher in infants and children 6–59 months of age
		Vitamin A supplementation to children with measles	All countries, all children with measles
	Iron deficiency	Daily iron supplementation for children 6–23 months of age	Countries where the diet does not include foods fortified with iron or where anemia prevalence is above 40%
	Zinc status	Zinc supplementation to children with diarrhea	All countries, children with diarrhea
	Iodine deficiency	Iodine supplementation to children	Countries where less than 20% of households have access to iodized salt, until the salt iodization programme is scaled-up
	Severe acute malnutrition	Out-patient and in-patient management of severe acute malnutrition	All countries, children with severe acute malnutrition

Target group	Intervention areas	Evidence-based actions	Context/criteria
	Moderate acute malnutrition	Management of children with moderate acute malnutrition	All countries, children with moderate acute malnutrition
	Nutrition of children living with HIV	Nutritional care and support of children 6 months to 14 years old living with HIV	All countries, children living with HIV
	Nutrition in the context of emergencies	Nutritional care and support for children living in emergency situations	Countries in emergency situations
Women in reproductive age	Iron and folic acid deficiency	Intermittent iron and folic acid supplementation in menstruating women	Countries where the prevalence of anemia among non-pregnant women of reproductive age is 20% or higher
Pregnant women	Iron and folic acid deficiency	Daily supplementation with iron and folic acid for women during pregnancy	Countries where anemia in pregnant women is 40% or higher
		Intermittent iron and folic acid supplementation for non-anemic pregnant women	Countries where prevalence of anemia among pregnant women is lower than 20%
	Vitamin A deficiency	Vitamin A supplementation in pregnant women	Populations where the prevalence of night blindness is 5% or higher in pregnant women or 5% or higher in children 24–59 months of age
	Calcium status	Calcium supplementation in pregnant women	All countries. All pregnant women, particularly those at higher risk of hypertension
	Iodine deficiency	Iodine supplementation to pregnant and lactating women	Countries where less than 20% of households have access to iodized salt, until the salt iodization programme is scaled-up
	Nutrition in the context of emergencies	Nutritional care and support for pregnant and lactating women living in emergency situations	Countries in emergency situations
Global	Micronutrient status	Wheat and maize flour fortification	Countries where industrially produced flour is regularly consumed by large population groups

Urban malnutrition may be reported in figures less than rural ones, it looks small in proportions which is high in concentrated population numbers. A very little work has been done on urban Nutrition, specifically in large city settings, the examples from India and few other countries are actually extension of emergency/rural nutrition programs in squatter settlements of the big cities. The approach to address requires out of box thinking and design with differences in approach required compared to a rural settings program; focusing on literacy, population density, social structures/ cohesion, nuclear families, loss of traditional safety nets etc.

Undernutrition is still common among the urban poor, and children living in slums are more likely to suffer from undernutrition, including stunting, than children elsewhere in the city[xiii]. Recent data from the WHO and UN-Habitat[xiv] *Global Report on Urban Health* shows levels of chronic malnutrition amongst the urban poorest at similar levels to those in rural areas, and in some countries, particularly South Asia, the urban poorest have higher levels of chronic malnutrition than their rural counterparts. Women with short stature (es than 145 cm) were 1.7 times higher (14.5 vs 9.8 per cent) and maternal thinness (BMI lower than 18.5) was 1.8 times higher (38.5 vs 21 per cent) in the poorest urban quartile compared to rest of the urban population in India predisposing urban poor women to greater risk of low birth weight newborn owing to intra-uterine growth retardation and of a caesarean section delivery[xv]. Urbanization brings with its great potential for social and economic change. The increasing use of mobile phones and access to information and communication that this brings is one example. Women in particular are experiencing changes in their roles with increasing numbers of urban poor women working. In Bangladesh, 33 per cent of slum women work full time compared to 16 per cent of non-slum women[xvi]. While such developments bring opportunities, gender discrimination and the impact on the vulnerable situation of women and their children should not be underestimated. Women are more likely to have insecure low paid jobs, not covered by labour laws and frequently not in control of the money they earn. Their growing participation in the workforce outside the home impacts on childcare, breastfeeding and household diet. While stunting and wasting persist across the globe, the face of malnutrition is rapidly changing. Overnutrition including overweight and obesity is now on the rise in almost every country in the world.

