

GROWTH MONITORING AND PROMOTING GROWTH AND DEVELOPMENT

SYNTHESIS OF THE COLLOQUIUM

*Patrick Kolsteren¹, Tom Hoérée¹, Dominique
Roberfroid¹*

Introduction

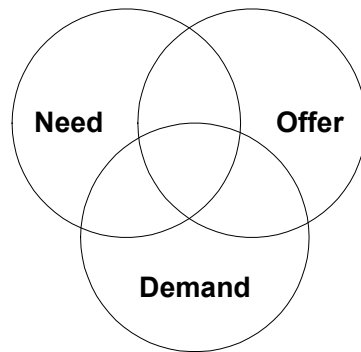
In the present colloquium presentations and related discussions have constantly returned to growth monitoring when talking about strategies to improve growth and development of children. Growth monitoring has indeed, for years been one of the cornerstone interventions to improve nutritional status of young children and it is still largely promoted as one of the basic health delivery activities and in vertical programs. It appears that not all that many alternatives exist or that the use of growth monitoring is still hotly debated.

The presentations of Beghin and Latham give a good overview of the changing paradigms in promotion of growth and development over the years, where they stress the need to go beyond the objectives of growth monitoring as they are stated by WHO. Why then has it proven virtually impossible to adapt growth monitoring toward a broader concept of promoting growth and development? In many of the discussions, it was argued by some that they believe in growth monitoring and that it works even in no hard proof exists. Arguments have become more emotional and loaded with personal conviction. Although perhaps striking at first, there might be some proof in these emotional arguments. Many will agree that very much depends on the person or the organization that is running the programme and the presentation of Coulibaly also underlines this point. We could set aside these arguments by saying that there is no hard evidence to support the hypothesis that growth monitoring decreases malnutrition or has an effect on child survival. But this would be disregarding, to some extent, the limited number of controlled trials their limits. With their nature of control they overlook the intricate relationship between actors when dealing with community or people oriented interventions, which are of particular

¹ Nutrition and Child Health Unit, Institute of Tropical Medicine, Antwerp, Belgium

importance in a type of activity where much relies on the credibility of the provider. "No proven effect", cannot be interpreted as a failure of the conceptual basis of the intervention per se. It could also be a problem of implementation, acceptance, relation health worker parent, etc. Particular in relation to this last point, we find indeed that the majority of the arguments against growth monitoring are of a technical nature. The present synthesis therefore tries to look at growth promoting activities in a more comprehensive way with as particular objective the search for alternative solutions.

As a health related activity, growth monitoring knows three dimensions; need, demand and offer. Need is defined by experts analyzing a health problem and based on epidemiological criteria. The second dimension is the demand of the population for a particular health care service. The third dimension covers health-related activities, curative or preventive, offered to the population.



The three dimensions overlap and create seven possible situations. The ideal one is obviously that what is offered translates both a need and a demand. In the following section we will try to analyze growth monitoring using these facets with the underlying hypothesis that the relatively disappointing results observed are due to a weak overlap between offer, need and demand.

Growth and development promoting activities organized until now

The need for growth promoting activities

In the past the needs assessment has largely focussed on malnutrition, where wasting was the particular concern. The main focus has been growth monitoring.

This is defined by the WHO as a nutrition intervention that not only measures and charts weight of children, but uses the information on physical growth to counsel parents and motivate actions that improve growth (1). It is thus an approach to detect growth faltering in a child long before the very typical clinical picture of malnutrition becomes evident. The pattern of the curve should elucidate the physical state of a child for both health worker and parent so that corrective measures can be initiated preventing a child from becoming malnourished (2-4).

The reason for addressing malnutrition is the documented associations of increased risk of dying, a relationship related to the degree of malnutrition. The growth curve used together with regular weighing and plotting is thus in essence a screening tool to identify children not gaining weight properly or even losing weight.

Malnutrition is without doubt an important problem, which seriously impairs growth and development of children (5,6). But how strong is the relationship with mortality, the final objective? Mortality is a multi-causal phenomenon in which malnutrition is but one factor. This explains the large variation in association documented in many studies on the relationship between malnutrition and mortality.

What was offered for growth promotion?

Here again the health system has limited offer of services for promoting growth and development to growth monitoring. When implemented, health workers privilege the technical aspects as the paper of Roberfroid demonstrates. The communication part is felt as the least important.

What is offered is for a large part a screening instrument. This, however, should respond to a number of characteristics (7).

The condition screened for should be important, which is certainly the case for malnutrition and its related mortality.

