



ACF - FRANCE

CONCEPTUAL MODELS OF CHILD MALNUTRITION

THE ACF APPROACH IN MENTAL HEALTH
AND CARE PRACTICES



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GENERAL ASPECTS



The focus here is on care practices, but malnutrition is a complicated problem, an outcome of several etiologies. We don't intend to say that care practices are more often the root of malnutrition than other causes, but rather to refine our knowledge on this aspect, in order to offer an as adequate and thorough answer as possible.

All datas that are introduced and discussed need to be adapted according to the intercultural specificities and socio-cultural contexts.

1/ Conceptual framework of malnutrition

Since 1992, a conceptual framework suggested by UNICEF has been adopted at the international level (fig 1). Several items are of interest in this schema:

- Nutrition is not separated from growth, survival and development of the child, stressing the point that malnutrition is only one, amongst several outcomes of the contextual, environmental, familial factors, but not the only one.
- There is rarely a unique cause of malnutrition, but rather a set of factors linked together in a given context. A systemic approach is more relevant to understand malnutrition than a linear causal interpretation: thus, a cause may have several effects, and through feedback, an effect may modify the risk factors.

- Concerning each beneficiary, it is important to look for the causes that have led to malnutrition. This will help us to provide answers and appropriate advices to patients.
- This schema targets at child malnutrition, but it may be used for all vulnerable populations.
- This framework reveals, beside feeding and health, a third underlying component of care practices. Each of these three conditions is necessary, but not sufficient for the child survival. We will now concentrate on the latter: they are the less known when searching for an explanation to malnutrition as well as when setting up programmes.

P. Engle, specialized in care practices, defines them as follows: «The behaviours and practices of caregivers (mothers, siblings, fathers and child care providers) that provide the food, stimulation and emotional support necessary for children’s healthy growth and development. These practices translate food security and health care into a child’s well-being. Not only the practices themselves, but also the way they are performed (with affection and with responsiveness to children) are critical to children’s survival, growth and development. It is impossible for caregivers to provide this care without sufficient resources, such as time and energy.» [1]

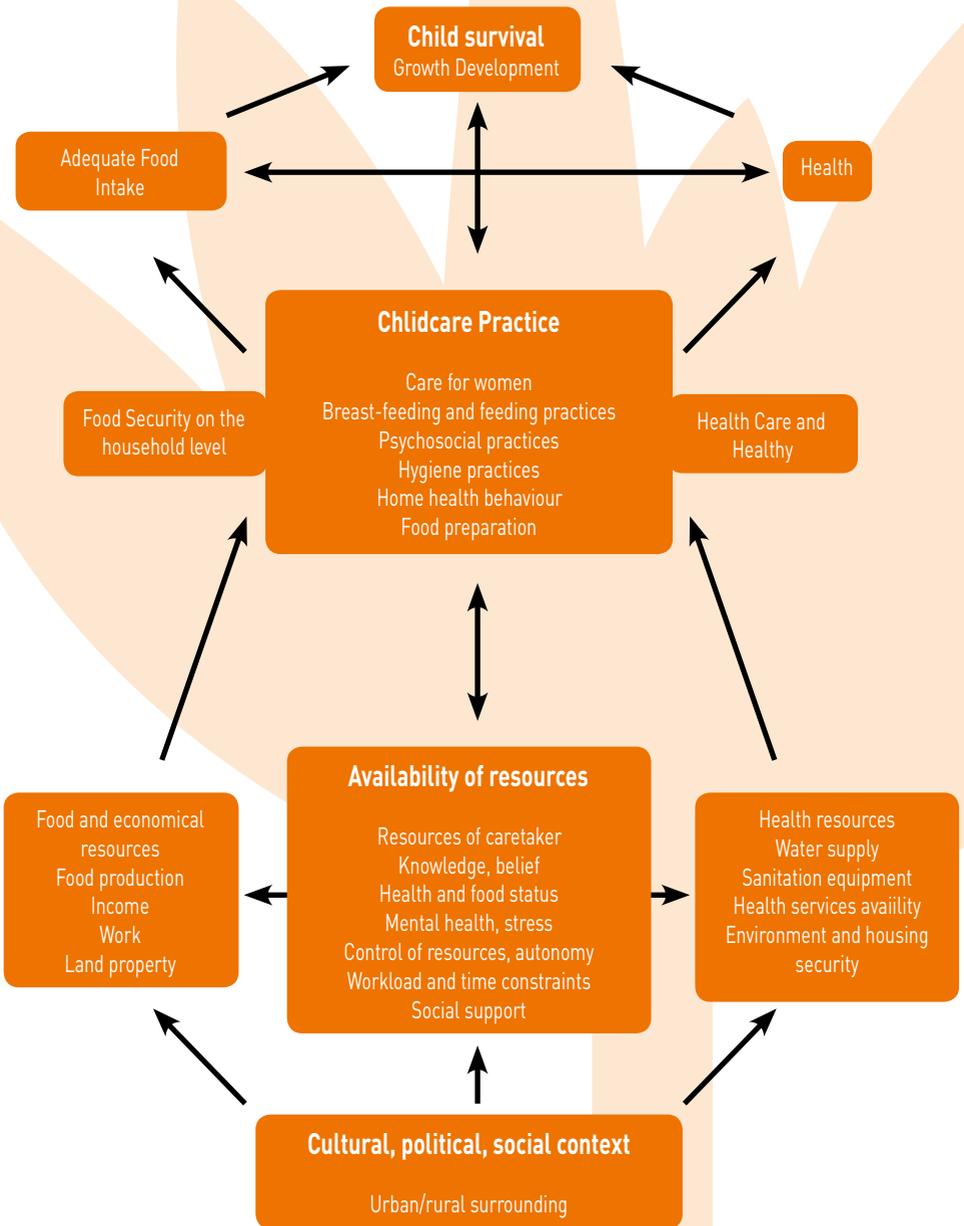
Thus we may have a suitable environment on the health and food level but one that the child won’t benefit from if care practices are inadequate: e.g. if a child has got fever and doesn’t eat anymore, he will benefit from the existing health services only if the people around him realise that he is sick and take him to the health services. On the other side, adequate care practices may be useless or ineffective in a poor and unstructured environment: if a child has got a fever and doesn’t eat, if the people around him would like to have their child treated but there is no health services, the child won’t benefit from the medical treatment he needs either.

Adequate care practices are, above all, the more important when the environment is poor, as they will allow optimisation of the available resources.



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Figure 1: extended care model (by Engle ^[2], translated by Martin-Prevel ^[3])



2/ Child care practices

In most societies, the mother constitutes the main resource for care, on which are rooted most constraints, material (time, means...) as well as spiritual (knowledge, culture...). The status of the women in the community is therefore fundamental.

6 care practices have been proposed in the Initiative Care Manual which was published by UNICEF ⁽⁴⁾ in 1997 (for further detail, see table 1 on next page):

- Care for women
- Breastfeeding and feeding practices
- Psychosocial care
- Food preparation
- Hygiene practices
- Home health practices

Some of these care practices, like preparing meals, hygiene practices and/or health practices are already taken into account by ACF in the causes of malnutrition, mainly through food security surveys and health and hygiene education programmes. On the other hand, some aspects, especially psychosocial care, are less well-known and less frequently studied.



Moreover, our knowledge is more focused on contents (which practices are implemented and which ones are not) than on the ways they are implemented and on their backgrounds. Care practices must be looked upon under two aspects:

- at the time spent level («quantity»)
- at the quality level:
 - answers, sensitivity and continuity of answers to the child needs
 - warmth, affection and acceptance
 - investing the child
 - encouragement of autonomy, exploration and learning

These 4 elements interact and will be built up through the relationship of the caregiving environment with the child, depending on cultural factors.

The quality of care practices is correlated with the child development, together at intellectual development level but also for developing the affective mother and child relationship. It is also related to nutrition, growth and health.

Table 1 : Children Care Practices (from Engle et al, ref.[3])

Categories	Sub-categories	Treatment practices
Care for women	Care during pregnancy and breastfeeding	Increase of food intake Reduction of work load Use of prenatal and delivery care services
	Reproductive health	Age delayed for first pregnancy Space between births
	Health and nutrition status	Supply of a fair amount of food at all ages Protection against violent physical treatment
	Mental health	Reduction of stress Reinforcement of self confidence Protection against bad psycho-affective behaviour
	Autonomy within the family	Sufficient decision capacity Access to income management and family possessions
	Time and work load	Sharing of work (household and economical production)
	Education	Schooling of girls Access of women to information
Breastfeeding and feeding practices for the young child	Exclusive breastfeeding	Exclusive breastfeeding during approx 6 months Breast feeding within the first hour of life Breast feeding when requested Development of milk expressing techniques Protection against commercial pressure for use of bottle feeding
	Complementary food and continued breast feeding	Introduction of complementary food when suitable Continuation of breastfeeding during second year of life Quality of complementary food (energy density, nutritional composition) and sufficient quantity Sufficient number of food intake
	Active feeding practices	Adaptation of feeding practices to the child psycho-motor capacities Stimulation and encouragement during meals Positive circumstances for meals (regular time and place, few distractions)
	Adaptation to family feeding practices	Intra family sharing of food to protect the child Appropriate response in case of small appetite of the child
Psycho-social treatment	Reactivity to steps and signs of development	Adaptation of behaviour to the child's level of development Attention to hypo-active children or with slow development
	Attention, affection and involvement	Frequent interactions with the child (physical, visual, verbal and emotional) Maintenance of positive traditional practices (such as massages)
	Autonomy, exploration, learning	Encouragement to play, explore or speak Adoption of a guide/educator role
		Prevention/protection against violence and bad behaviours

Preparation of meals	Modes of preparation and cooking of meals	Adoption of time-saving and/or fuel-saving technologies Germination or fermentation procedures to protect the food
	Food storage	Storage modes avoiding contamination and loss
	Food hygiene	Reduction of delay between preparation and consumption Adequate utensils storage
Hygiene practices	Personal hygiene	Washing of hands Child's hygiene (bath etc.)
	Hygiene at home	Keep home clean, in particular where the child plays Removal of child's excrements Use of sanitary devices (by the whole family) Availability of clean water
Health practices at home	Family diseases management	Prevention of diseases Diagnosis/recognition of diseases Treatment at home
	Use of health services	Use of health prevention and promotion services Assistance from curative care services when necessary
	Domestic protection	Protection against vermin (mosquito nets, mouse traps etc) Prevention of accidents (burns, falling) Prevention of violence and bad behaviour

3/ What are the factors influencing the quantity and quality of care?

Engle takes into account three types of factors facilitating or hindering care practices into account: human resources, economic resources and organisational resources.

Table 2: Resources for care (Engle and al., [4])

Human Resources	Knowledge, believes, education
	Health and nutrition status
	Mental health, stress, self confidence
	Role of fathers
Economical Resources	Access to income management and family possessions
	Load of work and time available
Organisational Resources	Alternative for keeping and caring for children

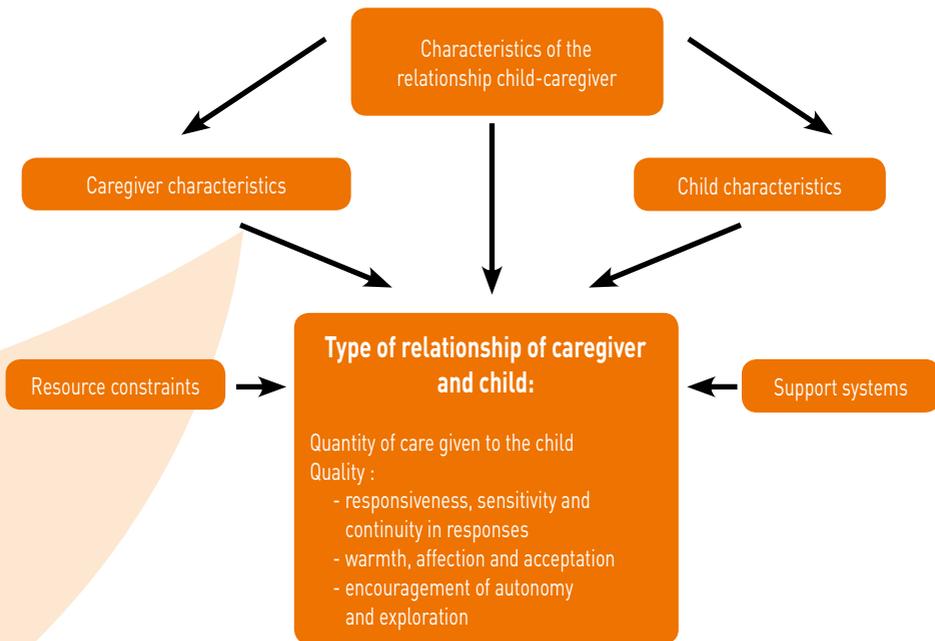
Our situation analysis usually takes into account the economic resources of the populations we support. On the other side, the organisational and human resources are more complex to apprehend as they request a greater knowledge of the context, different competencies (anthropology, psychology, sociology...) and they are less easily transformable into simple quantitative indicators.