Consultative Meeting with Medical Colleges/Universities

Date: June 13, 2019

Venue: Beach Luxary Hotel, Karachi, Sindh

Participants:

Prof. Arshad Ali	Head Department of Pediatrics, Karachi Institute of Medical Sciences, Karachi
Prof. Syed Muhammad Inkisar Ali	Head Department of Pediatrics, Jinnah Medical & Dental College Karachi
Dr S.Sanower	Consultant Jinnah Medical & dental College, Karachi
Prof Ghulam Murtaza	Head Department of Pediatrics, Dow Medical college, Karachi
Dr Zufiqar Shaikh	Professor Community Medicine Dow Medical College, Karachi
Dr Khalid Shahfi	Asst. Professor Community Medicine, Dow Medical College, Karachi
Dr Aijaz Hussain	Head Department of Community Medicine, Ghulam Mohammad Maher Medical College, Sukkur
Dr Saima Zainab	Head Department of Community Medicine, Liaquat National Medical College, Karachi
Dr Samina Shamim	Department of Pediatrics, Liaquat National Medical College, Karachi
Dr Kehkashan Mufti	Shaheed Mohtarma Benazir Bhutto Medical College, Lyari, Karachi
Dr Saba Shahid	Consultant Pediatrics,Indus Hospital, Karachi
Dr Raiz Ahmed	Asst. Professor Community medicine Al Tibri Medical College, Karachi
Dr S. Maqsood	Head Department of Community Medicine, Al Tibri Medical College, Karachi
Dr Ghazala Usman	Consultant Sindh Medical College, Karachi
Dr Inayat Thaver	Consultant, Behria University of Medical and Dental College
Dr Tahira Saeed	Asst. Professor Pediatrics, Baqai Medical college, Karachi
Dr Shaheena	Professor Pediatrics, United Medical& Dental College, Karachi
Dr Yasmeen Kazi	Professor Pediatrics, Shaheed Mohtarma Benazir Bhutto Medical College. Karachi

Dr Hussain Bux	Professor Community Medicine Isra University, Hyderabad
Dr Shahzad Imam	Senior Registrar Pediatrics, Isra University, Hyderabad
Dr Iqbal Memon	Professor Pediatrics, Sir Syed College of Medical Sciences for Girls, Karachi
Dr Atta Muhammad Chandio	Professor Community Medicine Peoples University of Medical and Health Sciences for Women, Nawabshah
Dr Najeeb Memon	Professor Community Medicine Bilawal Medical College, Jamshoro
Dr Rafiq Somoro	Professor Community Medicine Freelance Consultant
Dr Khailda Naz	Professor Community Medicine Liaquat University of Medical and Health Science, Jamshoro
Dr Zulifar Shaikh	CMO, LUMHS, Jamshoro
Dr Vijay	Deptt of Community Medicine Chandka Medical College, Larkana
Dr Seema Qadir	APM/Technical Nutrition Support Program
Dr Paras	Health & Nutrition Officer, Nutrition Support Program, Sindh
Dr Sohail Shaikh	Deputy Program Manager Nutrition Support Program, Sindh
Waseem Shaikh	Program Assistant Nutrition Support Program, Sindh
Amna Mahmood	Capacity Building Officer Nutrition Support Program, Sindh
Dr. Waqar Mehmood Memon	Program Manager Nutrition Support Program, Sindh
Dr. Abdul Rehman Pirzado	Consultant The World Bank

Objective

The objective of the consultation is to identify potential willing partners in establishing Nutrition specific services in place for urban population of Sindh in general and Karachi in particular.

The institutions offering graduate program MBBS are required to have Nutrition services in place for teaching purposes.

