OCTOBER 2020

MENTAL HEALTH & CARE PRACTICES ASPECTS OF STUNTING

THEMATIC REVIEW

ACTION AGAINST HUNGER

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ACRONYMS

ACF	Action Contre la Faim
CBT	Cognitive Behavioral Therapy
CHWs	Community Health Workers
ECD	Early Child Development
FSL	Food Security and Livelihood
GBV	Gender Based Violence
IMCI	Integrated Management of Childhood Illness
LMICS	Low and Middle-Income Countries
MAM	Moderate Acute Malnutrition
MHCPGP	Mental Health Care Practices - Gender & Protection
MHGAP	Mental Health Gap Action Programme
NGOS	Non-Governmental Organization
PM+	Problem Management Plus
SAM	Severe Acute Malnutrition
UNICEF	United Nations Children's Fund
WASH	Water, Sanitation, and Hygiene
WHO	World Health Organization

FIGURE

INTRODUCTION

As of 2019[1], nearly 821 million individuals suffer from hunger worldwide, particularly in Asia and Africa. Action Against Hunger (Action Contre la Faim) fights against hunger by promoting treatment and prevention of undernutrition related to severe and moderate acute malnutrition. In 2019, ACF reached over 17 million people of which 5.5 million were enrolled in nutrition programs and 416,086 persons benefited from our Mental Health and Care Practices programs[2].

In its International Strategic Plan 2016-2020, ACF aims to mitigate the consequences of hunger, address the causes of hunger and change the way hunger is viewed and addressed. This time, as a new development, one of ACF's goals is to reduce prevalence of chronic (and acute) undernutrition, according to Sustainable Development Goals and World Health Assembly 2025 target levels. Chronic undernutrition is one of the most serious chronic illnesses in the world today, impacting the development of poor communities. Several psychosocial and care practices factors are affecting nutrition, leading to acute and chronic malnutrition, such as: disturbed mother and child relationship, break in bonding and/or infant and young children feeding practices, mother's depression, parental traumatism, separation from the mother, family conflict, death of relative, isolation of the mother, decision making aspects, unattractive child due to illness as well as poverty and recent urbanization/displacement/acculturation. Children who are stunted have suffered from chronic malnutrition early on in their lives[3] and are 5.5 times more likely to die than a healthy child. The damage done to their physical and mental health can be irreversible and even if they survive to reach adult age, they stay as "vulnerable survivors." This includes delayed motor development, impaired cognitive function, aggressive behavior, poor school performances and an increased likelihood of chronic illness and early mortality. The reproductive health of women who were chronically malnourished in childhood is also compromised, increasing both maternal and infant mortality risks and the rate of low birth weight babies. All this in turns leads to much lower economic productivity which reinforces the cycle of poverty and hunger.

In parallel to ACF's strategy, ACF established a working group on chronic undernutrition to help define ACF's approach to stunting, amongst which this present document was developed. One objective of the working group was to address psychosocial and care practices needs of children and caregivers and ensure our work understands local practices and traditions in areas of programming, in integration with nutrition security and nutrition sensitive approaches, and targeting mainly the 1000 days window of opportunity.

ACF's Mental Health Care – Gender & Protection sector has developed an integrated psychosocial approach for treatment and prevention of Severe Acute Malnutrition (SAM) and Moderate Acute Malnutrition (MAM)[4], implementing programs (stand-alone or integrated with Nutrition and Health, Food Security and Livelihood [FSL], Water, Sanitation and Hygiene [WASH] departments), intervening at community-based level and strengthening national health systems (through technical support to the curriculum, capacity building and advocacy) in many countries. As of now, there are few examples of integrated programs which include a MHCPGP component targeting chronic malnutrition that have been implemented (ex: Madagascar).

This document is the result of a consultancy undertaken in November-December 2016 by MHCPGP department in ACF France, aiming at developing ACF psychosocial approach for treatment and prevention of chronic undernutrition (stunting).

1 - Action Against Hunger (2019). La faim dans le monde. World Food Programme. Available at: https://fr.wfp.org/publications/la-faim-dans-le-monde-2019

2 - Action Against Hunger. (2019). International Annual Report. Available at: https://knowledgeagainsthunger.org/wp-content/uploads/2020/08/InternationalAnnualReport2019LR-2.pdf

3 - Action Against Hunger. (2012). Essential Nutrition and Health.

4 - ACF. "Baby Friendly Spaces. Holistic approach for pregnant, lactating women and their very young children in emergency" (2014). "Conceptual models of child malnutrition. The ACF approach in mental health and care practices (revised 2012). "Manual for the integration of childcare practices and mental health within nutrition programmes" (2006). "ABC-Assisting Behaviour Change. Part 1: theories and models. Part 2: practical ideas and techniques" (2013). "1+1=3. How to integrate WASH and MHCP activities for better humanitarian projects" (2013).

A/ MHCPGP FACTORS AND DETERMINANTS RELATED TO CHRONIC MALNUTRITION

The objective of this part A is to establish relevant links between chronic undernutrition and mental health/ psychosocial/care practices/protection aspects as a briefing tool to help define ACF's MHCPGP position and intervention strategy to tackle malnutrition. The methodology used was a brief scoping review across academic (7 electronic databases[5]) and grey literature (7 sources[6]), using key terms such as *stunting*, *chronic undernutrition*, *psychosocial stimulation*, *early child development*, *maternal mental health* and scoping studies and interventions within ACF countries-of-work.

Using this methodology, several evidence-based studies regarding mental health and psychosocial causes and consequences related to stunting have been identified, as well as relevant interventions that can address the cycle of chronic malnutrition in a number of developing countries. The preliminary findings from previously conducted systematic reviews suggest that there is significantly strong evidence that chronic malnutrition has detrimental and long-lasting effects on childhood development and the psychosocial well-being of children throughout infancy and adolescence. The results also suggests an association between psychosocial or mental health related risk factors (i.e. mother's depression) that increase chances of chronic malnutrition in children. The findings are important for strengthening of ACF's Mental Health and Care Practice approach in regards to the prevention and treatment of chronic malnutrition and adverse child developmental and behavioral outcomes.