Care practices are influenced by the type of mother-child relationship, changing them into protection factors or, on the opposite, into risk factors which could trigger and/or worsen a severe malnutrition. This relationship is, among others, essentially defined by 5 elements:

- Characteristics of the child
- Characteristics of the caregivers
- Characteristics of the caregivers- child relationship
- Support system
- Constraints at the resources level

In the next chapters, these 5 factors will be separated in order to be clear, but it is obvious that they interact and it would be overrated to analyse them separately.

Figure 2: Factors that affect the relationship of the caregiver and the child (Engle, P.L., Ricciuti, N. [5], Psychosocial aspects of care and nutrition, *Food and Nutrition Bulletin*, Vol. 16, n°4.)



All these elements are affected by the culture and the context.

To keep in mind:

- A child doesn't develop alone and a mother-child interaction must be interpreted within a given context.
- Care practices are one of the causes of malnutrition, along with food security and individual and environmental health.
- Care practices turn the available services into services open to vulnerable populations.
- Care practices must be assessed both on the quantitative and qualitative level
- Several factors influence the care practices: individual characteristics, environmental resources, economic context, etc.
- Care practices are insufficiently taken into account in the causal analysis of malnutrition and have been addressed mostly by Engle.
- Difficulties to evaluate care practices in a simple and operational manner field



Questions still to be solved:

- How to take into account the care practices in our understanding of malnutrition on the local scale (indicators, skills)?
- Which are the most important factors playing a part when implementing or not adequate health practices?
- How to integrate the improvement of care practices in our programmes (or should we limit to health and hygiene education?)

To go further:

^[1] Engle, P.L., M. Bentley, and G. Pelto, *The role of care in nutrition programmes: current research and a research agenda*. Proceedings of the Nutrition Society, 2000. 59(1): p. 25-35.

^[2] Engle, P.L., Menon, P., Haddad L., *Care and nutrition - Concepts and measurement*. Occasional paper.. 1997, International Food Policy Research Institute: Washington D.C. p. 50 p.

^[3] Martin-Prével, Y., "Soins" et nutrition publique. *Cahiers Santé*, 2002. 12(1): p. 86-93.

^[4] UNICEF, *The Care Initiative : assessment, analysis and action to improve care for nutrition*, ed. N.s. New-York. 1997. 53.

^[5] Engle, P.L., Ricciuti, H.N., *Psychosocial aspects of care and nutrition*. Food and Nutrition Bulletin, 1995. 16(4): p. 356-377.



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2

CHILD'S CHARACTERISTICS

Discussing child's characteristics alone does not make much sense as the child is part of a family and social context. However, this can help develop analysing and observing tools in order to differentiate data in the field and, in a second stage, to set up a more complex interactive child-caregiving scheme.

1/ Child's characteristics as risk factors

Most studies have concentrated on general characteristics of malnourished children: sex, age, rank in the family. These elements do not seem to be malnutrition risk factors, as there are no constant results from researches privileging any of these characteristics, both on the international and local levels.

However, longitudinal studies (observing the child prior to malnutrition outbreak) allow us to determine some risk factors, especially a low-birth weight making the child less dynamic and active. As he has fewer demands, he receives less stimulation from his caregivers. This phenomenon combined less answers to his needs may lead to malnutrition [1], [2] and refer to the technical sheet «Behavioural and psychological consequences of low birth-weight in the infant».



Multiple births are certainly also a risk factor, although I did not find any studies on this subject. In fact, they often have a low birth-weight, and bring an important additional workload into the family, even particular cultural beliefs. It would be interesting to compare the ratio of well-nourished twins with malnourished twins in a given population.

Two periods seem more likely to trigger off malnutrition or an acute severe episode in a chronic malnutrition background: the transition period from exclusive breastfeeding until 6 months to

breastfeeding with complementary food until about 2 years¹ and the weaning period. These are critical transitions as they need some feeding psychomotor capacities in the child that he does not always have (refer to Table 2). These are also stages of autonomy and of separation with mother that the child is not always ready to face (we shall come back to the characteristics of mother-child relationship in chapter 4).

This lack of information concerning child's characteristics can be explained by, at least, two factors:

- The very young child has been considered as an actor among his environment and as an interaction partner since recently, consequently few studies have taken into account child's characteristics other than sex, age, and rank in the family, which are demographic data but not the child's behavioural or personality characteristics. The only study trying to specifically identify some child's characteristics found in malnutrition (here, marasmus) is Pollitt's [2]: it says that in many published studies, the marasmic child is weaned very early, often belongs to a large family with short space between births and with a low birth-weight. These elements suggest that the sucking behavior, early childhood development and mother-child relationship are negatively affected even before the malnutrition process develops.
- Most of the researches study the analysis of interactions or the child's characteristics once he is already malnourished. Malnutrition, and severe malnutrition in particular, does bring a number of changes in the child's behavior and performances (refer to chapter 7). It is therefore difficult to identify the causes from the consequences of malnutrition on the child's characteristics.

1 In Juba (Sudan), the team points out that older and therefore more autonomous children would eat more as they are going from one house to the other during the day and are given «treats», thus receiving a complement to the family dish.

2/ Child feeding behavior

The feeding behavior is a complex process evolving with time passing and which is linked to the quality of the child's appetite. It is necessary to take into account the child's capacities and their development within the care practices².

Table 3: Feeding and other development capacities according to baby's age³

Capacities	0-2/3 months	3-6/7 months	7-10/11 months	11-15/16 months	16-24 months and more
Feeding (oral motivity)	sucks	Sucks/bites	Chews	Masticates	Masticates well
Food texture (sensorial reactivity)	Liquids	Mashed food	Lumps	Minced, chopped pieces	Family food
Tools	Breast, feeding bottle	Spoon	Cup/fingers	Eats on its own	Fork
Language	Babbles, gurgles	Prattles	Separate sounds	Separate words	Associated words
Fine motricity	Moves, waves fingers	Grasps/holds back	Carries	Loosens/throws	Scribbles
Global motricity	Lifts head	Turns around	Sits on its own	Stands/walks	Runs/jumps

A critical period in the outbreak of malnutrition is the transition from exclusive breastfeeding until six months to breastfeeding with complementary food. In fact, exclusive breastfeeding does not meet anymore the baby's nutritional needs. For example, if the young child has to complete breastfeeding by family meal, he may not satisfy his needs because:

- the offered texture of food is not in accordance with his sensorial-motor capacities
- sharing the family meal does not correspond to his motor skills : there is a risk that he will take much time to ingest a very small amount of food. The other children or adults sharing the meal will satisfy their appetite while he will not.

To identify feeding problems is therefore important: studying, with the parents of children treated in Therapeutic Feeding Center, the feeding history of their child allows us to better understand the underlying process and to help during meals if necessary. In these stories, there is often a partial or complete anorexic phase. The refusal to take a sufficient quantity of milk, to taste new food or more solid food may result in either

² This paragraph concerning the child's feeding capacities and the encountered problems were largely inspired by the Ramsay article, 2001.

³ Please note that these tables refer to a western child population. However, the development of functional capacities being linked to the neurological maturation and to learning capacities, the sequence remains the same in every country, but the different stages may correspond to slightly different ages.

parent-child relationship problems or, it may also be the sign of a problematic⁴ feeding functioning (suckling difficulty, oral hypo-sensitivity, lack of appetite).

The chapter 4 gives the opportunity for a in-depth reading on mother-child interactions' scheme, including feeding situations with or without difficulties.

The control of appetite is not yet well understood, nevertheless it constitutes the first motivation mechanism for food ingestion. Some babies have much appetite, others little; this can affect their feeding behavior.

Table 4: Feeding capacities acquired by the child, introduction of food and types of problems encountered ^[3]

Child's age	Types and food textures	Acquired capacities and appetite	Problems encountered
0-2 months	Mother milk/formula	Sucks: good rythm/steady Appetite:wakes up, cries for food	Too short or too many meals; falls asleep during meals
3-6 months	Mashed food	Bites well/sucking reflex Fed with spoon (flavours/textures) Appetite: looks for food, cries to eat	Tongue protusion Refuses mashed food Does not look for food
7-10 months	Lumps/blend	Food consumption depending on teeth Chews/mouth movements Starts to drink from cup	Regurgitates/vomits lumps No or little oral motor functions Refuses to drink from cup
11-1months	Thin minced pieces	Tongue wipes food on lips Masterisation of use of Tongue Like various food pieces Eats with fingers Calls food by their names	Not present Swallows whole piece of food Spits/vomits pieces Does not eat alone Does not request food
16-24 months and more	Family food	Evaluated mastication movements Eats alone Drinks from cup Likes all types of food Excellent appetite	Not present Must still be fed Can still be bottle fed Selective, eats slowly Picks like a bird

⁴ Let us point out that prevalent feeding problems in babies who otherwise are in good health are of 25% (Lindberg et al, 1991) and that 1 to 2% of less than 12 months old babies have feeding problems severe enough to result in an insufficient weight gain and a development delay (Dahl and Sundelin, 1986) – cited by Ramsay (2001) for western populations.

3/ Malnutrition and child psychopathology

Some authors, like Guédeney ^[4], go further and investigate on the psychopathology of malnutrition. Actually, feeding disorders are the main motivations for child psychiatry consultations in western countries. Infants and toddlers, who do not, or rarely, use words to express themselves, do express through their body their pain, their suffering; they show feeding and sleeping disorders, dermatological problems... Symptoms showed by severely malnourished children turn out to be very similar to symptoms of depressive children. One may therefore wonder whether the child breakdown could lead to a lack of appetite, then to malnutrition as showed by Spitz in his clinical descriptions of hospitalism*, or whether the child malnutrition causes a number of symptoms like relational withdrawal, apathy, delayed psychomotor development. There is probably no unique answer to this question. Establishing a precise differential diagnosis must be done thanks to an in-depth analysis of the existing individual situations and of their progress (observation alone may prove to be insufficient as clinical descriptions are very similar in both situations); nevertheless, analysing child-caregiver interactions may prove to be an adequate diagnosis and prognosis ^[5, 6]. The diagnosis allows to decide more easily to add, or not, a more psychological approach to the classical medical/nutritional treatment.

Besides, it is worth noticing that the literary reviews of the terms used in Africa: «kwashiorkor» reveal three main characteristics: separation, depression and jealousy of a first-born towards the second ^[4, 7-11].



To keep in mind

- To take into account the child abilities when analysing care practices
- A thorough identification of the individual feeding problems allows an answer adapted to the existing family situation
- A low birth-weight seems to constitute a risk factor for future malnutrition
- No other child general characteristics (sex, age, rank in the family, etc) seem to be particularly spotted when malnutrition appears
- As today, there are few data about some risk factors of child malnutrition
- A child, even very young, may be traumatised or depressive. These psychological disorders through feeding disorders, like anorexia, vomiting, etc.

Questions still to be solved:

- Feeding and other child developmental abilities with respect to the expectations of caregiver: are they, or not, adequate?
- What tools would be relevant to identify child's feeding problems?
- Is child anorexia in France of the same kind as the one we observe in other contexts?
- What differential diagnosis between symptoms of severe malnutrition, depression and/or pain?