This consultation will provide an opportunity to have the first hand information about adherence to CMAM guidelines and providing SAM services under the banner of Stabilization Center at these teaching institutions and attached hospitals.

This intervention will serve dual purpose of improving and having services for the population at door step through established institutions and support Medical Colleges/Universities/Teaching Hospitals to strengthen/establish nutrition services for graduate and postgraduate teaching in line with PMDC

curriculum objectives[1], Nutrition is part of Biochemistry, Pathology, Pediatrics, OBGYN, Community Medicine, Medicine and Surgery:

- Safe motherhood, and its components. (Ante-natal, Post-natal, Family Planning & Emergency Obstetric Care)
- Infant care: Growth and development. Breast feeding, common causes of morbidity and mortality, their prevention and control
- Child Care: Health promotion strategies. Common ailments, home accidents, child mortality prevention. Strategic approaches of Integrated Management of Childhood Illness (IMCI)
- Adolescent health
- Nutrition (Breast feeding, infant feeding, Weaning) and Nutritional Disorders: (PCM, Rickets, Vitamin A Deficiency, iodine deficiency, Iron Deficiency).
- Caloric requirements of the body
    - Balanced Diet
    - Protein Energy Malnutrition
    - Nutritional requirements in:
        - Pregnancy
        - Lactation
        - New born
        - In nutritional disorders

Process

Participants were served a structured questionnaire to work on and share status of the nutrition services, trained human resources and status of CMAM strategy as part of teaching programs

Total 34 out of participants participated in consultative process 11 from 8 public sector institutes, 13 from 9 private sector institutes, 3 independent scholars, 6 from Nutrition Support program and one consultant The World Bank as resource person.

Status

The status of the institutes participated in nutrition is as under:

Programs offered (graduate/postgraduate)	All of the Universities/Medical Colleges offer MBBS program. 5 public sector institutes offer postgraduate program in Public Health, one in nutrition and one in BSPH. One private sector University offers postgraduate program in Public Health
Number of faculty members	200+ in public sector 75+ in private sector
Nutrition services in OPD	Hospitals affiliated with four public sector institutes DUHS, JSMU, LUMHS and SMBBU offer OPD services for nutrition as per CMAM protocols. None of the private sector institutes have OPD services for nutrition as per CMAM protocols.
Nutrition services in Indoor	Hospitals affiliated with four public sector institutes DUHS, JSMU, LUMHS and SMBBU offer OPD services for nutrition as per SAM protocols.

[1] http://pmdc.org.pk/LinkClick.aspx?fileticket=EKfBIOSDTkE%3d&tabid=102&mid=556 pp 22,30,50, 78,111 (accessed in May 2019)

	None of the private sector institutes have OPD services for nutrition as per CMAM protocols.
Number trained in CMAM	30 in public sector 11 in private sector
Number trained in IYCF	28 in public sector 13 in private sector
Number trained in SAM	14 in public sector 12 in private sector
Number trained in IMNCI	65 in public sector 24 in private sector
CMAM S strategy part of teaching	One public sector university LUMHS teaches as per CMAM strategy. Other public and private Not clear as they are teaching as per PMDC curriculum and it contains GOMEZ classification for malnutrition. However they are trying to give up to date information to students which is not documented

Recommendations:

Nutrition Support program may serve as focal point for these activities and work with different partners to ensure capacity building support Medical Colleges/Universities/Teaching Hospitals, commodity security and reporting mechanisms and create partnership with the medical colleges/universities in public and private sector to:

- Provide them support in areas of human resource development (training) to enable them teach nutrition in graduate and postgraduate programs as per national guidelines/strategy.
- Support the institutions ton establish outdoor and indoor services as per national guidelines / strategy.
- Liaise between development partners and institutions to ensure commodity security necessary for maintaining OPD and indoor services.
- Support teaching faculties to devise teaching plans for integrating clinical nutrition services in teaching.
- Coordinate and facilitate access to the ongoing nutrition sensitive programs for students and support field visits as part of teaching strategy.
- Support 23 medical colleges and 44 affiliated hospitals to serve as service outlets for nutrition specific services.