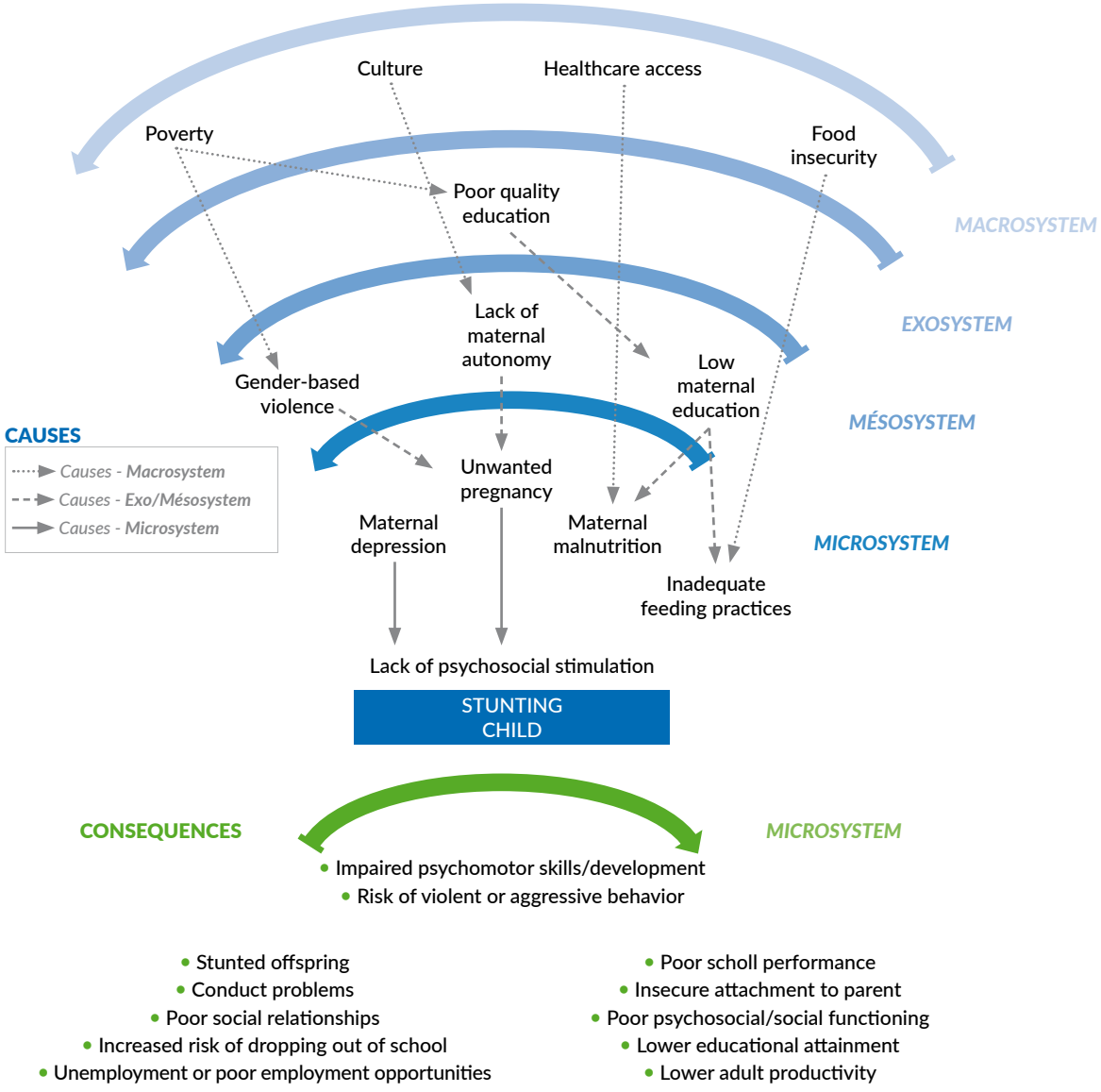
The selected studies covered a variety of age groups – beginning with mothers early in pregnancy and following up with infant-adolescents at 18 years of age. While most studies emphasized the importance of the "first 1000 days" or the first 24 months after birth as the most sensitive times for stunting to be associated with later cognition, executive function, and school attainment[7], to intervene and prevent the consequences of stunting, other studies revealed other optimal windows for catch-up-growth after 24 months, as well as throughout adolescence ("2nd window of opportunity"), in which to intervene using MHCPGP practices, particularly during substantial life-cycle changes where intergenerational effects can be accumulated[8]. This is important to keep in mind as it provides cross-cutting opportunities for the prevention of stunting through a variety of MHCPGP sectors including care for women, breastfeeding and feeding practices, psychosocial care of children and adolescents, food preparation, hygiene practices, and home health practices.

5 - CINAHL, Cochrane Central, PsycINFO, PubMed, ISI Web of Science, Global Health Library, Annals of NY.
6 - WHO, UNICEF, UNFPA, World Bank, Emergency Nutrition Network, ALNAP, Eldis.
7 - Black et al. 2016.
8 - de Onis & Branca, 2016.

1. PSYCHOSOCIAL CAUSES

Using Bronfenbrenner's Ecological model[9], findings related to mental health and psychosocial-related **causes** and **consequences** of stunting are illustrated in Figure 1 (below). This includes larger structural causes, which came up often in studies and reviews such as poverty, social and economic conditions, food insecurity, and culture *(Macrosystem)*. This is followed by a blend of the *Exosystem* (indirect environment) and *Mesosystem* (connections), which interact and influence the child's immediate environment *(Microsystem)*. The most direct causal relationship of childhood stunting influenced by all four top levels of the ecological model and existing in the *Microsystem* is the mother of the child, including but not limited to the mother's emotional and physical well-being as well as education status and fulfillment of societal gender roles.

FIGURE 1 CAUSES & CONSEQUENCES OF STUNTING USING BRONFENBRENNER'S ECOLOGICAL MODEL



9 - Bronfenbrenner's Ecological Systems Theory explains how the inherent qualities of a child and the characteristics of the external environment that the child finds himself in interact to influence how the child will grow and develop. Through his theory, Bronfenbrenner stressed the importance of studying a child in the context of his multiple environments, also known as ecological systems in the attempt to understand his individual development. For more information, follow: http://www.psychologynoteshq.com/bronfenbrenner-ecological-theory/

CARE FOR WOMEN

- Mothers who were undernourished by 24 months as children are more likely to give birth to stunted children and result in developmental delays[10, 11] *(2 studies)*.
- Maternal (prenatal or postnatal) depression is associated with compromised parenting behavior, non-responsive care giving practices and a lower likelihood or shorter duration of breastfeeding, in addition to other mental health issues *(17 studies)*.
- Lower maternal education or illiteracy among mothers *(7 studies and 1 study regarding both maternal and paternal education)*, are important determinants for child stunting as they lead to a potential lack of regard for or understanding of essential feeding practices.
- Lifetime gender-based violence against women including intimate partner/family violence *(8 studies)*, is associated with long-term negative mental health outcomes leading to less-optimal caregiving behaviors among mothers who continue to experience Gender-Based Violence (GBV); for example, a few studies have indicated shorter duration of exclusive breastfeeding among abused women[12]. This results in caregivers sometimes avoiding health clinics and instead visiting traditional healers.
- Lack of maternal/female autonomy *(4 studies)* is associated with negative mental health outcomes leading to less-optimal caregiving behaviors of mothers *(2 studies)*.
- Low maternal sensitivity and responsiveness to her infant resulting from the aforementioned factors are associated with poor behavioral outcomes and compromised nutrition status for the infant *(2 studies)*.