To go further:

- ^[1] Brazelton, T.B., et al., *The behavior of nutritionally deprived Guatemalan infants*. Dev Med Child Neurol, 1977. 19(3): p. 364-72.
- ^[2] Pollitt, E., *Behavior of infant in causation of nutritional marasmus*. The American Journal of Clinical Nutrition, 1973. 26(3) : p. 264-70.
- ^[3] Ramsay, M., *Les problèmes alimentaires chez les bébés et les jeunes enfants*. Devenir, 2001. 13(2) : p. 11-28.
- ^[4] Guédeney, A., *La psychopathologie du kwashiorkor: des pionniers aux directions actuelles de recherche.*, in *MSF News : special psy n°1*. 2000, MSF-F : Paris.
- ^[5] Geber, M., *Psychological factors in the etiology of kwashiorkor*. Bulletin OMS, 1955. XII : p. 471- ?
- ^[6] Geber, M., *Psychothérapie d'un enfant atteint de kwashiorkor*. Psychopathologie africaine, 1989. XXII : p. 171-190.
- ^[7] Bonnet, D., *Présentation. La notion de négligence sociale à propos de la malnutrition de l'enfant*. Sciences Sociales et Santé, 1996. 14 n°1 : p. 5-15.
- ^[8] Geber, M., *Afrique sud-saharienne - Quelques notes d'ethnologie*. 1992, MSF : Mozambique. p. 1-6.
- ^[9] Geber, M., *Kwashiorkor : prise en charge nutritionnelle et psychologique*. *Notes cliniques 40 ans après et perspectives pour le terrain*, in *MSF News : special psy n°1*. 2000, MSF-F : Paris.
- ^[10] Guédeney, A., *Les aspects psychosomatiques des malnutritions protéino-caloriques de la première enfance en milieu tropical*. Psychiatrie de l'enfant, 1986. XXIX(1) : p. 155-189.
- ^[11] Jaffré, Y., *Dissonances entre les représentations sociales et médicales de la malnutrition dans un service de pédiatrie au Niger*. Sciences Sociales et Santé, 1996. 14 n°1 : p. 41-69.



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3

CHARACTERISTICS OF THE CAREGIVER

In this chapter, we will mainly focus on the characteristics of the caregiver. In most countries, the mother is the one who looks after her young child. However it seems important to know the local usages in order to define if the mother is really the main person who takes care of the child and how much freedom she has to take decisions regarding education. In some countries, the father or the mother-in-law have such an influence



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over the child care practices that it would be wrong to limit oneself to an explicative analysis of malnutrition focused on the mother and child only.

In certain contexts or according to the age of the child, it can be relevant to separate the caring environment (those who look after the child) and the feeding environment (those who feed him).

The mother's characteristics or those of the caregiver cover several aspects:

- The beliefs concerning parenthood and its efficiency
- The caregiver's nutritional and health status
- The caregiver's mental disorders, in particular depressions

1/ Beliefs concerning parenthood and its efficiency

The beliefs concerning parenthood and its efficiency refer to the idea that the way a child develops depends on the parents' behaviour. Parents with a strong belief in their own efficiency will think that the child's development is linked to the way the parents behave towards him. These beliefs can strongly influence the feeding when malnutrition is endemic and especially when the appetite is a limiting factor (Engle, ^[1]). These beliefs are both individual and cultural. Thus in certain parts of Africa, it is often believed that the child knows what he needs in terms of food. Consequently, there is a risk that the parents will not be very attentive to the amount of food that the child absorbs.

2/ Nutritional and medical status of the maternal substitute

Brazelton ^[2] shows a causal link between the mother's height, interpreted as the result of her food habits when growing up (linked with other indicators), and her behaviour during the child's neonatal period : the taller the mother, the better the child's performance. In this study the authors had proposed supplementary food to certain mothers during pregnancy. They did not find any significant difference between the supplementary food intake and the child's performance at birth. They consequently wondered what was the quantity of supplementary food necessary for chronic malnourished women not only to increase the weight of the child at birth but also to improve his neonatal performances.

Winkvist ^[3] mentions two studies where a direct link is shown between the mother's nutritional and health status and the way the child is cared for:

- In Egypt a nutritionally poor diet, low hæmoglobin rates and vitamin B6 deficiencies, are linked with less time spent on childcare, less answers to the child's vocalisation, less vocalisation towards children, and the increased use of the elder children to look after the child.
- In Kenya, the mother's low intake of calories was associated with less physical contact with young children.

These studies alone are not sufficient to produce a subtle analysis of the correlation between the mother's nutritional and health status and the risk of malnutrition. However, it is obvious that the caregiver's good health is a factor that will favour more adequate care practices at least concerning the time spent on it. UNICEF actually recommends to give particular attention to the maternal environment in order to improve care practices.

3/ The caregiver's mental disorders, in particular depressions

De Miranda et al ¹⁴ have compared the mental health of mothers of 60 moderately or severely malnourished children with mothers of 45 not malnourished children in Brazil. He has found a significant correlation between the mother's mental health (measured with a questionnaire on adults psychiatric morbidity) and malnutrition in children. However, correlation does not mean causality. The authors have concluded with three propositions that will have to be tested: the link between the mother's mental health and the child's malnutrition being significant (the variables environment and number of children in the family having been checked),



- either the mother's mental disorders increase the child's malnutrition,
- or the child's malnutrition leads to psychological troubles in the mother,
- or a third unknown factor leads both to the child's malnutrition and the mother's psychological troubles.

We are thus facing the same methodological problem as for the children: the child's malnutrition or the mother's psychological troubles, which is prior to the other? Or is there a third common factor to both?

I would like to provide some elements for a reply to these questions:

- On one hand, remind that the question of malnutrition is complex and trying to find a single etiology in war or extreme poverty situations does not make much sense. It is most probably a conjunction of factors that lead to child malnutrition.
- On the other hand, to ask the question this way implies a linear causality. The mother's malnutrition and psychic disorders can probably be much better explained by circular causalities: one can, for example, imagine that the child goes through a period of partial anorexia when he is starting to take complementary food and when the mother feels a little bit depressed and can't manage to respond adequately to her child's difficulty. Consequently, the child refuses more and more food, the mother gets worried and her depression gets worse in front of her child's refusal to accept the food she gives him...
- Finally, some studies, trying to establish the anteriority of the mother's psychic troubles as well as the efficiency of psychological support for getting rid of feeding problems and malnutrition of children of depressed mothers, bring us to make a strong hypothesis on maternal depression as a factor of appearance or aggravation of child's malnutrition.

Miguel-Garcia and al ^[6], in a study comparing 30 mother-malnourished child dyades with 30 mother-non malnourished child dyades in Mali, have identified 17/30 mothers as being depressed (against 3 in the control group), 2 mothers whose affective immaturity makes them unable to assume their maternal role, 2 mentally deficient and one psychotic mother. According to the authors, the disorders were prior to the apparition of malnutrition, as one can find certain elements, symptoms or possible causes of depression such as: number of unwanted pregnancies, difficult pregnancy and poor imaginative investment during pregnancy, accumulation of traumatic events after conception of the child.

Kerr et al. ^[6] compare the mothers of well-nourished children (but sick and in hospital) with mothers of severely malnourished children. Their socio-economic and education levels match the mothers of these two groups. The two groups of mothers are significantly different: the severely malnourished children's mothers have a low self esteem, a lower energy level, the relations they have with their parents make them dependent or isolated, the problems are experienced as coming from the outside and are not the result of a crisis but of an ever-lasting morose existence. In the well-nourished children's group, the mothers had a more stable life with less break-ups regarding employment and their emotional life. They are involved in finding solutions for their difficulties and have managed to surround themselves with a support network. The two groups of mothers have experienced very important affective deprivations in their childhood but the paternal figures are positive for the mothers of well-nourished children and negative (violence and sexual abuse) for the others.

Salt et al. ^[7] also compare the presence and absence of depressive symptoms in children aged 5 to 11, having suffered from marasmus during the first years of life. The symptoms of depression and particularly the lack of self esteem and hope are more frequent in the mother's group of children having suffered from malnutrition and are significantly correlated with regular school attendance and reading level of the children. However, this methodology is weak. How can one affirm that the mother who is depressed today was depressed previously or even during her child's malnutrition some years earlier? This is the reason why the only hypothesis the authors can draw from their work is that the mother's depressive feelings can be an independent factor contributing towards cognitive and behavioural deficits in children attending school and having been malnourished in their early childhood.

Despite the difficulty of scientifically proving the role of maternal depression in the appearance of malnutrition, both English and French literature lead us to believe that it is the case. *«Maternal depression has been associated with deficiency in caring behaviour. A recent review of 20 years of research in the United States linked maternal depression with lack of adequate care and supervision of children, more medical problems and accidents among children and more time spent in mutual child care giver negative states. Many studies show impaired patterns of synchrony in interactions between mother and child that seem to be related to the depression itself rather than to associated family risk factors [...] High level of maternal stress will have adverse effects on the quality*

of caregiving». (Engle, 1995 ^[1], p. 366).

But how can maternal depression lead to a lack of care or, indirectly, to the child's malnutrition? The child develops and grows because he is part of his parent's and family environment's imagination, because his needs are met adequately with affection and continuity. Now, people suffering from depression, lack joy and appetite to live, have no energy, their psychic availability and thinking capacity have slowed down, their self esteem is low and imagination is poor. Even if they are present physically; they are not psychically available: they do not respond adequately to other people and, consequently, to their own child and misinterpret their needs or do not meet them at all...

Some authors go further and suggest that certain psycho-social factors identified as being risk factors of malnutrition refer to the mother's isolation, depression, affective immaturity and mother-child relationship ^[8-15].

Let consider, for example, the factors highlighted by Miguel-García, Collomb or Dubois le Bronnec :

- Miguel-García ^[5] identifies the following factors: unwanted child, parental conflict, serious economic crisis, moving place, death of a close parent, number of difficult events appearing after the child's conception.
- Collomb ^[16], from studying 1072 files of malnourished children in Senegal, shows the links between some transformations in the social, familial and cultural environment (recent migration from countryside to town). This result could be partly subtlet: Roger-Petitjean ^[17] in a study in Burkina Faso (1999), distinguishes two opposite consequences linked to the loss of influence of the traditional family in an urban environment: for people not very well integrated in the modern life, the disintegration of the family is often a factor of poverty and depression for the mother, correlated with the child's malnutrition. In educated and well-integrated people, other networks



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intervene and the impact of tradition (and its negative effect) is decreased: setting aside older women and going more quickly or frequently to modern medicine.

- Dubois le Bronnec ^[18] separates the mothers who frequently return to a health centre in the Ivory Coast with a malnourished child (the same or one after the other) into 4 groups:
 - Very young mothers who, because of their pregnancy, have to leave school and on whom the parents had invested hopes of social success. They have been rejected by their family and also often by their parents-in-law. They are completely isolated and their child is not included in the descendent's line.
 - Young mothers who had to leave their own mother abruptly without being weaned emotionally: «they still suck their mother's breast».
 - More mature mothers with already an important number of children and who come to the centre with a malnourished child and currently pregnant.
 - Intra-family conflicts: abandoned or divorced women.

Most of the events identified as risk factors lead the families or these mothers and their child into a new context without the usual support of the enlarged family. The mothers are face-to-face with their child which is totally unusual in this culture, and can even be felt like a threat ^[15]. Many are not supported by the group with their identity as a mother, their self esteem is depreciated and hurt and they can no longer find the necessary strength and resourcefulness to respond adequately to the needs of their child. Others experience loss, conflicts...

In all these situations, the events these women have lived make them vulnerable and make their maternal and feeding role fragile.

Consequently, how not asking us questions about ACF's intervention contexts? The problems of access to food are important, the sanitary conditions are often bad; but the events that the families have to cope with, individually and at the social destructuring level generated by most conflicts, have certainly an impact on the family's ability of taking care of the children. Consequently, they influence the appearance and/or aggravation of malnutrition. Van der Kam ^[19] says in this context «*Trauma of a population can dramatically alter caring practices during and after emergencies. Social and caring behaviour can have a critical impact on the nutritional well-being of dependants following an emergency when physical resources are no longer a limited factor. Additionally, a society needs to be mentally healthy to make optimal use of rehabilitation resources made available by agencies in the wake of an emergency in order to improve nutritional and food security.*» To my knowledge, there is no research carried out on the caregiver's characteristics and the caring practices in emergency situations.

To keep in mind:

- To define the caring and feeding environment according to the context and the child's age, will help us not only to better understand the causes of malnutrition but also to adapt and target the populations of our programmes.
- The beliefs about parenthood and its efficiency influence the child care practices.
- The few data existing on the health and nutritional status of the mothers show a correlation with the caring practices, but there are very few studies on this question.
- Through a significant number of studies, maternal depression seems to be a major risk factor in appearance and/or aggravation of child's malnutrition.
- In-depth interviews (cf. Kerr) allow a good comprehension of the family situations.

Questions still to be solved:

- How does ACF wish to integrate caregiver's characteristics in the child care practices, in its global and local comprehension of severe malnutrition and in its programmes?
- The authors' referred to highlight some objectivable criteria obtainable through in-depth interviews. Which methodology should be applied by ACF?
- What can be done to limit the impact of maternal depression in appearance and/or aggravation of child malnutrition?
- Does the mother's chronic malnutrition constitute a major risk factor in child malnutrition? By what ways: low birth weight, less availability for caring practices?
- All the studies quoted concern stable and developing countries. What are the consequences of emergency situations on the caring practices?