List of the invited Institutions

Public Sector Medical Colleges[2]

1. Dow Medical College, Karachi.
2. Dow International Medical College, Karachi
3. Shaheed Benazir Bhutto Medical College, Lyari, Karachi
4. Sindh Medical College, Karachi
5. Karachi Medical & Dental College, Karachi
6. Liaquat University of Medical & Health Sciences, Jamshoro
7. Bilawal Medical College, Jamshoro
8. Peoples University of Medical & Health Sciences for Women, Nawab Shah
9. Chandka Medical College Larkano
10. Ghulam Mohammad Maher Medical College, Sukkur

Private Sector Medical Colleges

1. The Aga Khan University Medical College, Karachi
2. Baqai Medical College, Karachi
3. Faculty of Medicine & Allied Medical Sciences, Isra University, Hyderabad
4. Hamdard College of Medicine & Dentistry, Karachi
5. Jinnah Medical & Dental College, Karachi
6. Sir Syed College of Medical Sciences for Girls, Karachi
7. Ziauddin Medical College, Karachi
8. Liaquat National Medical College, Karachi
9. Bahria University Medical & Dental College, Karachi
10. Al-Tibri Medical College, Karachi
11. Liaquat College of Medicine & Dentistry, Karachi
12. United Medical & Dental College, Karachi
13. Karachi Institute of Medical Sciences
14. Indus Hospital, Karachi

[2] http://www.pmdc.org.pk/AboutUs/RecognizedMedicalDentalColleges/tabid/109/Default.aspx (accessed in May 2019)

Consultative Meeting with Development Partners

Date: June 14, 2019

Venue: Beach Luxury Hotel, Karachi, Sindh

Participants:

Mr. Muhammad Moosa Qazi	Health Education Cell, DGHSS, Department of Health, Sindh, Hyderabad
Dr Humera Naeem	HANDS
Dr Anjum Fatima	
Dr Sheeraz Hyder	SLHWP, Department of Health, Sindh
Dr Naveed Ahmed	IRD, IHN
Dr Wali Muhammad	JSI
Dr Jairam Das	MNCH Program, Sindh
Dr Ghulam Rasool Buriro	PPA Sindh
Dr. Jalal Akbar	
Dr Khalid Shafi	
Dr Saira Zaidi	EPI, Sindh
Dr Sajid Shafique	PPHI, Sindh
Dr Abdul Khalid Mangnejo	RSPN, PINS-3
Mr. Bashir Anjum	
Mr. Akbar Raza	
Ms. Salma Yaqoob	World food Program
Dr Fatima Saad	Nutrition International
Ms. Nida Jawed	School of Public Health, DUHS
Ms. Tooba Zaidi	
Ms. Tahreem Hussain	
Dr Khan Bullo	AAP Health

Dr Sahib Jan Badar	
Dr Waqar Mehmood	Nutrition Support Program, Department of Health, Sindh
Dr Seema Qadir	
Dr Paras Sultan	
Dr Sohail Shaikh	
Mr. Waseem Shaikh	
Ms. Amna Mahmood	
Dr Abdul Rehman Pirzado Pirzado	The World Bank

Objective

The objective of the consultation was to identify potential willing partners in establishing Nutrition specific as well as sensitive services in place for urban population of Sindh in general and Karachi in particular.

Background

Urban malnutrition may be reported in figures less than rural ones, it looks small in proportions which is high in concentrated population numbers. A very little work has been done on urban Nutrition, specifically in large city settings, the examples from India and few other countries are actually extension of emergency/rural nutrition programs in squatter settlements of the big cities. The approach to address requires out of box thinking and design with differences in approach required compared to a rural settings program; focusing on literacy, population density, social structures/ cohesion, nuclear families, loss of traditional safety nets etc.