BREASTFEEDING AND FEEDING PRACTICES

- Breastfeeding counseling and/or nutrition psychoeducation *(15 studies)*.
  - Many studies confirm the relationship between low prevalence of exclusive breastfeeding in the first 6 months and stunting.
  - Also related are poor complementary feeding practices due to a lack of nutritional psychoeducation or combination of nutrition counseling and supplementation.

PSYCHOSOCIAL CARE OF CHILDREN

- Inadequate psychosocial stimulation in the home such as affection, involvement in child feeding, hygiene, health care, attention-giving, playing with toys is associated with stunting *(15 studies)*.
  - Parental education levels influence parent's awareness regarding the importance of play materials, play mates and responsive interactions with their children[13].
- Gender: Results were not consistent regarding which gender is more stunted (both studies were specific to a particular context) *(2 studies)*; however, cultural preferences were observed in some cultures (for example, preference for sons over daughters in South Asia)[14].

FOOD PREPARATION

- Ongoing food insecurity *(2 studies)* is associated with chronic malnutrition.
  - Food-insecure households were three times more likely than other households to have a stunted child due to a lack of knowledge regarding care practices.

HYGIENE PRACTICES

- Hand-washing behaviors *(2 studies)*.
  - Assumed to reduce the incidence of diarrhea and/or enteric dysfunction and therefore reduce odds of stunting. Hand-washing, water quality treatments, and sanitation and hygiene practices were examples of interventions to reduce the chances of diseases which contribute to stunting.

HOME HEALTH PRACTICES

- Lack of routine assessment in primary care settings.
- Cultural perceptions regarding chronic malnutrition[15].
  - Stunting is normal/common in society or not considered an illness *(1 study)*.

10 - Vir 2016.
11 - Walker et al. 2011.
12 - Rahman et al. 2012.
13 - Aboud et al. 2013.
14 - Raj et al. 2015; Pillai & Ortiz-Rodriguez (2015).
15 - Onis & Branca 2016.

2. PSYCHOSOCIAL CONSEQUENCES

By contrast with the findings of factors contributing to the cause of stunting, the findings for the mental health-related consequences of stunting are more direct. Illustrated also using the Bronfenbrenner model for *Microsystemic* outcomes are the consequences of stunting, including significant short-and long-term outcomes on child growth & development, first demonstrated early in infancy and continuing across the lifespan *(38 studies).* Childhood stunting greatly impacts psychosocial, cognitive, behavior, and language competence - contributing to poor cognitive performance and educational achievement, which is related to lower educational attainment (such as age at school enrollment, grades attained by late adolescence) and ultimately, adult productivity (reduced likelihood of formal employment). ***Psychosocial care of children*** is the most impacted area.

PARENTING COMPETENCES

- Mothers with chronically malnourished children had higher levels of depression, low levels of parenting self-esteem, and provided a less stimulating home environment[16].
- Depressed mothers tend to be less responsive and less likely to form secure attachments with their children and neglect maternal nurturing roles.
- Maternal insensitivity (i.e. less appropriate responses to child's communications, less involvement and acceptance of child) is linked with inadequate physical growth and well-being in the child.
- Low parental awareness regarding visible symptoms of stunting or chronic malnutrition.

CHILD DEVELOPMENT

- Poorer school performance than non-stunted children: Poorer scores in all four tests of school achievement (verbal performance IQ, non-verbal reasoning, language, and working memory), suggesting a specific difficulty with arithmetic.
- Impaired fine psychomotor skills and cognitive functioning in children stunted at 2 years using cognitive and psychomotor measures[17].
    - Differences in psychomotor development compared to non-stunted children (7-11 year) via lower scores on perceptual-motor factors.

CHILD BEHAVIOR

- Increased odds of demonstrating violent/aggressive behavior among stunted children compared to non-stunted children (7-11 years) *(2 studies)*.
- Apathy, less positive affect, lower levels of play and more insecure attachment.
- Longitudinal studies demonstrate conduct problems, lower attention spans, and poorer social relationships at school age.

ADOLESCENT DEVELOPMENT

- Lower educational attainment (such as age at school enrollment, grades attained by late adolescence).
- In a study, children stunted at 8 years managed to catch up with peers by 15 years of age and had better cognitive scores than those who remained stunted. However, deteriorating physical growth for children between 8-15 years (which surpassed early childhood) negatively affected cognition and schooling outcomes[18].

ADOLESCENT BEHAVIOR

- Poorer psychological and social functioning among Jamaican adolescents who were severely malnourished as children in comparison to their healthy peers[19].

16 - Baker-Henningham et al. 2003.
17 - Casale et al. 2016.
18 - Fink et al., 2014.
19 - Grantham-McGregor et al., 1991.