To go further:

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- ^[9] Guédénéy, A., *Kwashiorkor, depression and attachment disorders*. Lancet, 1995. 346 : p. 1293.
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- ^[13] Bouville, J.-F., *L'approche relationnelle de la malnutrition infantile en milieu tropical*. Sciences Sociales et Santé, 1996. 14 n°1 : p. 103-115.
- ^[14] Bouville, J.-F., *Aspects relationnels de la malnutrition infantile en milieu urbain africain*. Cahiers Santé, 1993. 3 : p. 433-440.
- ^[15] Moro, M.-R., *Présentation - Nourritures, soins, psychisme et cultures*, in *Medical News*. 2000, MSF-France. p. 1-8.
- ^[16] Collomb, H., et al., *Circonstances d'apparition des kwashiorkors hospitalisés dans le service de pédiatrie de l'hôpital universitaire de Dakar*. Bulletin socio-médicale d'Afrique Noire en langue française, 1969. XIV, 4 : p. 809-820.
- ^[17] Roger-Petitjean, M., *Soins et nutrition des enfants en milieu urbain africain - Paroles de mères*, ed. C.E. Africaines. 1999, Paris : L'Harmattan. 319.
- ^[18] Bronnec, D.L., *Dimension psycho-affective et culturelle de la malnutrition en côte d'ivoire*. Lieux de l'Enfance, 1986. n°6/7 : p. 193-204.
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4

FAMILY CHILD RELATIONSHIP

The mother-child relationship is of course based on the characteristics of the child, the characteristics of the caregiver but it is also unique. That is to say that the relationship a mother builds with her child is obviously different from the one she has developed with her previous children or the one she will build with future children, just as each child develops a different relationship with each of its partners. This relationship evolves depending on the context and over time.

Let us remind ourselves that it is artificial to separate the factors influencing child care practices as we do in this sheet. This pedagogical approach aims only at clarifying and simplifying the different factors in place.

NB: in certain contexts or depending on the child's age, differentiating the caregiver (giving care) and foster environment (providing food) may turn out to be pertinent.

1/ To feed, a complex phenomenon

Feeding fits into a context; it is not only a question of ingesting food. «For the mother to provide food, for the child to be fed are actions which entail more than a simple giving of food and appeasing hunger « (Moro, ^[1]). This data is well known by psychologists and psychiatrists who have known for a long time how much «feeding» is involved in the wider network of relationships and how, beyond food, the attachment need is essential for the child.

Spitz's work in the second World War has shown that caring in a mechanical way for few months old babies is insufficient to ensure a good development: orphan babies taken in charge by qualified staff, were receiving daily care but the number of children compared to the staff available did not allow personalized care for the babies such as, for example, carrying them during bottle feeding. This lack of mothering led to a change in the babies' behaviour: after trying to draw people to them by prolonged crying, they gave up: lying calmly in their beds, they provided their own stimulation (rocking, playing repeatedly with their feet and hands...). Tired and depressed by the lack of interaction and exchanges of affection, they became apathetic, with a empty gaze. This state is called «hospitalism». In this way, babies provided with the basic needed care, let themselves almost died because of a lack of mothering and chances of building a significant relationship.

In line with Spitz's research, Bowlby has set up an experiment: baby gorillas are put in a cage with two dummy gorillas : one made of wire gives milk and therefore enables the little gorilla to feed itself ; the other is covered with fur, emanates artificial heat but provides no food. The little gorillas all choose to stay with the dummy gorilla that emanates heat but provides no food and huddle close to it when danger threatens.



This experiment, along with other observations such as those of Spitz above-mentioned, led to the attachment theory: **attachment to the mother or a mother substitute is a basic need, as important for the child's survival as daily care.**

Feeding a child and providing daily care are times of privileged exchange moments between the child and its caregiver; the way care is provided is as important as the fact that it is given. In the first weeks of life most contacts will be made during breastfeeding or bottle-feeding. The baby's sight is anyway perfectly adjusted to the distance between the breast where he is feeding to his mother's face (it is clear and precise between 20 and 25 cm) and encourages eye contact between them. Then, discovery of the outside world grows with objects being carried to the mouth, showing

the importance of orality in the young child.

Feeding is therefore included in the exchanges between the child and the outside world. Moreover, meals are considered an evaluation marker in the mother-child relationship on the same level as playing. When comparing 30 mother-child couples consulting in psychiatry and 30 non-consulting, Keren and Feldman ^[2] were able to show that the couples consulting had less good interactions both in playing and during meals. In addition, feeding lead to more negative interactions than playing whatever the clinical diagnosis of the child was and the behaviour of relational withdrawal was caused by the feeding situation.

The affective mother-child relationship and feeding relationship are interlinked, even more because feeding represents a vital activity around which difficulties may cluster. One might make the hypothesis that conflictual relations, crisis, traumatic events have a negative influence on this relationship and consequently on nutrition. The baby does

not find in its mother the partner it needs to communicate and grow, the mother being weakened she is not able anymore to play her protective role. By these disorders it bears witness of its mother's difficulties, but also those of its father and family. (Lachal and Moro, [3]).

2/ Malnutrition, consequence of a deficient affective relationship?

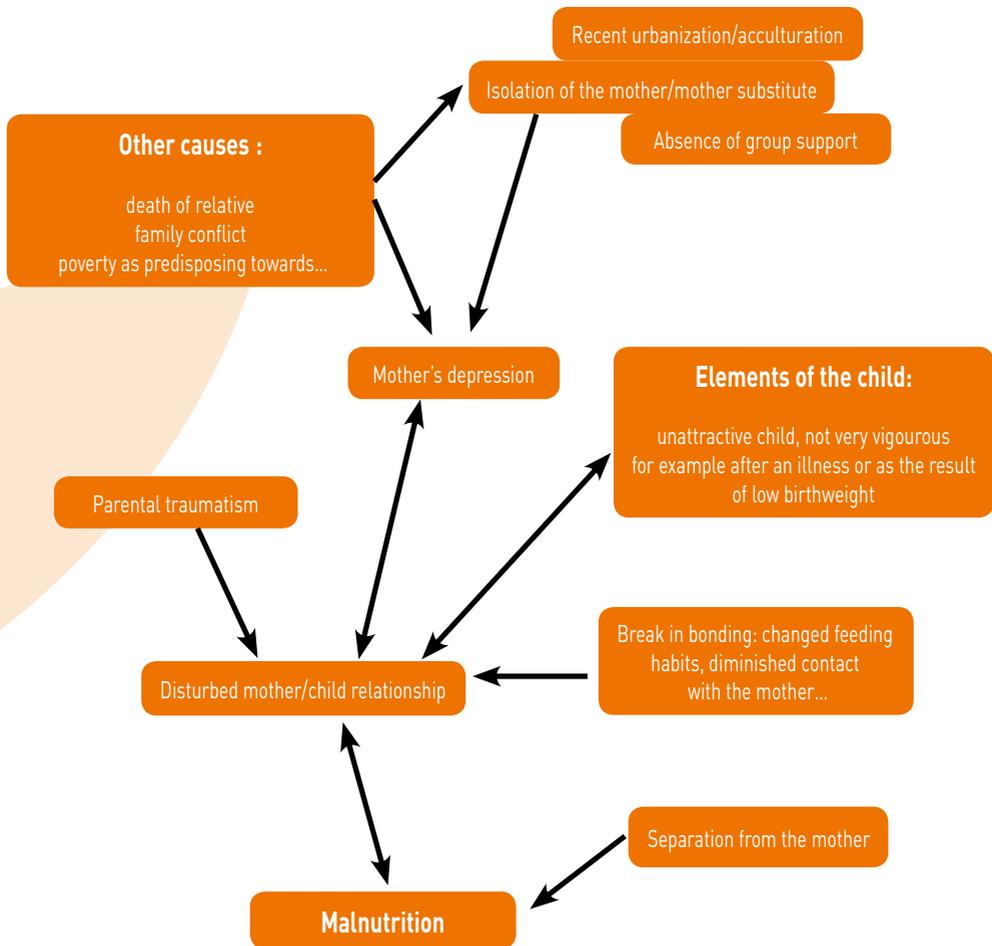
The psychological and anthropological aspects of child malnutrition, questioned in the 50s by Geber then by Collomb [4, 5, 6, 7], have shown risk factors (summarized in the next page's diagram) such as recent individual urbanization of the mother's situation specificities, abrupt weaning or qualities proper to the child (low birthweight, handicaps...)... Of its own will or in reaction to parental suffering, psychic disorders in the child (retreat from relationship, depression, traumatism, delayed development) entail or worsen malnutrition and/or limit the efficiency of renutrition treatment.

These data may be interpreted as elements that disturb the mother-child relationship and lastly on the necessity of considering into the etiology of malnutrition the underlying affective relationships between the child and its family. Let us consider for example, recent individual urbanization: from a life within the extended family, mother and child find themselves in a dual situation, without the support of aunts and grandmothers who both care directly for the child but also help the mother in her mothering and feeding role. This new and unexpected situation may affect the mother if she has no support network and may limit/hinder her capacity to look after her child.

The affective etiology of malnutrition even appears in the terminology of kwashiorkor which is derived from kwashi (« child ») and orkor (« red ») — an allusion to skin changes — and means « sickness of the young child whom its mother neglects when she becomes pregnant again » in the language of the Ashanti, people from the east of Ghana.

Kwashiorkor may therefore be considered as a break in attachment corresponding either to an actual separation between mother and child, or to a attachment separation linked to the birth of a new child and which is not compensated by the support of substitute mothers from the extended group. One might also consider malnutrition as infant anorexia.

Figure 3 - Psychological and sociological factors affecting chronic malnutrition (according to studies quoted in the bibliography)



3/ Characteristics of attachment and malnutrition

Attachment, conceptualized by Bowlby (cf. above) qualifies the quality of the relationship between the child and its maternal partner. We talk about secure attachment when the child feels sufficiently confident and secure inside to wish to explore the world around and make new discoveries. Insecure or ambivalent attachment results from an insufficiently reassuring maternal partner which does not permit the child to explore the world or to feel good about being temporarily separated from its mother⁵.

We will distinguish two types of research:

- Prospective research studies the quality of the mother-child relationship before malnutrition even appears. This provides us with information on the context in which malnutrition is set (acute or chronic) and highlight the role of the mother-child relationship in the appearance of malnutrition.
- Research comparing groups of healthy children to groups of malnourished children tell us much about the mother-child relationship and attachment when the child is already malnourished. While there are strong probabilities that the differences noted came before malnutrition, which is confirmed by the prospective studies, we cannot affirm it.

This draws our attention to two points: the problem of attachment as a risk factor in malnutrition (or delayed growth – «failure-to-thrive») but also the possible changes in the relationship if the child demonstrates delayed development or malnutrition.

Prospective research

During systematic longitudinal observations in a part of Abidjan with a high level of malnutrition, Bouville ^[8] was able to demonstrate differences in child-family interactions between the families of children who had become malnourished and the families of children who were nutritionally healthy. Insecure attachment (or resistant or ambivalent) of children in the malnourished group comes from the relative unavailability of the attachment partner: they behave towards their mothers as towards food by insisting on closeness (refusing to leave the breast) a mix of anger and opposition (anorexic behaviour) which contributes to the appearance and maintaining of symptoms of minor and moderate malnutrition. Children with secure attachment are able to use their mothers as a reassuring base, progressively internalized, enabling exploration of the world, including at the level of diverse feeding.

One often finds this aspect in feeding centres with the child finding difficult to accept a change of food and particularly during the introduction of solid food.

⁵ It is a trifle schematic but this key notion of the psychology of the child is fairly complex. It entails enabling you to understand the research data cited below.

Grantham Mc Gregor ^[9] quotes a prospective study which shows that mothers responded less frequently to their children, were less affectionate and spoke to them less before malnutrition even appeared.

Researches on attachment of the malnourished child

The link between attachment difficulties, affective deficiency and malnutrition is to be found in many studies: Grappe ^[10] finds more severe malnutrition in Brazil's nordeste when there are attachment problems between mother and child, Geber ^[6] shows how an alteration in the mother-child relationship is critical in the appearance and prognosis of malnutrition. Buffet and Mazet ^[11] tells the story of a child presenting an anaclitic depression (childhood depression affecting children separated from their mothers after having had a normal relationship in the first months of life) following a period of suffering caused by the breaking of pre-established bonds and the loss of the loved object, i.e. the mother.

Ainsworth ^[12] observes 28 children in Uganda and classifies them into three groups:

- 16 are securely bonded (follow the mother and bid her welcome on her return)
- 7 are insecurely bonded (based essentially on frequent crying, including when the mother is present. The reasons for insecure attachment were multiple: 2 children were chronically malnourished and starving, others had anxious mothers because they were separated from their husbands or were in conflict with the co-wives)
- 5 children don't have any attachment.