Undernutrition is still common among the urban poor, and children living in slums are more likely to suffer from undernutrition, including stunting, than children elsewhere in the city[3]. Recent data from the WHO and UN-Habitat[4] *Global Report on Urban Health* shows levels of chronic malnutrition amongst the urban poorest at similar levels to those in rural areas, and in some countries, particularly South Asia, the urban poorest have higher levels of chronic

[3] https://hospitalmedicine.ucsf.edu/downloads/childrens_health_in_slum_settings_unger.pdf
[4] https://www.heart-resources.org/doc_lib/global-report-urban-health-equitable-healthier-cities-sustainable-development/

malnutrition than their rural counterparts. Women with short stature (es than 145 cm) were 1.7 times higher (14.5 vs 9.8 per cent) and maternal thinness (BMI lower than 18.5) was 1.8 times higher (38.5 vs 21 per cent) in the poorest urban quartile compared to rest of the urban population in India predisposing urban poor women to greater risk of low birth weight newborn owing to intra-uterine growth retardation and of a caesarean section delivery[5]. Urbanization brings with its great potential for social and economic change. The increasing use of mobile phones and access to information and communication that this brings is one example. Women in particular are experiencing changes in their roles with increasing numbers of urban poor women working. In Bangladesh, 33 per cent of slum women work full time compared to 16 per cent of non-slum women[6]. While such developments bring opportunities, gender discrimination and the impact on the vulnerable situation of women and their children should not be underestimated. Women are more likely to have insecure low paid jobs, not covered by labour laws and frequently not in control of the money they earn. Their growing participation in the workforce outside the home impacts on childcare, breastfeeding and household diet. While stunting and wasting persist across the globe, the face of malnutrition is rapidly changing. Overnutrition including overweight and obesity is now on the rise in almost every country in the world.

Globally, an estimated 41 million children are overweight. Many countries are now facing an overlapping 'triple burden' of malnutrition: undernutrition and micronutrient deficiencies on the one hand, and overweight and obesity on the other[7].

Malnutrition affects one in three people globally. Two billion experience deficiencies in essential vitamins and minerals, 155 million children are stunted, and 52 million children suffer from wasting. In addition, more than two billion people are overweight or obese[8]. Nearly a quarter of women of reproductive age are underweight and 30% are anemic. Anemia in women reduces capacity to work and contributes to a quarter of maternal deaths. Women affected by undernutrition are more likely to give birth to small babies who, in turn, are more likely to be disadvantaged throughout their lives. Undernourished children are more likely to die young, contributing to 45% of all under-five deaths. Children who survive do less well at

[5] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3905648/
[6] https://www.measureevaluation.org/resources/publications/tr-15-117
[7] https://www.unicef.org/nutrition/index_faces-of-malnutrition.html (accessed in May 2019)
[8] 2017 UN joint estimates on malnutrition

school, have 10% lower lifetime earnings, and are more likely to have undernourished children themselves. The economic consequences of undernutrition in affected countries represent losses of national GDP of 10% year-on-year[9]

These problems do not lie on opposite ends of a spectrum from starvation to obesity: the reality is much more complex. In fact, undernutrition and overnutrition frequently coexist within the same country, community, and even within the same individual. Stunted children, for example, face a greater risk of becoming overweight as adults.

The causes of undernutrition and overweight and obesity are similar and intertwined. Poverty, lack of access to adequate diets, poor infant and young child feeding practices, and the marketing and sales of unhealthy foods and drinks can lead to under

Good nutrition lays the foundation for healthy, thriving and productive communities and nations. Well-nourished children are healthier, more resistant to disease and crises, and perform better in school. As they grow, they are better able to participate in and contribute to their communities. The benefits of good nutrition thus carry across generations and act as the "glue" binding together and supporting various facets of a nation's development.

Now more than ever, there is global recognition that good nutrition is the key to sustainable development. Specifically, Goal 2 of the 2015 Sustainable Development Goals (SDGs) aims to "end hunger, achieve food security and improved nutrition, and promote sustainable agriculture".