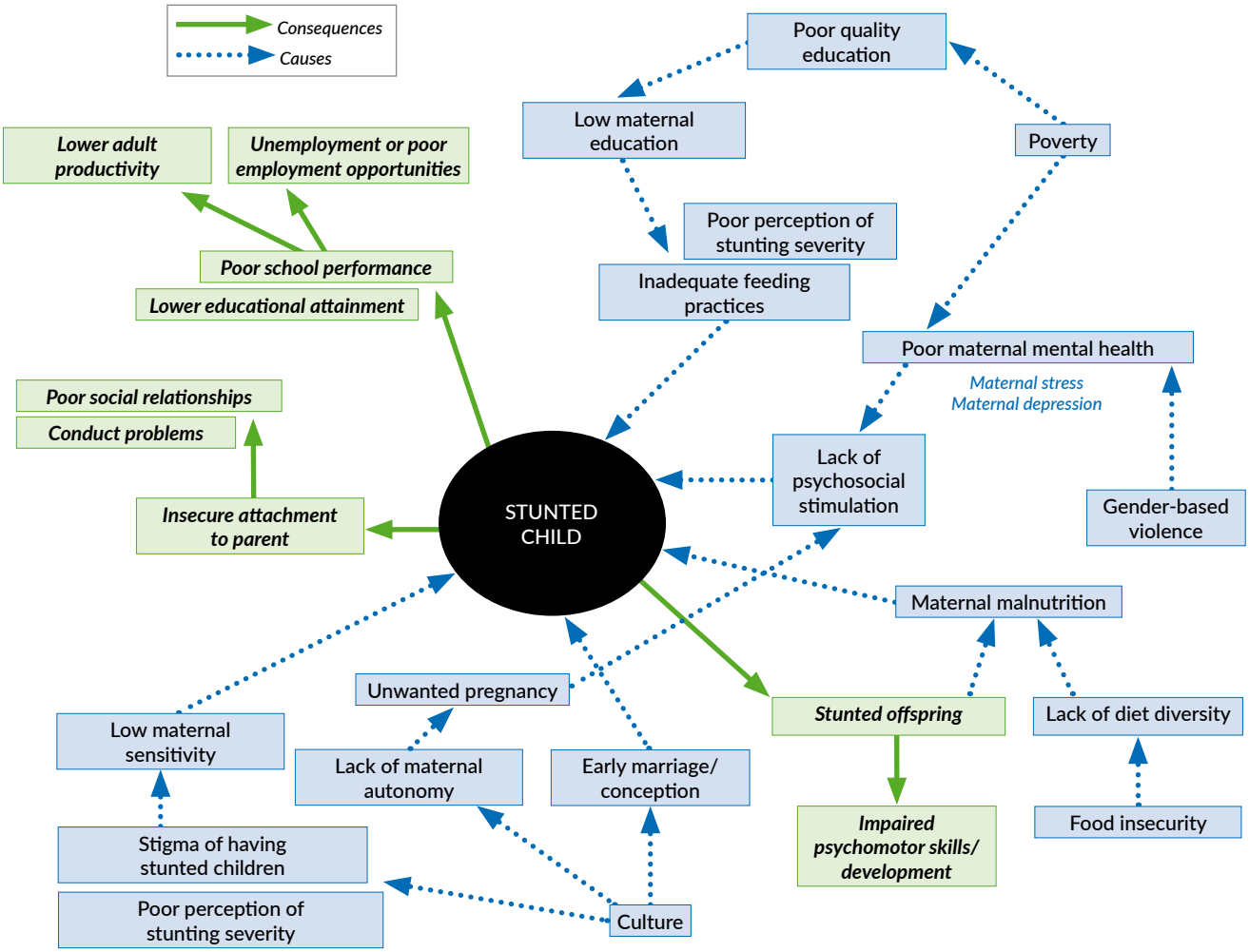
ADULT BEHAVIOR

- Lower adult productivity (reduced likelihood of formal employment).
- As adults, stunted children earn 20% less economically in comparison to non-stunted children[20].

SOCIAL PROBLEMS IN ADULTHOOD

- Stunted children more likely to demonstrate violent behavior than non-stunted children.
- Problems with behavior and conduct during early childhood are correlated with poor social functioning, dropping out of school, unemployment or poor employment opportunities later in life[21].
- Forgo about a quarter of average adult income per year[22].

FIGURE 2 CAUSES LINKED TO CONSEQUENCES OF STUNTING



20 - Walker et al. 2007.
21 - Chang et al. 2002.
22 - Richter, 2016.

B/ MHCPGP RELATED INTERVENTIONS TO PREVENT AND TREAT CAUSES AND CONSEQUENCES OF CHRONIC MALNUTRITION

The objective of this section is to summarize the inventory of relevant mental health and psychosocial support/care practice interventions targeting stunting throughout a variety of global settings.

By compiling and analyzing preliminary findings from previously conducted systematic reviews, there is significantly strong evidence that key interventions related to the promotion of early childhood development (ECD) or psychosocial stimulation for infants and children can protect children from risks of malnutrition and poor development; these include core maternal and child nutrition interventions, psychosocial stimulation and responsive parenting, and interventions to alleviate gender inequities, stigma of malnutrition, poor feeding behaviors and maternal depression.

When combined with relevant nutrition programmes, MHCPGP-related interventions (i.e. integrated psychosocial stimulation with nutrition supplementation) reveal additive benefits to children's growth and developmental outcomes versus nutrition interventions alone. Compared to other intervention types, the effectiveness of combining ECD and nutrition interventions has been tested numerously. Based on a project in Jamaica providing food supplements and stimulation to stunted and non-stunted 9-24 month old children, the stunted children who received both interventions weekly over a two-year period had higher developmental scores than those who received neither intervention or only the nutrition intervention alone[23]. Significantly the group of children who received stimulation on its own or stimulation combined with food, showed enduring cognitive benefits, which were still evident at age 17. These benefits had not endured in the children who received nutrition alone.

23 - Grantham McGregor et al., 2007.

1. MATERNAL MENTAL HEALTH INTERVENTIONS

Evidence-based research confirmed the association between poor maternal mental health and chronic undernutrition among her children. In a systematic review assessing the effectiveness of interventions improving the mental health of women during the perinatal period, identified interventions included both **direct** interventions to improve child outcomes such as WHO maternal mental health programs (i.e. Thinking Healthy and Problem Management Plus [PM+]) as well as other **indirect** interventions aimed to enhance mother's knowledge about normal child development and care practices; such as improving maternal sensitivity and responsiveness as well as mother-infant relationships, reducing social isolation, and improving maternal mood through peer support. The latter requires the utilization of behavior-change theories in order to ritualize practices and turn them into real behaviors which mothers incorporate permanently into their home environments[24] .

Integrated Mental Health, Care Practice/Nutrition (both **direct** and **indirect**) interventions have demonstrated the most positive outcomes for mothers and their children. This is especially the case when interventions are culturally-sensitive and grounded in cognitive, problem-solving and educational techniques delivered in the home, engaging as many family members as possible to care for the infant. Capacity-building interventions such as Thinking Healthy and PM+ encourage mothers to feel engaged in their own physical and mental well-being, including their own nutrition as well as emphasize the benefits of the program for the child using a cognitive-behavioral therapy (CBT) approach for perinatal depression. These results were key for promoting sustainable nutrition-sensitive and child-related approaches while also empowering the mother with a series of tools and information regarding her own well-being and nutrition-sensitive approaches to making her own decisions regarding self-care and care for her child. While Integrated Management of Childhood Illness (IMCI) interventions were recommended by WHO as a tool to reduce child mortality, including risk of malnutrition, they may have little or no effect on stunted children based on evidence from two trials in India and Bangladesh[25].

A well-established approach for maternal psychosocial well-being can be integrated at scale in a combined nutrition and ECD program. Based on formative research in Pakistan, a 5-pillar approach included the utilization and training of community-health workers (CHWs) to improve maternal psychosocial well-being by focusing on:

1. empathetic listening
2. family engagement
3. guided discovery using pictures
4. behavioral activation and
5. problem solvings[26].

The intervention was successful by focusing on mothers as central figures in the intervention, using local CHWs whom the mothers trust, simplifying training and providing regular supervision for CHWs, and making sure that the work facilitates, not adds, to the CHW's work.

Additionally, the WHO MHGAP (Mental Health Gap Action Programme) intervention guide outlines proper assessment and management of depression, including types of maternal depression such as postpartum depression and depression syndrom[27]. This is a helpful tool to train CHWs with, to assist physicians, and to provide evidence-based guidance for clinicians.

24 - Aboud et al., 2013.
25 - Gera et al., 2012.
26 - Zafar et al. 2014.
27 - WHO, Mental Health Gap Action Programme, https://www.who.int/mental_health/mhgap/en/

GENDER-BASED VIOLENCE

There are strong links between maternal reports of GBV and higher odds of stunting in children less than 5 years of age, particularly due to the negative impacts of GBV on maternal mental health and therefore, on the general ability of mothers to provide care for their child (i.e. shorter duration of exclusive breast feeding among abused women). Recommended interventions include mental health treatments for maternal survivors of domestic violence and continued screening of children of mothers impacted by GBV for nutritional deficits. Other interventions include increasing awareness regarding the physical and mental harm on the mother and the repercussions on the infant's physical and mental health status in order to inform the father and surrounding family of risks and intergenerational implications of gender-based violence on the long-term development of children. Overall, there is a lack of research regarding social interventions at the community-level, such as raising awareness of implications of recent domestic violence as well as advancing women's autonomy through access to education and economic opportunities to offset risk for GBV, and therefore, to the likelihood of child stunting.