Ainsworth tries to show what is common to the three groups:

- Mothers in each group behave warmly towards their child
- Most of the children have different caregivers.



What distinguishes the three groups:

- Quality of care given by the mother: non-attached children had mothers who were absent for long periods and left their children to others while mothers who were securely attached took their children with them when leaving.
- The total quantity of care (all caregivers included): it was the non-attached children who received the least care.

The mother's attitude to breastfeeding was a distinguishing variable: none of the mothers without attachment reported having pleasure in breastfeeding whereas it is the case for 14 out of the 16 mothers whose children had securely bonded. In the same way, the quantity and quality of mothers' milk is not a significant statistical indicator but the mothers' feeling that they had enough milk was mainly found among those whose children had securely bonded.

Miquel-Garcia ^[13] compares 30 mother-malnourished child couples to 30 mother-healthy child couples in Mali. The malnourished children keep more contact with their mothers during consultation, are reluctant to be separated and remain inconsolable, continue to cling to the mothers and call them less. They look at their mother less, look around less and do not try to make their mothers look at them. They use their voice less when interacting and point less. Mothers speak to them less and give them items less frequently. In mother-healthy child couples, mother and child both initiate exchanges where nobody or only the child does it in case of malnutrition. The exchanges are more sporadic, rarely mutual, tinged with sadness or indifference, even hostility whereas exchanges with healthy children have a pleasant tone.

Pollitt et al. ^[14] compare mothers of healthy children and mothers of delayed growth children («failure-to-thrive»): mothers of children with delayed growth have less verbal interaction with their children and socialize less. A statistically significant difference concerns the mothers' ages, the older they are, the better they interact with their children.

Bouville ^[15] quotes several studies about the behavioural and interactive specificities of the malnourished child's situation when observed in its natural environment.

In India, time spent in care was identical to the control group's time but the breast was given more frequently to moderately undernourished children and stimulations such as talking, cuddling, playing were lesser. In Mexico, different parental attitudes are only observed after the 6th month when the child should be separated from its parents. Undernourished children cling more to and are more passive, explore less, which attracts less attention from the parents than for children who are fine.

In Cameroon, it is noticed a sooner weaning of malnourished children who are entrusted to a younger caregiver outside the close family. Malnourished children receive less social interaction although they appeal more to their mother with looks and voices during meals; they show little interest in food.

Globally, mothers shown less social interactions and attentions (talking, looking, playing) toward a child who tries to make contact and stay close to them (clinging, babbling, gazing) although in a more regressive and dependant way than an healthy child. Time spent in feeding contacts is more important since malnourished children show little interest in food. However, mothers and those around them feed them more often without spending more time with them.

All these studies show less mother-child interactions and less positive even before the child became malnourished (in the case of prospective studies) or a long time afterwards. Some authors were able to talk of «negligence» in the case of malnutrition, notably evoking the social interpretations of severe malnutrition considerably limiting the parents' belief in their ability to react and assimilating their non-action to a feeling of powerlessness (Bonnet ^[14]).

4/ What can we take for our work in ACF?

Malnutrition is a complex and multi-causal phenomenon (cf. AFC's causal scheme of malnutrition) that we must take into account both in our regional and our individual analysis.

In our understanding of malnutrition and the programmes we put in place (i.e. Chapter 7: psychological symptoms of severe malnutrition), we must consider the underlying factors and particularly the affective and emotional components in the child-family circle relationship.

For that, it is important to focus on the child's place in its family, to better understand the maternal care he benefits of and the interaction with the family circle.

To go back up the family history because the mother-child relationship starts before the child is even conceived: the family's image of itself, of individuals, social expectations of the new child already influence the relationship that could be built up even before birth. Expecting a first child in a happy marriage or getting pregnant for the eighth time when you did not want more children, change the welcome and the links which may be created between a child and its family group.

Before and during pregnancy, parents create an «imaginary child», fulfilling their expectations and dreams.

The child's birth is the first separation between mother and child. After nine months of symbiosis, mother and child are separated and will have to learn to get to know each other. This encounter is not always simple and natural. The «real» child is never the same as the imaginary child and parents need some time to adapt and readjust the image they have made of the child in the womb to the image of the child in front of them today.



Talking with mothers about their wish for children, their pregnancy, the birth, the first encounter with their baby, etc... will give you keys to understand what is happening here and now. For example, the fantastical poverty during pregnancy (the mother's inability to dream the coming child) is an indicator to be taken into account during consultation and diagnosis of the mother-child relationship.

Regarding its mandate, ACF frequently intervenes in emergency situations, implicating some consequences on mother-child relationship.

Political, social, economical and familial context make the entire society therefore more vulnerable, and weaken the mother even causing depressive symptoms in her. This might then cause care deficiencies toward children.

Conflicts contexts in particular are often the scene of barbaric acts, which are going to directly influence child's development.

What should be said about children born after a rape (Rigal, ^[17])? In many countries where we work, there are systematized rape practices from which children are born. How to love them ? Invest them ?

Finally, many beliefs and perceptions exist: that is an exceptional child, another is the reincarnation of an ancestor, another has special powers because he's a twin....All these factors impact on the family-child relationship.

In the framework of our interventions, it is not a question of judging the parents or their beliefs but of understanding what is happening with them and their malnourished child. This takes time but it is well spent because we will be more able to help these families. In the nutritional centres, this requires adjustments to welcome and patient-carer relationship not limited to a medico-nutritional treatment but which tries to understand what has happened in the past and what is happening now. We follow families in the sickness and support the mother-child relationship. This support is made through the quality of the child's welcome and the follow up, through informal and formal discussions with the family, through play sessions, one objective being to ease and enhance the mother-child relationship. One of the role of the team is to help for mothers to feel themselves « sufficiently good mothers » (Winnicott) despite events that, often, they have been through recently.

In order to be efficient and develop a global approach, family circle-child relationship's type and its quality need to be considered.

If we take, for example, cases of relapses, there are several hypothesis to understand causes: are we facing a health education problem and inadequate health and/or food practices, and/or is malnutrition one of the symptoms of a more complex problem concerning the child or the child and its family circle?

In this case, it is obvious that it is necessary to put in place another type of approach from the classical nutritional treatment, indispensable but not sufficient to cure patients and provide long-term support.

Current humanitarian programmes, when ignoring care practices as a cause of malnutrition (and particularly their upheaval due to psychosocial difficulties linked to emergency situations), have not yet taken the opportunity to check a sometimes dysfunctional system which may, in the medium- and long-term, hinder the child's development.

Points to keep in mind

- Feeding is an integral part of a relational context that involves more than the act of giving food
- Attachment with the mother or caregiver is a primary need as important for the child's survival as daily care
- Mother-child relationship pre-exists to the child's birth through the parent's imagination and desires, social expectations, etc.
- A baby lacking love may refuse to feed and let himself ("hospitalism")
- A deficient mother-child relationship may lead to anorexia and/or to malnutrition
- Care practices must be integrated into our understanding of context and causes of malnutrition
- Activities helping to improve mother-child relationship and better well-being of beneficiaries and caregivers are an integral part of the ACF programme in the nutrition centres

Questions still to be solved:

- What new prospective studies could be put in place to better define alert indicators for malnutrition and improve prevention?
- How can we offer preventative work to young and pregnant women to help them better prepare to the coming child?
- How to recognize and diagnose different feeding problems in children, particularly anorexia?
- How to better improve the mother-child relationship?
- How to support the mother in order to help her giving the will to live to her child and sometimes to have it back herself?
- What support to provide in extreme situations: children born after rape for example?
- How to better work with families in the nutritional centres?

To go further:

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- ^[4] Geber, M., *Psychological factors in the etiology of Kwashiorkor*. *Bulletin OMS*, 1955 XII. p. 471-?
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5

THE SUPPORT SYSTEM AND RESOURCE LIMITATION

As underlined in chapter 1, care practices have to be examined from two different angles at a time: the amount of time and the quality of child care practices. These do not only depend on the mother and child but happen in a specific context which should also be taken into account.

Work undertaken on the support system and constraints of resources is mainly done through anthropological studies since they emphasize the context, cultural representations, family organisation of responsibilities and tasks, gender relationship... Data differ from one country to another although some trends can be observed particularly when we look at emergency situations.

1/ The support system

According to Engle ^[1], the child-mother couple can be supported in three different ways:

- informational (finding out if the food is appropriate, allocating available resources)
- emotional and affective (motivating the family circle as to the best way to use their knowledge to provide appropriate psychosocial care)
- physical

This support can take place on several levels: directly supporting the child-mother couple (for example, the husband can carry out tasks which enable the woman to rest after giving birth), supporting the mother (who may ask for advice or moral support from elders), and/or supporting the child (who finds others to look after him when his mother is busy)....

In chapter 3 and 4, we underlined the frequency of recent family changes which isolate mothers (recent urbanization, change of address...) and deprive them of the support they traditionally receive in bringing up their children. However, there is more than the positive side to this support, it may also constitute a barrier.

For example, mothers may wish to change certain ways of bringing up their children (like swaddling children in Kabul for example) but cannot when faced with the refusal of their mothers-in-law. Who does the child belong to? Who decides what is good for him? What room for manoeuvre do the parents have? Who is the child taken to when sick?

These data should be taken into consideration when implementing programmes. Beyond the family, society provides models, diagrams which families apply and must follow

(consciously or not). For example, if malnutrition is not recognized as a problem linked to food but as the result of the breaking of a social sexual taboo⁶ or as an intervention of the jinns, as is often the case in African countries, the family will react in the same interpretative framework (traditional healers in particular) (Bonnet ^[2]), and will go to hospital only as a last resort.

How do mothers themselves represent the malnutrition of their child? Don't they feel divided between their traditional beliefs, pressure of modern health structures and their child's condition?

It is easy to imagine how difficult it must be for a mother to bring her malnourished child to a allopathic health service, while other members of the family have a representation of this illness, and particularly how to cure it, very different from traditional medicine.



Jaffré ^[3] emphasizes this in his research on mothers and children hospitalised in Niger: popular belief then evokes, as causes of malnutrition, the action of spirits and sorcerers making the essence of the person disappear, hence the weight loss. Furthermore, hunger is synonymous with shame as it means that the networks of family solidarity have not worked.

So how does the mother have the courage to go against the fears and beliefs of her family circle by bringing her child to hospital, and furthermore facing the shame of getting her child treated for malnutrition?

These attitudes are frequent in certain developing countries and are not only found in rural and isolated areas. Roger-Petitjean notes a difference between two groups in the same urban area, depending on how integrated to the area they are ^[4]: for people poorly acquainted with modern life, family disintegration is often a source of poverty and depression for the mother,

correlated with malnutrition in the children; the influence of the traditional family environment is stronger here. For educated and well integrated people, other networks

⁶ Kwashiorkor is frequently perceived as resulting from sexual deviance. Partners must abstain while the mother is breastfeeding the child. Breaking this abstinence would lead to the appearance of kwash.

are available and the impact of tradition (and its effects) is weakened: the old women are set aside, more rapid and frequent use of modern medicine is performed.

In the emergency context, the situation is even more particular.

The traditional support system may have collapsed following abrupt displacements and the dynamics of survival which forced a fallback on the nuclear family and organizational changes.

In Juba, in Sudan, the extended family is separated, many men have become soldiers, the only way for them to earn money, and the women have had to work. Under these conditions, the woman must collect wood or grass to sell in the market, take care of the children and look after the home. The younger children are cared for by the older children all day long and the mothers have only a little time to spend on child care, without the usual family relatives being around to help them or to take care of the children. Family conflicts, intra-familial violence, alcoholism of certain members of the family can lead children to malnutrition repetitively (relapses in TFCs)⁷.

Understanding of the support system gives us a clearer picture of the world in which the child and his family live, the beliefs and the cultural images. This helps us to target the groups during our health education sessions or in discussions about the child's treatment.

2/ Constraints of resources

Restrictions of resources (economic, human, of existing services such as health centres...) limit the effectiveness of child care practices.

According to Longhurst ^[5], in emergency situations people are extremely vulnerable, and their ability to recover is diminished. For this reason, resources deteriorate, the family gets less psychosocial support from the outside, and thus less attention is paid to the care of young children by the family circle and the outside world.

Let us take a few examples: the family may have to choose between buying medicine or food. Who chooses and what are the implications for the child? What support can the family expect from the outside if the whole village suffers from the same restrictions?

In other situations, equally frequent, the woman will have very limited access to financial resources and has to manage her budget to meet all the family's needs. In other circumstances, the alcoholism of one member reduces the family resources which would have been spent on food.