But good nutrition is more than just ending hunger: it is also vital to achieving many SDG targets, including ending poverty, achieving gender equality, ensuring healthy lives, promoting lifelong learning, improving economic growth, building inclusive societies, and ensuring sustainable consumption.

To give just one example: breastfeeding prevents death, childhood illness and non-communicable diseases, while supporting brain development and protecting maternal health. It is also environmentally sustainable and reduces inequalities by reaching even those with limited access to health services.

To establish nutrition specific interventions in collaboration and partnership with institutions offering MBBS program in Sindh in general and Karachi city in particular there is need to support these 23 public and private institutions in starting pre-service Nutrition education for students and establish outpatient and indoor nutrition services in attached 40 hospital.

These institutions will require support in terms of:

- Training materials (IMNCI, CMAM, SAM)

[9] Global Nutrition Report 2015

- Human Resource Development
- Commodity security (RTUF, SC supplies)
- Printing materials (case record forms)

This intervention will serve dual purpose of improving and having services for the population at door step through established institutions and support Medical Colleges/Universities/Teaching Hospitals to strengthen/establish nutrition services for graduate and postgraduate teaching in line with PMDC curriculum objectives[10], Nutrition is part of Biochemistry, Pathology, Pediatrics, OBGYN, Community Medicine, Medicine and Surgery:

- Safe motherhood, and its components. (Ante-natal, Post-natal, Family Planning & Emergency Obstetric Care)
- Infant care: Growth and development. Breast feeding, common causes of morbidity and mortality, their prevention and control
- Child Care: Health promotion strategies. Common ailments, home accidents, child mortality prevention. Strategic approaches of Integrated Management of Childhood Illness (IMCI)
- Adolescent health
- Nutrition (Breast feeding, infant feeding, Weaning) and Nutritional Disorders: (PCM, Rickets, Vitamin A Deficiency, iodine deficiency, Iron Deficiency).
- Caloric requirements of the body
    - Balanced Diet
    - Protein Energy Malnutrition
    - Nutritional requirements in:
        - Pregnancy
        - Lactation
        - New born
        - In nutritional disorders

The partners will be required to support nutrition specific commodity security and nutrition sensitive services

Agriculture: Making nutritious food more accessible to everyone, and supporting small farms as a source of income for women and families

Clean Water and Sanitation: Improving access to reduce infection and disease

[10] http://pmdc.org.pk/LinkClick.aspx?fileticket=EKfBIOSDTkE%3d&tabid=102&mid=556 pp 22,30,50, 78,111 (accessed in May 2019)

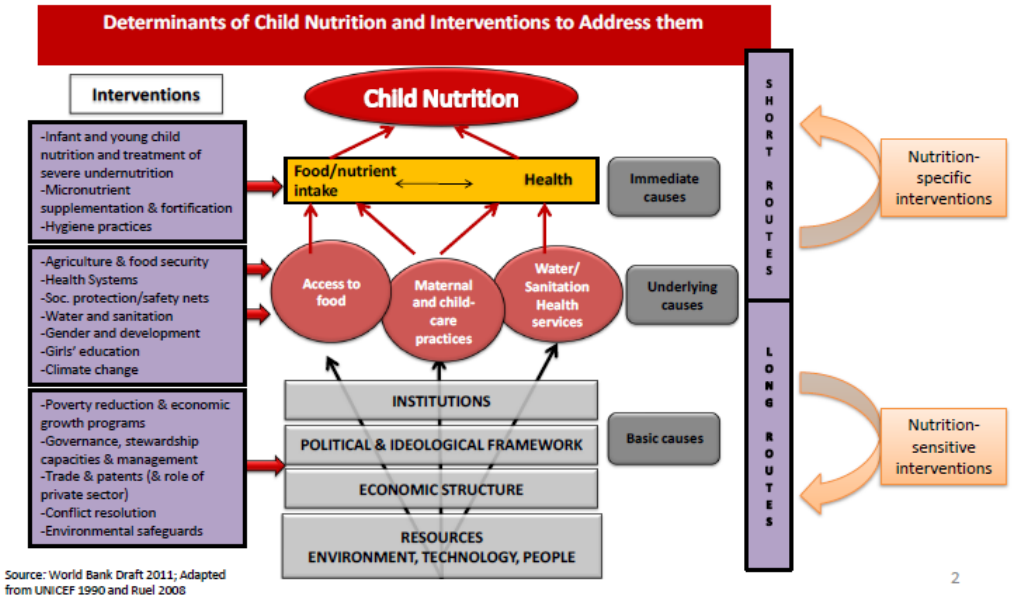
Education and Employment: Making sure children have the energy that they need to learn and earn sufficient income as adults