MATERNAL SENSITIVITY

Findings examining home environments found associations between poor caregiving and malnutrition in children. Humanitarian actors and practitioners are encouraged to observe interaction patterns between mothers and their children in order to inform interventions to improve maternal sensitivity and responsiveness to child's needs and therefore, improve child behavior and health outcomes[28]. The best interventions to improve caregiver-child relationships use more than one factor that impacts caregiving, including socioeconomic conditions, social support, knowledge about children health and development, caregiver emotional states and child characteristics. Most existing ECD programs comprehensively address these issues related to the child's needs while also strengthening parenting skills. An example of an effective intervention model that demonstrates reduction in stunting is the Learning Through Play programmes (similar to ACF's "Therapeutic Play Sessions") implemented in Pakistan and northern Uganda where mothers are shown age-appropriate play activities and how to craft toys out of affordable, accessible materials to stimulate infant cognitive development[29]. Mothers were given direct, tailored advice about how to recognize and respond to normal infant needs in a manner intended to make the mother infant interaction more gratifying and to enhance maternal competence.

MATERNAL AUTONOMY

Women with higher autonomy, defined in a particular study in India by access to money and freedom to choose to go to the market were significantly less likely to have a stunted child, after controlling for household socio-economic status and mother's education. In this study, two dimensions of female autonomy have an independent effect on child growth, suggesting the need for interventions that increase women's financial and physical autonomy. Furthermore, the fact that autonomy remains significant after controlling for maternal education suggests that improving female autonomy will have a stronger effect on improving child stunting above and beyond that provided by additional years of education. This particular study concluded that NGOs like ACF would benefit by increasing finances to programmes that are aimed at improving women's financial and physical autonomy to reduce the extremely high levels of stunting observed in these settings[30].

28 - Valenzuela, et al. (1997). Maternal sensitivity in a developing society: the context of urban poverty and infant chronic undernutrition.
29 - Rahman et al. 2006.
30 - Shroff, M., Griffiths, P., Adair, L., Suchindran, C., & Bentley, M. (2009). Maternal autonomy is inversely related to child stunting in Andhra Pradesh, India.

2. EARLY CHILD DEVELOPMENT (ECD) INTERVENTIONS

ECD programs have strong empirical support, incorporating both psychosocial stimulation and responsible parenting programs that promote good-quality parenting and nurturing care. Effects of psychosocial interventions are maintained when interventions are given in combination with nutrition interventions, mostly delivered through home visits to demonstrate stimulation activities, provide toys, and engage mothers in responsive play with her child[31]. The most effective ECD programs provide direct stimulation and progress monitoring with young children, are of longer duration, and are integrated with other sectors. Other ECD interventions work with parents directly to improve parenting skills and equip them with resources they need via home visits or group sessions in health clinics or other venues.

AGE

As mentioned in the first section of the document, targeted age groups varied across studies and interventions to prevent or reduce stunting. In terms of age groups, the *2016 Lancet* series recommends intervening as early as conception to 3 years of age, using the health sector as an entry point[32]. Other evidence re-emphasizes the importance of the "first 1000 days", as the earlier children are exposed to integrated nutrition and child development interventions, the stronger the cognitive benefits[33]. While catch-up growth may be possible after 24 months, there are uncertain cognitive gains in children over 24 months in comparison to younger children. Other interventions extended into 5 years of age and throughout adolescence (including follow-up studies). Interventions include direct contact with children as early in life as possible, as chances of maximum benefits decreases over the child's lifespan, reinforcing the importance of intervening before 2-3 years of age.

PSYCHOSOCIAL CARE OF CHILDREN

In regard to interventions to improve maternal sensitivity, most psychosocial interventions focused on indirectly improving child outcomes by enhancing parenting competence and knowledge regarding the importance of psychosocial stimulation in the home, including verbal interactions. This included enhancing parent's awareness regarding the importance of affection, involvement in child feeding, hygiene, health care, attention-giving and playing with toys with their children. Intervention models include parenting programs based on guidelines for complementary feeding and psychosocial development of young children along with social learning theories of behavioral change. A few interventions used illustrations of key practices related to child development to use as training tools for information and demonstration concerning parenting practices over the course of 10 months with refresher trainings in between, ultimately yielding high attendance rates and successful outcomes[34]. Other interventions encouraged mothers to provide more reading materials at home to improve cognition and school achievement for children, which were not always beneficial.

A summary of Care for Childhood Development interventions in Pakistan demonstrated the positive outcomes of combined Care for Child Development and Enhance Nutrition interventions, with improvements on mother's knowledge, attitudes and practices, and even reducing maternal distress. Already existing mother and child health services and nurturing community platforms (regular home visits from community health workers) can be utilized to benefit early child development and psychosocial stimulation in the home, particularly with the support of the WHO Care for Child Development guidelines. Additionally, the WHO mhGAP intervention guide includes questions regarding adequate psychosocial stimulation (play and social interaction/communication at home) for mothers to answer during regular infant and child check-ups. For example, during ACF's regular anthropometric nutrition screenings and upon diagnosing a child with chronic malnutrition, the question of "is the child is getting adequate opportunities for play and social interaction/communication at home" is based on WHO's mhGAP Intervention Guide 2.0 tool to make sure the child is receiving age-appropriate stimulation and parenting.

In terms of psychomotricity, a meta-analysis concludes that the mental development of children less than two years in low and middle-income countries (LMICs) is more strongly influenced by their motor development than their growth status resulting from post-natal nutrition interventions[35]. This important finding underscores the need to integrate child psychosocial stimulation with nutrition as part of ECD interventions.

31 - Grantham-McGregor, 1994.
32 - The Lancet (2016), Advancing Early Childhood Development: from Science to Scale, https://www.thelancet.com/series/ECD2016
33 - Black et al. (2015). Integrating nutrition and child development interventions: Scientific basis, evidence of impact, and implementation considerations.
34 - Aboud et al. 2013.
35 - Larson and Yousafzai, 2015.

3. BEHAVIOR-CHANGE AND COMMUNITY-BASED INTERVENTIONS

Some interventions rely on the delivery of program identifying common elements in cognitive and behavior-change communication strategies to improve child outcomes indirectly through parenting practices rather than directly through child supplementation and instruction. Similar to interventions for acute malnutrition, behavior-change interventions to improve complementary feeding practices, exclusive breastfeeding duration and practices, responsive feeding education, and hand-washing practices contributed to improvements in dietary intake as well as growth and mental development among infants. One successful intervention model emphasized the importance of responsive feeding through psycho-educational programs of two key behaviors, child self-feeding and maternal responsiveness[36]. This re-emphasizes the need for integrating nutritional psychoeducation and parenting skills as part of nutrition interventions targeting young children[37]. In addition, the normalization of stunting in some communities highlighted the effectiveness of community-based intervention strategies to use caregiver peer-support groups as a method to improve social support and "denormalize" child illnesses, such as chronic malnutrition[38].