⁷ Research « Family reorganisation, care practices and malnutrition in emergencies »

All these situations inevitably influence the care given to the child.

What happens to isolated mothers or those who have broken from their family setting?

It is our understanding that certain support systems can negatively affect the mother and child, but lack of support and resources for a mother and her child, tends to make them more vulnerable and at risk of developing the most severe forms of malnutrition, as various studies have shown.

According to Suremain ^[6], in Congo, the decision that leads to final weaning is not, in most cases, linked to the child's diet or its age, despite mentioned representations or causes linked with these data. The mother's decision is really based on other criteria, which are linked to the social situation she lives, perceives and undergoes at one time. Weaning is thus often abrupt and the reasons for it are diverse: new pregnancy, violence perpetrated on the mother that may force her to leave, etc.

In this article, Suremain refers to Bonnet: something that, on the mother's side, seems like a irresponsible or neglectful behaviour is sometimes only the result of deep confusion, linked to a social situation perceived as unbearable.

It is therefore necessary and useful to remember the need to take into account the mother and child in their social and family setting, without judging them, and to adapt our support and welcome as best as we can.

It is also important to be careful and to distinguish the discourses from the practices themselves.: the mothers mention practices and behaviours they have toward their child but the discourse is not always what's happened in reality. The discourse is already rationalised or normative according to the society....

3/ What can we take for our work in ACF?

First of all, it is essential to take the time to observe and understand the cultural context AFC programmes operate in, its beliefs, its rituals, its practices, its representations, and to identify the different support systems available for the beneficiaries.

Let us recall that, in the framework of our operations, we are not here to judge but to understand what is happening around the malnourished child and to provide him with the most adapted help for his situation.

Taking time to discuss with local staff may provide us with much information on the beliefs and practices of the culture we are working in, within the framework of your mission with ACF.



The family should be considered next, but also the community as a support from which mothers and children may benefit.

Longhurst has defined the concept of “care” in the family, as well as in the community context: “care” refers to supply within the household and the community of time, attention and support to meet the physical, emotional, intellectual and social needs and to enable the child and other members of the family to develop. This leads to optimal use of human, economic and organizational resources. According to Longhurst ^[7], it is important for the community to manage the well-being of its children. Activities led by the community can impact on care in terms of improving the resources available at community level, including income-generating programmes which increase women’s control of this income, literacy and nutritional education at family level. He suggests that care should be recognized as an activity, to give responsibility to all members of the community.

However, we need to be careful of conflicts that may interfere between these income-generating activities and care to children: these activities require time for women outside the household, consequently they have less time to care for children. It is important to be vigilant and to find ways to involve more other members of the family in these activities.

We should therefore not hesitate to involve family members in the child’s treatment and it is also possible to include the community in certain activities.

In Afghanistan for example, the influence and decision-making power of mothers-in-law is so strong that it is often necessary to spend time explaining the illness to them, how the treatment will be carried out, the proposed actions, so that they should not hinder, but even support the mother in the care practices given to the child.

Points to keep in mind:

- Child care practices are not only dependent upon the mother and child but also on the family environment and in certain contexts the whole community.
- Support available to mothers is not always beneficial for the child, but may very often slow the development of the child.
- In emergency contexts, many changes appear within the household and the community, it is necessary to take them into account in the analysis of the situation.
- Isolated mother-child couples are more vulnerable and at risk of developing severe forms of malnutrition.
- As far as possible, it is important to involve the whole family in the prevention of malnutrition, in order for it to be optimum.
- To get community members participating to activities you have organized in and outside the centre, would enable to better fix adequate child care practices, always taking care of respecting the community's beliefs and traditions.

Questions still to be solved:

- How better involve the families and the communities in the nutrition programmes for strengthen ACF impact?
- What is the position of the mother within the family where ACF is implementing programmes?
- While working more closely with the other ACF programmes, how support systems and family resources could be increased (food security and women's role/care practices towards children)?
- Taking the positive deviance (deviance from the norm leading to a positive result, for example a mother having deviant practices from the actual norm but who will have a well-nourished child compared to the other children of the communities), how to check out the adequate care practices of the families and adapt them well?
- In emergency contexts, therefore survival situations, people are more supportive between each other. How can we reinforce, in these contexts, social support and create a more community approach?
- It is necessary to separate talk from practices and to consider these distinction when setting up evaluation and needs analysis methods, and also programmes.

- What are the available support systems and constraints of resources in the different cultures where ACF has missions?
- How to assess and know better the care practices and support systems where ACF intervenes?

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6

BEHAVIORAL AND PSYCHOLOGICAL CONSEQUENCES OF LOW BIRTH-WEIGHT IN THE INFANT

1/ Behavioral and psychological consequences of low birth-weight in the infant

Als, and al. ^[1] have compared ten newborns, who went to term but with a low birth weight and ten newborns who went to term with a normal birth weight, using the Brazelton Neonatal Behavioral Assessment Scale (evaluation scale of infant behaviour from 1 to 31 days). They highlight significant differences between the two groups of newborns: infants with low birth weight show fewer archaic reflexes⁸ (automatic walking, crawling, waving arms and legs, grasping, sucking reflex), have a greater need for stimulation, both for interactions and motor processes and seek attention of those around them less frequently.

These results are corroborated by those of Brazelton and al ^[2]: in a study on consequences of chronic malnutrition during pregnancy in Guatemala, behaviour during neonatal period showing neuromotor integrity as well as social interaction were significantly linked to the age of gestation, to birth weight and age at examination. Maternal variables, such as unexpected prolonged intervals between pregnancies, height and socio-economic group were also linked to the neonatal performance of their offspring.



These behavioural differences are important as they have an impact on the interactions and exchanges the baby will be able to initiate with those around him/her, an impact that the authors observed over the first year: newborns with low birth weight have more difficulty managing their feelings and a few psychosomatic stress indicators were noticed. It is nevertheless a pity that the authors did not carry out the same tests on newborns with normal birth weights in order to further compare the two groups over the babies' first year of life.

These statistics, which show how an infant with low birth weight is less interactive and more in need of stimulation, also fit the results shown in a longitudinal study among mothers and their children in a rural community in Mexico ^[3]. The authors have made up two groups: one were following familiar eating habits, which are known to bring

8 Reflexes shown by infants in the hours and days following birth.

on malnutrition in children, the other were receiving supplementary feeding rations. As from the 24th week, the children getting supplementary feeding rations were interacting more actively with their mothers and their environment (sleeping less, playing more). From 36 weeks, children were receiving more attention from their mother and father. At 18 months, infants receiving supplementary rations were moving six times more frequently than infants from the other group, and have showed evidence of more complex behaviours (sleeping less, playing more, asking for more attention from those around them and being less obedient). Offering a supplementary ration that meets basic eating needs to a very young infant, enables this baby to be more active and to have a positive effect on the family dynamic⁹, leading to activity far above children not receiving feeding supplements.

These studies show that an infant with low birth weight or who suffers from chronic malnutrition is less active and asks for less attention from those around it. It thus initiates fewer exchanges with those around it, who in return provide it with less stimulation. In this context, low birth-weight and chronic malnutrition constitute risk factors as much for child's development as for likelihood of acute malnutrition (basing oneself on the etiological and psychological factors of malnutrition).

However, these results are made relative by Meeks Gardner's research^[4]: according to them, activities of the malnourished children's group of the sample are different from those of the well-fed children's group but only until the children are able to run. They also emphasize that this stage could turn out to be a more interesting breaking point in the analysis than children's age. The authors themselves highlight a methodological characteristic: the level of activity is measured by the child's physical activity rate but doesn't take in consideration the other characteristics like curiosity or will to explore which nevertheless represent essential factors in a child's development. Supplementary feeding ration would therefore have an impact until the child is able to run, after that the activity level of the two groups of children becomes the same.

⁹ By appealing to those around him, the child attracts their attention, therefore they will look after and stimulate him more. This leads to the child becoming more active, etc...On the other hand, some negative reactions may result, for example, in an emotional withdrawal by the child, aggression from its family...

To keep in mind:

- A low birth-weight child has a lower level of activity than a child of «normal average» birth-weight
- This weaker activity leads to less interaction with the family
- This child very soon receives less stimulation than an interacting child and its development is slower
- A supplementary ration from birth will compensate the initial low birth-weight and thus helps to improve interactions between the infant and its environment.

Questions still to be solved:

- How to prevent the risk of delayed development in babies with low birth-weight?
- Up to what age does low birth-weight have an impact on growth and level of the child's activity? The only study shown here is insufficient to provide a scientific point of view.
- How can ACF intervene in order to break the vicious circle linked to the child's low birth-weight and therefore prevent delayed development and risk of acute severe malnutrition?

To go further:

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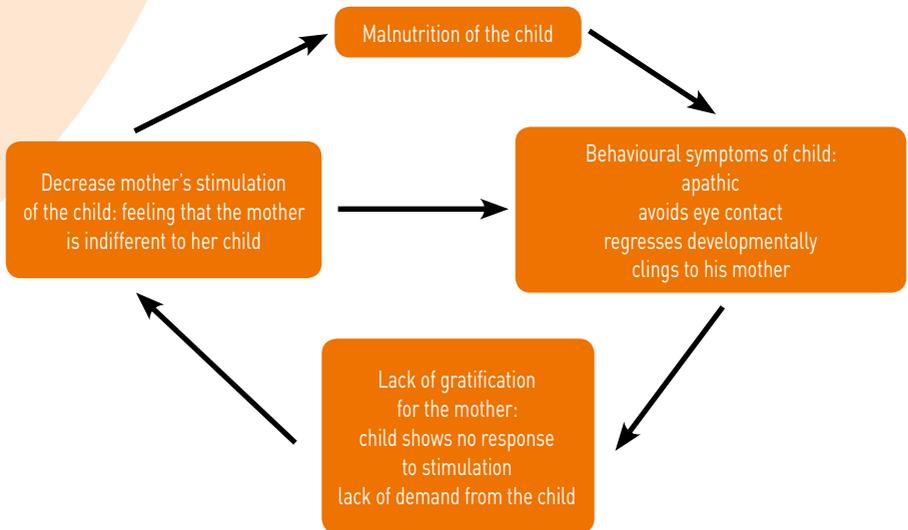
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PSYCHOLOGICAL SYMPTOMS OF SEVERE MALNUTRITION

1/ Psychological symptoms of severe malnutrition

Severe malnutrition, whatever its etiology is, generates specific behaviour patterns in the child, which will play a significant role in the mothers' capacity to react and in the success of therapeutic treatment. The clinical description show us that the child who has Kwashiorkor is apathetic, irritable, cries, shows regression in development and clings to its mother. This behaviour has often a negative influence on the caregiver-child relationship and soon becomes like a vicious circle. Children who have Marasmus are more alert and interested in their surroundings and are thus more rewarding for the mother. However, we know that these two clinical pictures (Marasmus and Kwashiorkor) are often mixed and that a very weak child does not reply very strongly to stimulations, stops smiling and playing, and thus makes him a stranger to his caretakers and family.

Figure 4 : psychological symptoms of severe malnutrition



One can agree with Grantham Mc-Gregor that these descriptions have not always been confirmed by systematic research; thus it has not been formally proven that severely malnourished children are more irritable than others when they are disturbed.



nutritional status.

Also the research itself sometimes lacks methodological rigor: for example Grantham-McGregor questions the idea that the development quotient increases with the nutritional status. This idea, validated by a certain number of studies, shows that the child, hospitalized for severe malnutrition, has a development quotient improving in parallel with his nutritional status. They don't take the effects of hospitalization and examination into consideration. When comparing children hospitalized for severe or chronic malnutrition to children hospitalized for other diseases, Grantham-McGregor ^[1] shows that the development quotient increases in the two groups and that this improvement of results is most probably due to the child getting used to the hospital environment and the nursing staff, as well as to the separation from the mother rather than to the improvement of the

Since this article, which is already old, other researches have studied the possible links between severe malnutrition and mental development. In the literature on this question, Grantham-McGregor highlights certain indicators ^[2]:

- Severely malnourished children are less active than children hospitalized for other illnesses.
- They present diminished orientation responses to auditive stimuli.
- Malnourished children under 6 months of age improve less in developmental levels than older malnourished children during their stay in hospital. We do not really know the reason for this (it is not stated whether the babies are separated from their mothers or not).
- Children maintain a low level of development during the time while they are severely malnourished and just after, compared to other children or siblings.
- In terms of behaviour, even though few studies
- have used direct observation, one can note that children are closer to their mothers and do not always accomplish tasks they are asked to do by others.
- In certain cultures, abnormal relations between mothers and children have been noticed.
- Children present very low developmental levels during acute malnutrition. The developmental level increases during recovery phase (these data have also been found through tests carried out by Marcelle Geber on children with Kwashiorkor in Uganda). They are, however, inferior to those of children hospitalized for other diseases.
- Auto-stimulation behaviour.