Healthcare: Improving access to services to ensure that women and children stay healthy

Support for Resilience: Establishing a stronger, healthier population and sustained prosperity to better endure emergencies and conflicts

Women's Empowerment: At the core of all efforts, women are empowered to be leaders in Nutrition-Sensitive Approaches[11].

While deficiencies in some nutrients are known to be specifically linked to a failure to grow, children need to absorb sufficient energy, protein and fat as well as multiple micronutrients to grow properly. Unless all the limiting conditions can be addressed, childhood growth will be insufficient. Furthermore nutrition-specific interventions delivered successfully at scale will only reduce stunting by one third[12]. This means that the solutions to undernutrition must go beyond the provision of specific nutrients.



[11] https://www.karger.com › Article › PDF (accessed in May 2019)

[12] The UK's position paper on undernutrition September 2011

Outcome of the consultation:

There are potential partners to contribute towards the areas like:

- Training materials (IMNCI, CMAM, SAM)
- Human Resource Development
- Commodity security (RTUF, SC supplies)
- Printing materials (case record forms)

The partners are present in urban areas in selected districts, HANDS and UNICEF are involved in service delivery at small locations in Karachi division.

Recommendations:

Urban nutrition requires a clear strategy and framework to embark upon with focus on BCC strategy and nutrition sensitive components.

Consultation with Karachi Metropolitan, KMCs, District Council, chamber of commerce, grossers associations, flour mills association, food fortification alliance, utility stores corporation, Accelerated Action Plan (AAP) secretariat, SDG cell may be fruitful for future interventions.

Medical Colleges/universities along with their attached teaching hospitals may serve as entry point for the nutrition specific services with little material and human resource development inputs. These outlets do not require human resource support.

Road Map to develop Urban Nutrition Framework

Urban nutrition requires a clear strategy and framework to embark upon with focus on:

- BCC strategy,
- nutrition specific and
- nutrition sensitive components.

Consultation with:

- Karachi Metropolitan,
- KMCs,
- District Council, Karachi
- Chamber Of Commerce,
- Grossers Associations,
- Flour Mills Association,
- Food Fortification Alliance,
- Utility Stores Corporation,
- Accelerated Action Plan (AAP) Secretariat, P&D, Govt. of Sindh
- Sindh SDG Cell

Medical Colleges/universities along with their attached teaching hospitals may serve as entry point for the nutrition specific services with little material and human resource development inputs. These outlets do not require human resource support.

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[vii] Bulletin of the World Health Organization, 61 (5): 745-755 (1983)

[viii] https://www.ennonline.net/fex/58/urbandietsandnutrition

[x] Source: Table 1.3 in MASON, J. B. ET AL. Nutritional surveillance, Geneva, World Health Organization 1984 *https://apps.who.int/iris/handle/10665/40788 (accessed May 2019)*

[xi] http://www.urban-response.org/ (accessed May 2018)

[xi]http://www.fao.org/3/ca3151en/CA3151EN.pdf (accessed in May 2019)

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[xiii]https://hospitalmedicine.ucsf.edu/downloads/childrens_health_in_slum_settings_unger.pdf

[xiv] https://www.heart-resources.org/doc_lib/global-report-urban-health-equitable-healthier-cities-sustainable-development/

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