On the other hand, health-seeking behaviors are often inhibited by the stigma attached to malnutrition, which is feared to be an indication of poor caring practices[39]. With this, caregivers sometimes visit traditional healers rather than health clinics. It is important, therefore, to use a widespread communications strategy using formative research to understand sociocultural factors and cultural beliefs that influence nutrition-related behaviors to inform the integrated nutrition intervention. The strategy can aim to address cultural misconceptions regarding stunting such as cultural normalization of stunting and stigma surrounding mothers with stunted children. One example includes the "A Thousand Days in the Land of a Thousand Hills" campaign implemented in Rwanda by UNICEF, which used culturally-sensitive campaigns to target caregivers with messages on good nutrition practices to address stunting[40].

4. CONCLUSION PART B

Overall, there was a consensus among studies that to eliminate chronic malnutrition in the long-term, interventions should be supplemented by improvements in the underlying determinants of undernutrition through a multi-sectoral approach, mobilizing joint progress across core sectors such as health, nutrition, education, environment, and social protection for sustainable outcomes. From an economic perspective, reducing stunting in children is considered a long-term investment that will result in a return that far exceeds the cost of prevention funding.

In regard to preventing the intergenerational, vicious cycle of stunting, findings emphasized the importance of reaching women throughout the life course; during adolescence, preconception, and pregnancy stages. This calls for larger, structural changes including measures for empowerment of women (prevention of early marriage and conception, completion of secondary education, elimination of domestic violence). When addressing malnutrition from an overall health system strengthening perspective, effective interventions sustained the mother's involvement as a key player by maintaining positive attitudes, satisfaction with the program, strengthening intentions to attend intervention sessions and ultimately improving attendance rates when quality of services were demonstrated and accepted.

Therefore, it is important to invest in multisectoral interventions utilizing both MHCPGP-related principles and nutrition supplementation in tackling chronic malnutrition. It is important to start as early as possible, with the first 1000 days highlighted as the main entry point and to continue into early childhood and windows of opportunity during adolescence. Both direct and indirect interventions show significant improvements, with indirect interventions providing longer, more sustainable outcomes by training and mobilizing caregivers, particularly mothers. However, in order for interventions regarding integrated nutrition and ECD to be successful, a variety of challenges must be addressed including the workload of staff and supervisors, communication and coordination among different ministries and among staff in different sectors, and common language and measurement. It must be acknowledged at both the national and community level that comprehensive, integrated care addressing both the physical and developmental needs of the child is key to promoting optimal health, growth, and development for children.

36 - Aboud et al., 2008.
37 - Vazir et al., 2013.
38 - Chary et al., 2013.
39 - (Kodish et al., 2015).
40 - UNICEF 2015, https://www.unicef.org/about/annualreport/files/Rwanda_2015_COAR.pdf

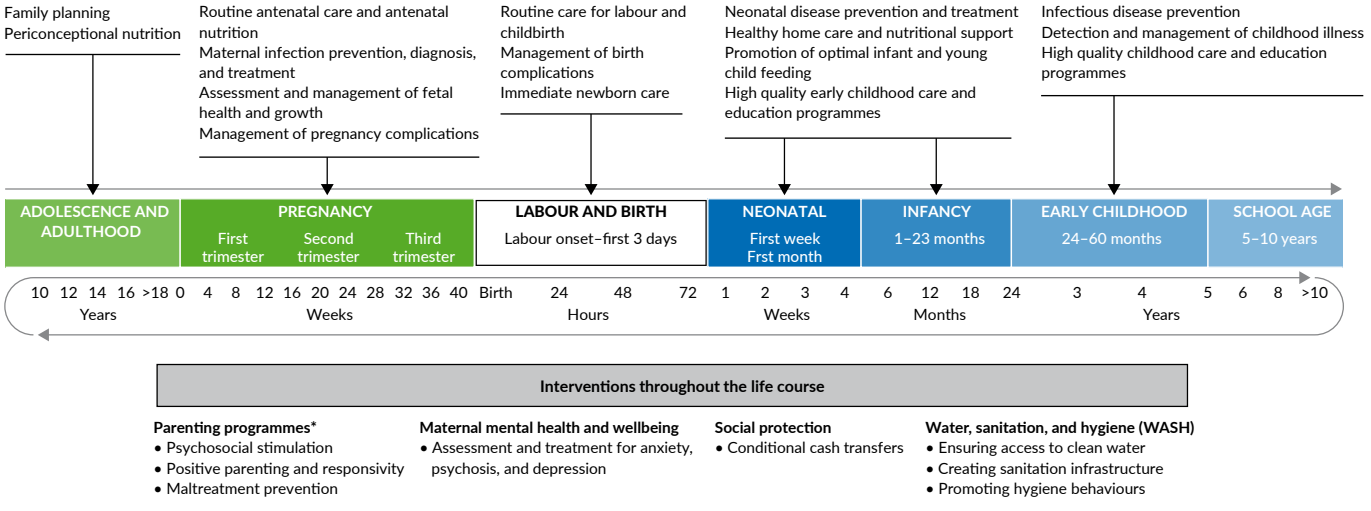
C/ RECOMMENDATION(S) FOR ACF MHCPGP INTERVENTION STRATEGY TO ADDRESS CHRONIC MALNUTRITION

The objective of this part C is to provide a brief intervention strategy for ACF's MHCPGP initiatives linked to chronic malnutrition in humanitarian and development contexts as an integrated approach.

1. WHY THE MHCPGP SECTOR?

Evidence-based research demonstrates that both causes and consequences of stunting are partially associated with MHCPGP-related determinants and outcomes, which can be prevented or treated depending on the extent of malnourishment, developmental delay, or weakened school performance. As recent as October 2016, the Lancet published their *Advancing Early Childhood Development: from Science to Scale series*[41]. which highlights the risks of stunting on early childhood development and the importance of promoting "nurturing care", particularly in the prevention and treatment of stunting (see Figure 3 below).

FIGURE 3 ADVANCING EARLY CHILDHOOD DEVELOPMENT: FROM SCIENCE TO SCALE SERIES



(Britto et al. 2017)

41 - voir également le modèle (Nurturing Care) les soins attentifs pour le développement de la petite enfance, OMS, 2018.