Another essential study on psychological effects of severe malnutrition was carried out by Dean and Geber^[3] on Kwashiorkor.

In an article from 1956, they explore some psychological changes they have observed in children aged 1 to 3 in Uganda.

What is very interesting in this article is the accuracy of their observations and the data collected according to the children's age and the phase of treatment. It can help us to improve our prognosis and our intervention.

During the **first stage of malnutrition**, one can notice:

- Irritability
- The child lacks interest in his caretakers, his toys and other children
- Apathy
- Drowsiness but strong reactions of hostility, with tears and distress at the slightest attempt to examine or feed him.
- Long, monotonous moans.
- Anorexia

During the **second stage of malnutrition**, one can find in addition:

- Emotional distortion between the child and his family
- Loss of sphincter's control
- Incapacity of standing up
- Repetition of the same gestures, attitudes, words.

During the **last stage**:

- Completely peaceful
- Totally disconnected from the environment: child outstretched, eyes closed without the slightest interest in what is going on around him, does not react either to auditive stimuli or to attempts to feed him (negative behaviour and refusal).



During the treatment:

During the **first days of hospitalization:**

- Children lie inert in their beds
- Apathetic
- Prolonged monotonous complaints
- Violent reaction to any intervention or examination
- Sleep very few, eyes open and staring into space
- Feeding them is difficult and requires a lot of patience

We know that this behaviour pattern is typical in Kwashiorkor patients, as we do not see it in children hospitalized for other illnesses.

After a few days, the child's behaviour changes:

- Can remain sited on his bed staring around and with a sad look on his face.
- Is not interested in what is going on around him, but accepts to be fed or picked up and remains where he has been put.
- Sometimes gets out of his apathy and calls for his mother
- Is interested in his caretaker, in the people who approach him and in life in general.

When he emerges from his inert period:

- Is in great need of his mother looking after him
- Cries desperately when his mother goes away
- Does not accept other people and refuses to be distracted by toys.

«The evolution of the behaviour does not correspond exactly to the physical or biochemical progress. In certain cases the child's sad and miserable look persists despite an improvement of its physical disorders. In other cases the child's behaviour becomes normal even though his physical condition remains bad: he accepts easily the presence of other people and can be fed without difficulty. Nevertheless, with such children you must remain attentive to the quality of their appetite.» [4]

«It has been proved essential to analyse the caregiver-child relationship as it is clear that the prognosis of recovery depends on its quality». [4, p.19]

Several factors seem to be the origin of Kwashiorkor, insufficient food, an infection... The authors assume that in Uganda, in a certain number of cases observed, the separation from the mother has fasten the development of the malnutrition but did not seem responsible for its gravity. It is the quality of the mother-child relationship that seems to determine the efficiency of the treatment: «if the relationship was good, total recovery was rapid; if it was bad, the physical aspect could improve but the psychological disorders persisted».

2/ How can we use these elements working in the Therapeutic Feeding Centres?

It is necessary to consider **the child with his mother** or his usual caretaker since this relationship is of utmost importance to the child and affects his recovery and future psychological development. At this level one must reflect on who is the best person to take care of the child, especially if the mother has other children at home.

An attentive and psychological observation of the mother-child relationship can be carried out as soon as the child enters the Therapeutic Feeding Center. This can help us identify quickly the mothers and children who need a stronger psychosocial support. A certain number of indicators can be established.

The activities that we propose should apply to the child accompanied by its mother or usual caregiver; this person should play an active role in the activity with the child.

A certain type of reaction on the part of the child are more or less foreseeable according to the phases of the treatment and will also appear in the activities we propose to the child. These following observations constitute extrapolations in particular from observations and tests carried out by Geber in Uganda on children from the age of 1 to 3.



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During the first week of treatment (phase 1):

- Children are very apathetic, remain sited on their mother's lap, not looking at anybody coming to them, shows no interest in the material presented. They are very dependant on their mother and cling to her (this passive attitude could be taken as a protection mechanism/pain?).
- They are interested by someone if this person stays at a certain distance and makes no effort to communicate.
- They refuse most of the items but can look at them from a distance or touch them, in particular little balls for example.

How can we use this moment?

It is more a question of spending a short time, regularly and daily with the mother and child; during this time we can:

- Make a fine observation of the caretaker-child relationship.
- Start a meeting and trusting relationship. This is the moment to learn what the mother knows about the child's malnutrition, the family history and how she feels about the Therapeutic Feeding Center. It is also an important moment to give the mother information on the symptoms of her child and its present condition. This time spent with the mother will help to build up mutual confidence between the mother and you and also between the child and you. In fact, my experience in Liberia made me realise that even if the child does not react positively to our requests, they are understood and the effort you have made in reaching mutual confidence will be rewarded when the child gets out of its inertia. In my opinion, the non-response of the child should not be interpreted as inattention (rather as a refusal to communicate?)

During this phase, the child reacts as if his dependence on the mother was necessary and that it refuses everything that could break this contact: he behaves like a small baby and refuses every contact with his surroundings.

During the transition phase one can notice:

- The recovery of most of the children
- Many accept to remain sited beside their mother and some do not remain inert but maintain their need to stay in contact with their mother.
- They are more interested in objects, and manipulate them. However, this attitude is very largely linked with the attitude of their mother. Those who have a warm attitude and manage to give their child a feeling of security will take great pleasure in the situation. For the others, the objects are mostly kept in their closed hands. They are slow and do not communicate much with the psychosocial educator. There is also less "give and take" with their mother concerning the objects.

What can we propose during this phase in the In-patient?

Three types of intervention are important:

- To continue being in individual contact with the children and their mothers and in particular with those who have been considered as not having a secure relationship for the child.
- To propose small groups of children accompanied by their mothers for play sessions activities. These should last between 20 to 45 minutes so as not to tire the children and should be adapted to their age. The children and their mothers should be given toys or materials but play should not be structured for them. The material is used to

interact with the child and his mother and in particular to make them interact between each others. This time concerns all the children in transition phase.

- Time should be devoted to individual play with the mothers and their insecure children in order to improve the relationship between mother and child.

In this phase and in phase 2, it would also be good to find play-corners for mothers and their children.

During the second phase:

- Those children who have a secure relationship with their mother will continue to progress. The other's progress will be slower and they may still have difficulties in becoming autonomous.
- They play more with the toys at their disposal and are more interested in their surroundings.

How to use this time within the In-patient?

Even if the children are physically in better health, it is not necessarily the case on the psychological level and we must pay attention to this.



Even though most of the time they are out of danger, I consider that one should continue to ensure regular daily visits to each child and his mother, in particular to prepare their departure.

With those mothers and children in difficulty, one can propose group play-sessions but one must be aware of a possible stigmatisation: it might be better to continue

organising groups with all the children. A play-corner is necessary in phase 3 since the children have more or less recovered their autonomy as well as an important sense of curiosity, which can be used.

These observations and behaviour patterns concern children suffering from Kwashiorkor. It is important to have the same type of information for other forms of severe malnutrition in children and also to study the psychological effects of severe malnutrition on adults.

To keep in mind:

- Severe malnutrition (and in particular Kwashiorkor) leads to important disorders on mood and behaviour. They develop as the malnutrition progresses and during the treatment.
- Our activities in the Feeding Centres should take these specific difficulties into account: by explaining them to the mother and by enhancing the value of her relationship with her child, by stimulating the child according to his age and state of health, in order to help him get out of his apathy.

Questions still to be solved:

- These observations concern children suffering from Kwashiorkor, what about other forms of severe malnutrition?
- How can one make a difference between psychological symptoms linked to severe malnutrition and psychological symptoms linked to a mental pathology such as child depression or relationship problems with the caretakers? Should ACF give different replies according to the etiology of psychological symptoms?

To go further:

- ^[1] Grantham-McGregor, S.M., M. Stewart, and P. Desai, *A new look at the assessment of mental development in young children recovering from severe malnutrition*. *Developmental Medicine and Child Neurology*, 1978. 20(6) : p. 773-8.
- ^[2] Grantham-McGregor, S., *A review of studies of the effect of severe malnutrition on mental development*. *Journal of Nutrition*, 1995. 125(8 Suppl) : p. 2233S-2238S.
- ^[3] Geber, M., *Psychological factors in the etiology of kwashiorkor*. *Bulletin OMS*, 1955. XII : p. 471 et suiv.
- ^[4] Geber, M. et R.F.A. Dean, *Les changements psychologiques au cours du Kwashiorkor*, *Revue Devenir*, 1991, vol.3, n°1, pp. 12-35, Edition Médecine et hygiène, Genève, Suisse



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8

RECOVERY OF THE CHILD AFTER SEVERE MALNUTRITION

The principal effect of malnutrition in a child is delayed development and specific or global deficit of the cognitive function and intellectual capacities, which may last at least up to adolescence (see chapter 9). In order to stop the progress of or to diminish this slow mental development, some researchers have initiated more global programmes (including a psychosocial dimension) for the treatment of malnutrition.

At least two types of approaches exist according to the analysis:

- The first approach, which is Anglo-Saxon, is based on the largely proven fact that severely malnourished children are delayed in their development. This approach consists of setting up a psychosocial stimulation programme, in parallel with the nutritional rehabilitation, in order to limit or compensate the delayed development of severely malnourished children. The best example for this is the research carried out by Grantham-McGregor to what we shall return.
- The second approach corresponds more to a psychodynamic approach of the child's development: one of the main cause of malnutrition, according to the authors, is the inadequate mother-child relationship and/or the mother's psychological difficulties (depression for example) and/or of the child. It corresponds to an essentially southern-European model and is illustrated by the work of Marcelle Geber, Antoine Guédeney or Médecins Sans Frontières in Palestine. Malnutrition can sometimes be explained as a psychopathological syndrome, resulting from difficulties in the caregiver-child relationship. Consequently the interventions proposed consist of psychological support, psychotherapy of the child or of the mother and the child.

1/ The psychosocial stimulation programmes

The most complete and rigorous research carried out in this field was developed by Sally Grantham-McGregor in Jamaica. In a literary review ^[1], she explains that short psychosocial stimulation programmes have a temporary effect on slow mental development. The longer the programmes, the better the results. The results are better if one works with the parents and the children rather than with the child only.

In order to understand the long-term effects of the psychosocial stimulation programmes, her research work covers several years; three groups of children from 6 to 24 months admitted at the hospital have been compared:

- 18 severely malnourished children have benefited from the classic nutritional rehabilitation treatment of the hospital, associated with a programme of home-visits during three years (the intervention consists of daily play sessions during hospitalisation, then weekly visits at home; the mothers were shown how to play with their child)
- 17 severely malnourished children who have benefited from the nutritional rehabilitation treatment in hospital only.

- 19 adequately nourished children have been hospitalised for diseases other than malnutrition.

The developmental level of the malnourished children at hospital was inferior to that of children hospitalised for other diseases. The children from the three groups have considerably improved their performances during the time at hospital, probably because they had got used to this new environment and to the separation from their mother. However, the groups of severely malnourished children did not catch up with those hospitalised for other diseases.

During hospitalisation and 6 months after, the group of malnourished children who had not been stimulated showed a significant deficit compared to the group of children hospitalised for other diseases. 7, 8, 9 and 14 years later, they still remained behind the control group (children hospitalised for other diseases) during various intelligence tests.

The severely malnourished children having benefited from the psychosocial stimulation intervention had significantly better results than those who didn't receive any stimulation six months after

leaving the hospital. Yet these results remained inferior to those of the control group (but not significantly). After 14 years of follow-up, the group of severely malnourished children having benefited from stimulation still remains intermediary between the group of children having received no stimulation, without ever reaching the scores of the control group ^[1-7].

Two other investigations were carried out in India (Kerala): children from 6 to 24 months, severely or moderately malnourished received either nutritional supplementation or psychosocial stimulation in two settings: hospital and community. The control group consisted of well-nourished children matched for age and sex.

After two years:

- Hospital setting: a good socio-economic level was the most determining factor for the best developmental level results. Both the nutritional supplementation and the stimulation programmes have showed a positive impact on the growth and development but stimulation brought better results than nutritional supplementation.
- Community setting: the prevalence of malnutrition had diminished considerably after intervention. Stimulation had a higher impact on the development and growth of the children than nutritional supplementation.

In these two settings, direct correlation was observed between environmental parameters and anthropometric scores, and between anthropometric scores and intelligence quotient ^[8].

The stimulation interventions thus seem to have an important and positive impact on growth and development of severely malnourished children. However, this does not

allow them to reach the developmental level of children hospitalised for diseases other than severe malnutrition or to compensate the effects of a better socio-economic status.

The limits of these studies concern the fact that they focus on the school and intellectual performance of children but do not take into account other aspects of the child's life such as his emotional, social or psychomotor development. Grantham-McGregor also shows that in spite of a psychosocial stimulation programme that includes mothers in the interventions, the latter do not change their behaviour very much. These programmes thus enable significant improvement of the intellectual performance of children who were formerly malnourished but very little change in the maternal surrounding.

2/ The psychodynamic-based programmes

Researches tend to show the difficulty of ascribing the child's delayed development to the poor environment he comes from or to malnutrition. Case studies of severely malnourished adopted children show astonishingly marked improvements. Grantham-McGregor explains the case of a 9 months old child, hospitalised for severe malnutrition and who was part of a group of children who have participated in a longitudinal research. This child was adopted by an American family. At 5, this child's development quotient was superior by two standard deviations, compared to the average of the group from which he came (n=16) and who had continued to live in the same poor environment. Compared to the other children, his weight had increased but not his height ^[9].

Those authors, who develop a psychodynamic-based approach, interpret malnutrition as being the result of attachment troubles or psychological difficulties of the child and/or the maternal environment. They stand along the line of Spitz on hospitalism. During the second World War, in an orphanage, Spitz had shown that babies who did not receive enough maternal and individual care but just mechanic care from trained staff did not survive more than a couple of months. The clinical symptoms presented by these children suffering from hospitalism is very similar to those of children suffering from Kwashiorkor: apathy, (glauc in the vacuum), no response to stimulation, anorexia, regression in development ... and at the end, death.

Moreover, an important number of pedo-psychiatric consultations are due to feeding problems. As babies are not able to verbally express their difficulties, their body reacts instead (feeding problems, sleeping problems, dermatological problems, etc.). Because food represents a vital stake, it quickly becomes a place for inter-individual conflicts.

For psychologists and psychiatrists, malnutrition can be the result, in certain situations, of problems in the child and/or inadequacy (or the lack of capacity) of maternal surroundings to take care of the child. In this perspective, the nutritional and medical

rehabilitation seems necessary but insufficient if one wishes to treat the origin of the problems, avoid relapse and encourage the development of the child.

Different types of programmes have already been set up:

- Celia and Nudelman deal with malnourished children and their depressed mothers in a favela in Brazil: information groups were set up as well as paediatric, psychological and social follow up at home. The first results are positive, as much for the maternal depression as for the nutritional and psychological status of the babies ^[10].
- MSF-France set up a programme at Hebron (Palestine) of individual psychological support of undernourished babies and their mothers, added to nutritional rehabilitation. The results showed a very positive impact on the baby in the beginning, then on the mother-child interaction and finally on the mother herself. In a certain way the baby recovers first and then participates to the recovery of his mother ^[11].
- Marcelle Geber, in 1956 took in psychotherapy a hospitalised child who had Kwashiorkor after the death of his mother in Uganda: she helped the child overcoming his anorexia and he recovered relatively quickly ^[12].
- Buffet and Mazet report a case of a less than two years old child who was hospitalised for anaclitic depression and who showed Marasmus. Working with the family enabled them to understand the mother's difficulties. She was divided between two cultural references and suffered psychologically, therefore she was unable to take care of her child. By re-establishing a place within the family for each of them and in particular by enhancing the value of the mother, the nursing staff have managed to return the child to the mother, to give his appetite back and to ensure a better mental health ^[13].
- Miguel-Garcia ^[14], following their research on maternal depression and malnutrition (moderate or severe) of the child, offered to mothers who made the request, to have a psychological support associated to an anxio-depressive medical treatment. The authors have noticed «a parallel evolution of the mother and the child». After three weeks the latter became active, sociable and interacted fully with his mother even though his nutritional recovery seemed still to be incomplete (...). Thus what the child showed, seemed like a psychomotor inhibition of depression such as what can be seen in an adult.» (p.223).



I do not think it is relevant to oppose the two approaches above and to privilege one for the other. I consider more useful to understand their complementary nature.

The research work still needed to be done, concerns the development of our capacity to establish a precise diagnosis of the syndrome of malnutrition and its causes in children we meet, in order to offer programmes which are the best adapted to their needs.

The stimulation interventions are important because they help children to partly compensate their delayed development resulting from severe malnutrition. To identify affective problems is also essential in order to favor the improvement of the relationship between the child and its surroundings, and then the harmonious development of the child.

To keep in mind:

- There are relatively few programmes on global treatment of severe malnutrition.
- There is even less researches on such programmes and there is an urgent need to construct devices for evaluating these programmes.
- Severely malnourished children, who through adoption have developed in a satisfactory environment, significantly compensate their delay.
- Stimulation interventions on child-caregiver significantly improve intellectual levels of children previously severely malnourished up to the adolescence, but not all catching up with the non malnourished children.
- Setting up psychological support helps to improve the mental health of the mother and the mental health and nutritional status of the child.
- The improvement of our diagnosis on severe malnutrition causes for each beneficiary in a Therapeutic Feeding Centre, apart from the reasons linked to the lack of access to food and the global environmental context, can help us respond better to their needs and favor a better development.

Questions still to be solved:

- What do the psychosocial stimulation interventions exactly consist of? What is specifically effective in these programmes: the programme itself, the interest shown to the child and its family, another component?
- What are the difficulties (non-medical and non-nutritional) the beneficiaries of ACF, severely malnourished children and their caregivers, encounter?
- What are the after-effects of the development of ACF beneficiaries in the short, medium and long term?
- Do we assume that among the children who relapse, an important number suffer from problems of attachment or that their mothers have psychological difficulties? In that case, it is limited to a curative approach that does not treat certain causes of malnutrition and thus does not prevent relapses.

To go further:

- ^[11] Grantham-McGregor, S., W. Schofield, and L. Harris, *Effect of psychosocial stimulation on mental development of severely malnourished children: an interim report*. Pediatrics, 1983. 72(2) : p. 239-43.
- ^[12] Grantham-McGregor, S.M., et al., *Longitudinal study of growth and development of young Jamaican children recovering from severe protein-energy malnutrition*. Dev Med Child Neurol, 1982. 24(3) : p. 321-31.
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- ^[14] Grantham-McGregor, S., et al., *The long-term follow-up of severely malnourished children who participated in an intervention program*. Child Dev, 1994. 65(2 Spec No) : p. 428-39.
- ^[15] Grantham-Mc Gregor, S.D., P., *A home-visiting intervention programme with jamaican mothers and children*. Developmental Medicine and Child Neurology, 1975. 17 : p. 605-613.
- ^[16] Grantham-Mc Gregor, S.S., Marie ; Powell, Christine ; Schofield, W. N., *Stimulation and mental development of malnourished infants*. Lancet, 1980. 12 : p. 89.
- ^[17] Grantham-Mc Gregor, S., et al., *Effect of stimulation on mental development of malnourished children*. Lancet, 1979. 28 : p. 200.
- ^[18] Grantham-Mc Gregor, S., et al., *Stimulation and mental development of malnourished infants*. Lancet, 1980. 12 : p. 89.
- ^[19] Elizabeth, K.E. and N. Sathy, *The role of developmental stimulation in nutritional rehabilitation*. Indian Pediatrics, 1997. 34(8) : p. 681-95.
- ^[20] Grantham-McGregor, S. and E. Buchanan, *The development of an adopted child recovering from severe malnutrition. Case report*. Human Nutrition: Clinical Nutrition, 1982. 36(3) : p. 251-6.
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- ^[23] Geber, M., *Psychothérapie d'un enfant atteint de kwarshiorakor*. Psychopathologie africaine, 1988-89. XXII : p. 171-190.
- ^[24] Buffet, Y. and P. Mazet, « *Ca va Awa ?* » *Carence nutritionnelle, carence affective, état dépressif grave d'un enfant de moins de deux ans*. Semaine des Hopitaux de Paris, 1983. 59(47) : p. 3270-3.
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9

MEDIUM AND LONG TERM EFFECTS OF CHILDHOOD MALNUTRITION

1/ Medium and long term effects of childhood malnutrition

We have very little longitudinal data on the long-term psychological development of malnourished children.

However, most of the studies agree that **the most important effect of malnutrition on a child is slow mental development.**

As Rossetti Ferreira ^[1] has already underlined, it is difficult to differentiate between slow mental development linked to biological disorders, a deficit in social relations in childhood or a poor socio-economic level, which is often the case in chronic malnutrition. Rosetti cites a Dutch study that shows that children who have lived through the famine of 1944-45 do not have less intellectual capacities once they are adults. As a matter of fact, without attributing a single univocal reason for slow mental development, case studies show that marked improvements can occur after adoption or intervention: children who were severely malnourished during childhood and who are late in developing can improve from the moment they join a more favorable socio-economic and affective environment ^[2, 3].



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In a review of studies on the effect of severe malnutrition on mental development, Grantham-McGregor highlights some evidences:

- In general, children having suffered from severe malnutrition have a lower IQ (Intelligence Quotient: measure of intelligence in comparison to the average of the age group), a lower cognitive function and school level, more significant behavioural problems both compared to control groups and to a lesser degree to siblings. These difficulties remain, at least, up to adolescence.
- The IQ is affected but there are few data on specific domains affected: reasoning and perceptual-spatial functions are probably affected. Data are insufficient to define which specific functions have been affected regarding cognitive functions. The inter-sensory integration and the acquisition of Piaget milestones are delayed in younger children.
- The motor skills were generally found to be affected.
- The acute episode of severe malnutrition in addition to chronic malnutrition adds only little to the deficit of mental development.

- No difference was found in the mental development of school-age children between those who had suffered from Kwashiorkor and those diagnosed as Marasmic.
- In terms of behaviour, few studies have used direct observation: it appears that children remain closer to their mother and respond less to tasks they are requested to carry out.

Considering all these studies, one can deduce that previously malnourished children show a deficit in cognitive function's tests or intelligence if they remain in a poor environment. There is some suggestion that acute episode of severe malnutrition in itself might not be as important as underlying chronic malnutrition.

"It is likely that, where the environmental conditions are extremely poor, the effects of severe malnutrition would be much greater. For example, in several countries at present famine and food shortage are accompanied by armed conflict, family disruption, reduced schooling opportunities and lack of play opportunities. In these situations, the prognosis for the children's future development is extremely grave. There are little data on this and an urgent need for information." (p.22365) [4].

To keep in mind:

- Main effects of severe malnutrition on the child: delayed development (motor skills, cognitive function and intelligence) and behavioural problems in school age children and adolescents.
- An acute episode does not seem to increase the deficit more than underlying chronic malnutrition.
- Difficulty in differentiating between effects of severe malnutrition and those of a poor environment.
- We have little information on the psychological consequences of severe malnutrition apart from the intellectual development (socialisation, psychomotricity...).

Questions still to be solved:

- Impact of severe malnutrition on a child when grown up?
- Does the period and acuteness of severe malnutrition episode result in differential deficits?
- What are the specific difficulties of a previously severely malnourished child?
- What are the effects of severe malnutrition on child's development aspects other than intellectual (for example on mother-child relationship)?

To go further:

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ACF - INTERNATIONAL

CANADA

7105 rue St-Hubert, Bureau 105
H2S 2N1 Montréal, QC, Canada
E-mail: info@actioncontrelafaim.ca
Tel: +1 514 279 4876
Fax: +1 514 279 5136
Web: www.actioncontrelafaim.ca

FRANCE

4 rue Niepce
75662 Paris, cedex 14, France
E-mail: info@actioncontrelafaim.org
Tel: +33 (0) 1 43 35 88 88
Fax: +3 (0) 1 43 35 88 00
Web: www.actioncontrelafaim.org

SPAIN

C/Caracas 6, 1°
28010 Madrid, España
E-mail: ach@achesp.org
Tel: +34 91 391 53 00
Fax: +34 91 391 53 01
Web: www.accioncontraelhambre.org

UNITED STATES

247 West 37th, Suite #1201
New York, NY 10018 USA
E-mail: info@actionagainsthunger.org
Tel: +1 212 967 7800
Fax: +1 212 967 5480
Web: www.actionagainsthunger.org

UNITED KINGDOM

First Floor, rear premises,
161-163 Greenwich High Road
London, SE10 8JA, UK
E-mail: info@aahuk.org
Tel: +44 208 293 6190
Fax: +44 208 858 8372
Web: www.aahuk.org