With the rise in global commitments to the prevention of stunting and the promotion of ECD, ACF's timely approach of integrating Mental Health and Care Practices into chronic malnutrition programming is synergetic with global maternal and child health priorities. As illustrated in Figure 3, ACF can take advantage of the ecological nature of childhood development to effectively prevent causes and consequences of stunting through both direct and indirect intervention strategies in order to improve child outcomes. Using a life-course approach, ACF programming can be tailored to prevent causes of stunting through indirect interventions aimed to promote maternal mental health and well-being during labor and birth ("caring for the caregiver"), improving parenting skills and responsiveness through parenting programmes among other approaches. In turn, ACF can address the consequences of stunting directly through the creation of safe spaces for children through high-quality early childhood care and education programs and continued training and psychoeducation for parents. Both causes and consequences of stunting can be addressed only when considering the multi-sectoral and interdisciplinary approaches for the prevention and treatment of chronic malnutrition.

2. KEY STEPS

Based on existing literature regarding the prevention and treatment of stunting as well as experiences of ACF and other NGOs working in the nutrition sector, recommended approaches for field implementation and operational programming of integrated nutrition interventions into MHCPGP platforms include, but are not limited to:

1. **Applying a life-course approach in order to prevent chronic malnutrition** (an approach different than that of acute malnutrition prevention).
2. **Engage all family members**, including fathers, mothers-in-law and grandmothers of chronically malnourished children, in MHCPGP interventions including the improvement of parental knowledge and skills regarding the detrimental effects of stunting in children, the provision of psychosocial stimulation in the home, improvement of the overall home environment, the prevention of domestic violence and/or abuse, and the development of feeding practices. Key family members (besides the mother) must see the value of adding these interventions to their current care practices in order to promote sustainable intervention outcomes.
3. **Expand training for CHW and MHCPGP staff**, including the identification and care of otherwise unknown negative consequences related to stunting; recognition of when to seek help; inclination to enhance their skills; and the perceived benefits of these skills to improve home environments.
4. **Design and implement multi-level training and capacity-building packages** for content, training and operational use by a range of workers, many of who are already a part of ACF's MHCPGP staff. Particular skills, such as behavior-change approach, motivational coaching, home visitation practices and maternal psychosocial/caregiver support can be critical to providing effective care.
5. **Tailor interventions to follow a life-course approach**, integrating preconception, perinatal, early childhood through to adolescence and early adulthood. Existing standards for integrated ECD (Early Childhood Development) and nutrition programming are useful to address co-occurring risks and minimize extra work for program development.
6. **Consider implementation factors** such as enrollment age, duration, and intensity of intervention as related to impact.
7. **Incorporate theoretical perspectives** (i.e. Bronfenbrenner's Ecological Model or Nurturing Care Model) based on the ecological nature of child development as well as the environmental variables that contribute to their condition.

8. **Use communication strategies to address stigma regarding maternal mental health or domestic violence/ GBV** as well as misconceptions regarding stunting that could impede caregivers from seeking care or partaking in interventions. This calls for formative research regarding sociocultural factors and cultural metaphors related to malnutrition and mental health problems.
9. **Focus on the effect of early interventions** ("first 1000 days"), while also considering extensive programming past 2 years of age at least through entry into primary school, adolescence, and even early adulthood (particularly for women of child-bearing age).
10. **Implement step-up interventions** using systematic adjustments if stunting rates do not decrease based on monitoring and evaluation data (further discussed below).

<u>In addition, some recommendations for the monitoring and evaluation of interventions:</u>

- **Assign clear and explicit responsibilities to the health care providers and managers** of the priority programs and to the field team at each level to establish a monitoring mechanism (*the Care for Child Development Monitoring & Evaluation guide* can be helpful in this step of planning).
- **Implement rigorous designs** that consider different time frame for data collection (see Figure 1) and contribute to long-term follow-up and evaluations of the effects of early intervention.
- **Use a common outcome measure** (i.e. cost per cases of stunting averted) to facilitate comparison of cost-effectiveness between studies and contexts where appropriate.
- **Identify and agree on multiple constructs and sub-constructs** within the care practices model, then identify measures and indicators and review.
- **For integrated programs, monitor two processes and outcomes simultaneously** (mental health/ development + nutrition) as well as economic indicators to address cost-benefit issues. There are technically two programs in integrated care: mental health and/or ECD programs AND nutrition supplementation/ fortification programs which each require separate outcome measurements.
- **Consider the resources available to the organization** when collecting data (staff, time, research skills, etc.).
- **Use multiple measurement levels** (individual, clinic, program-level).

FIGURE 4 CARE FOR CHILD DEVELOPMENT ASSESSMENT TOOL[42]

TASK	WHAT QUESTIONS TO ANSWER	WHEN TO GATHER THE INFORMATION	WHO TO GATHER THE INFORMATION	SAMPLE OPTIONAL INDICATORS
To do a pre-assessment of the programme context	How can care for child development be integrated into the work of existing providers and services?	Before implementation	Programme planners	- Situational analysis - Cost and financing opportunities ***See S&E Guide***
To evaluate the impact of the intervention	What do providers know about child development?	Periodic (No training, at the end of training)	Self report of providers and caregiver reports	- Provider's knowledge of child development - Provider's perceived confidence - Caregiver's report on provider's competencies ***See S&E Guide***
	What is the effect on the child's health and growth?	Periodic (No implementation, two and three years later)	Household surveyors	- Childhood morbidity (e.g. diarrhoea, acute respiratory illness episodes) - Childhood mortality - Child Growth (prevalence of stunting or wasting) ***See MICS***

42 - UNICEF Care for Child Development: A Framework for Monitoring and Evaluating the WHO/UNICEF Intervention, 2012.

3. BARRIERS AND CHALLENGES

- Structural causes of stunting include poverty, food insecurity, and cultural attitudes. For example, food-insecure households were three times more likely to have a stunted child. Without interventions to address these larger contributors of stunting in the longer term, improving knowledge of care practices will have little sustainability and positive effects on reducing stunting rates unless food subsidies (improving dietary quality and diversity) precede educational efforts[43]. During needs and resources assessment it is essential to ensure that families have the capacity to implement the proposed changes and have resources available to do so.
- Cultural belief systems and other traditional attitudes unique to local contexts are extremely important, particularly in MHCPGP-related interventions. This includes the need to take into account traditional practices and cultural beliefs regarding nutrition provision with evidence-based approaches. With this may come a lack of consensus over how to standardize MHCPGP programming in ACF countries-of-work. WHO and UNICEF provide a number of interventions that require adaptation for local contexts. A good starting point is an ethnographic study of current childcare practices (using focus groups and key informant interviews with caregivers).
- Run cost-benefit analyses based on proposed programming by engaging local key informants such as mothers in the community for feedback on the intervention. For example, empowering women to pursue economic opportunities may lead to reduced chances of violence/GBV in the home but may also limit maternal sensitivity or ability to provide quality stimulation in the home due to long work hours.
- To eliminate stunting in the long term, interventions should be supplemented by improvements in underlying determinants of chronic malnutrition such as poverty, poor education, disease burden and lack of women's empowerment. Implementers should keep these barriers in mind when designing interventions in order to address them incrementally.

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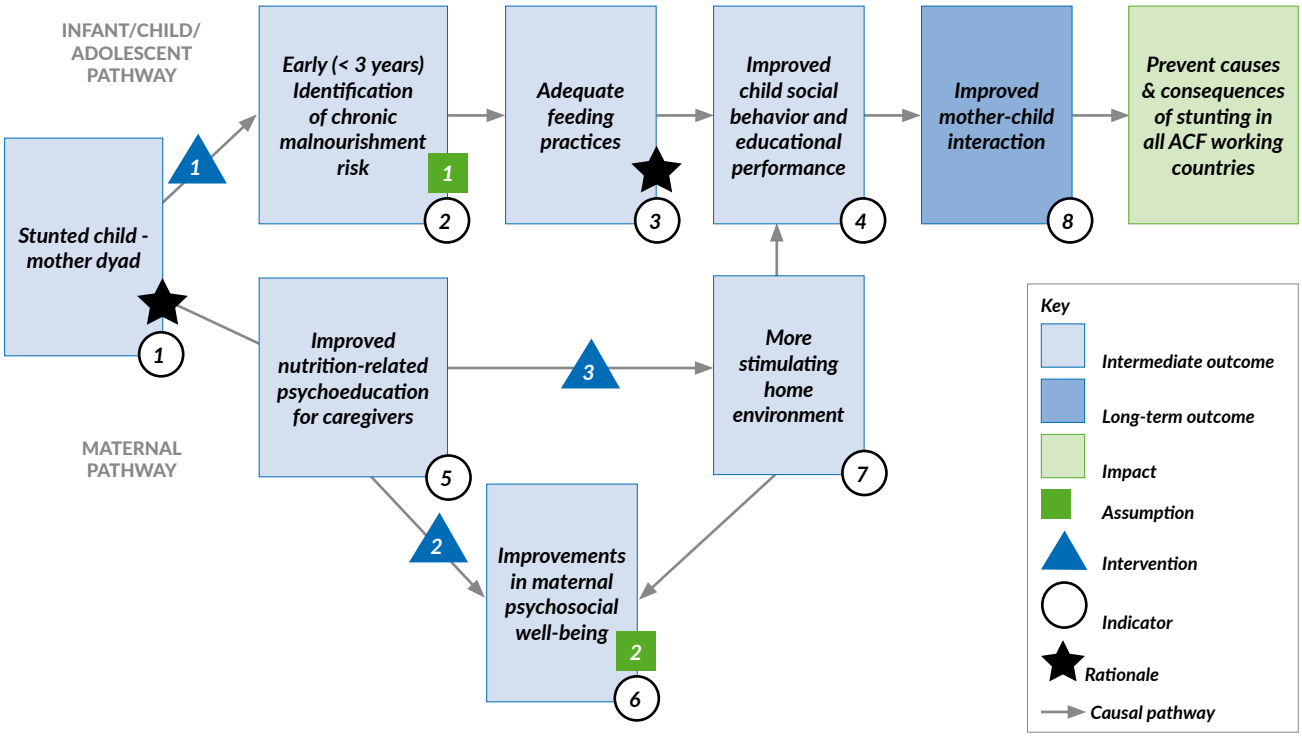
43 - Baig-Ansari et al., 2006.

4. ACF MHCPGP -CHRONIC MALNUTRITION THEORY OF CHANGE MODEL

FIGURE 5 THEORY OF CHANGE MODEL ACF MHCPGP ADAPTED FROM THE MENTAL HEALTH INNOVATION NETWORK[44]



RECOMMENDED INDICATORS[45]

1. % of stunted children and mother dyads.
2. % of stunted children diagnosed.
3. % optimal feeding practices currently implemented.
4. Scores on verbal reasoning and mathematics tests/child development & behavior assessment tools.
5. Knowledge of and attitudes towards care practices among caregivers.
6. Reduction in prevalence of mental illness, higher scores on psychosocial well-being.
7. Number of games/toys available, number of positive interactions between mother-child.
8. Improvements in child behavior and reduced fussiness.

44 - De Silva M, Lee L & Ryan G. Using Theory of Change in the development, implementation and evaluation of complex health interventions: A practical guide. The Centre for Global Mental Health & the Mental Health Innovation Network.
45 - Frongillo, et al (2014). Measures and indicators for assessing impact of interventions integrating nutrition, health, and early childhood development. Annals of the New York Academy of Sciences.

RECOMMENDED INTERVENTIONS

Interventions should be based upon a needs analysis and the methodology of behavior change in order to determine the appropriate interventions locally.

1. Community awareness campaign including increased media and social messaging to promoting adequate feeding behaviors along with nutritional supplementation.
2. Maternal mental health and psychosocial well-being program, using empathetic listening, guided discovery using images, behavioral activation and problem solving.
3. Bi-weekly home visits by locally-recruited community-health workers providing psychosocial stimulation training as well as basic nutritional psychoeducation to mothers, family members (grandmothers, mothers-in-law; fathers) and communities (groups of women/mothers, influential women).

ASSUMPTIONS

1. Anthropometric tools, human resources, time and budget are available to support the program.
2. Maternal sensitivity, or the mother's ability to perceive and respond to signals from her infant, is improved uniformly across all intervention mothers.

RATIONALES

1. Mothers and their families need to be educated about the signs and symptoms of chronic undernutrition in order for stunting to be detected in the community.
2. While nutrition stand-alone interventions are not quite as effective as combined with MHCPGP ones, ECD-alone interventions are also not as effective as food insecurity or hunger among children and families can inhibit the effects of MHCPGP-related programming.

5. KEY RESOURCES FOR INTERVENTIONS[46]

- *Policy on Mental Health and Child Care Practices*, ACF (2009)
- *Manual for the integration of Child Care Practices and Mental Health into nutrition programs*, ACF. (2011).
- *Conceptual models of child malnutrition, ACF approach in mental health and care practices*, ACF. (2012).
- *Baby Friendly Spaces*, ACF (2014)
- Psychosocial aspects of malnutrition management, MAMI project, chap 8. (2010).
- UNICEF/WHO *Care for Development training package.* (2012).
  - UNICEF - *Care for Child Development: A Framework for Monitoring and Evaluating the WHO/UNICEF Intervention.*
  - UNICEF/WHO pour *Guidance note for Integrating ECD activities into nutrition programmes in emergencies.* (2012).
- UNICEF - *Promoting Care for Child Development in Community Health Services: A Summary of the Pakistan ECD Scale-Up PEDS Trial* .(2013).
- Frongillo et al. (2014) *Measures and indicators for assessing impact of interventions integrating nutrition, health, and early childhood development.*
- Hamadani (2014) *Integrating early child development programs into health and nutrition services in Bangladesh: benefits and challenges.*
- Zafar et. al (2014) *Integrating maternal psychosocial well-being into a child-development intervention: the 5-pillars approach.*

46 - Short summaries of 140 articles and 76 manuals as sources and reference of this document are available.

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