The early stages of the condition should be well understood. There is unfortunately, very little information on the significance of early stages of malnutrition in relation to developing more severe forms later. Although weight is a very sensitive indicator it is, unfortunately, not very specific. Weight fluctuates considerably over short time intervals. The condition is thus not easily interpreted. Even in the best of situations growth still tends to regress towards the mean. Small babies will catch up and large babies will catch down. Experience shows that one baby in 20 will cross 2 centile channels equivalent to 1.3 standard deviations (8). Add to this that stunting sets in very early in life with weight

following height trend, most children will be seen to have a growth curve that deviates progressively from the average weight curve.

Treatment at an early stage should be better than later. It is clear that severe malnutrition still entails a high case fatality rate (9). Although treating malnutrition early is definitely less hazardous, this does not mean that it is necessarily easier. The cornerstone of treatment of early forms of malnutrition is by informing the mother what she should feed the child. But as we know changing behaviour is a complex issue and information is only a small part of the pathway. Messages should be socially accepted in the family and community, the right decision maker should be targeted and mothers are often limited in changes they can introduce given their social position.

Although weighing is sensitive for changes, it does not identify correctly the children who are at risk. The weighing itself is often flawed with inaccuracies and technical mistakes.

Acceptability of weighing is also not always high. It is an important investment in time and resources for the parents and in certain situations considered harmful. Sometimes the cause of malnutrition is attributed to the weighing bag or a spiritual contamination via the weighing of a malnourished child to a healthy child. Mothers are also very concerned about the health of their children. A bad growth and development of a child is easily interpreted as a direct failure to be a good mother and therefore carries with it an important negative connotation. This negative aspect is often transferred from health worker to mother who scolds her for not looking after her child very well. Acceptability is in addition also very much determined by the degree by which an intervention responds to a demand. Parents do evaluate growth and development of their children but use other criteria than weight increments or the position on a curve as the presentations of Lefèvre, De Suremain and Bonnet suggest.

The correct interval between weighing sessions is not very clearly defined. Short intervals increase sensitivity but are more prone to influences of normal weight variations and measurement errors. Decisions are delayed for months because it is difficult to interpret short term variations. Long intervals lose in sensitivity and the lack of more detailed information makes decisions difficult.

Weighing is also a considerable investment in personnel. For a target population of 10000 people and weighing children six times in the first year of life and four times in the following years, a total of 8800 weighing sessions are needed. With an average of ten minutes per session, this represents a workload of 1466 effective hours or almost the equivalent of one full time.

Finally screening should be applied to all persons at risk and on a regular basis. With health service coverage, we know that health service utilization decreases when the distance is more than five kilometres. Many families live outside this perimeter. The evaluations of compliance to growth monitoring programmes also show that the weighing schedule is adhered to as long as the vaccination schedule is offered. Once vaccination is complete, very few return for weighing.

The accumulated evidence presented so far underlines the very weak basis for using growth monitoring as a screening tool. Weighing used as a preventive activity has sometimes also perverse effects. Weighing will not be performed anymore as part of curative activities and many malnourished cases will go undiagnosed. Indeed many children presenting with an illness will have a varying degree of malnutrition and therapeutically it is important to address both the disease and weight loss. An analysis of children participating in a nutrition rehabilitation program in Bolivia showed that the participants were six time more likely to have been identified in the curative consultation than through regular weighing.

The demand for growth promotion

The connection between body proportion and food is not directly made in many communities. Thinness is not a "disease" as such and therefore does not fit the concept of seeking cure in the medical model people have. People use different models and levels of causality to explain changes in health. Spirits, a weighing bag, the shadow of a woman who recently had an abortion and the like, all can transmit malnutrition (10,11).

When caretakers are asked about their expectations and perceptions on child growth and development, we find a consistent pattern across different societies. Parents evaluate their children in a global way. They should be sociable, have a general good appearance, not be a nuisance, and start walking and eating well. As Tonglet mentions, parents correctly appraised growth performance of their children when asked and this was more effective to identify correctly malnourished children than regular weighing.

Parents also expressed that they had a desire to be able to communicate about the development of their child with health workers but that they were seldom given this opportunity. The accent of the contact is the weighing and the plotting and not the overall performance of their child. They feel that the health worker is not interested in what they want. The growth pattern in terms of

weight curve profile, is something that does not enter in their toolbox of evaluations. It remains for them very much the domain of the health worker and his expertise.

It is therefore not surprising that both health workers and caretakers express a degree of frustration around growth monitoring. The parents feel they are not listened to, and treated badly because they do not understand very well what the discourse of the health worker is all about. The health worker from his side, feels disenchanted because parents seem to have little interest in the weighing, the curve, the information provided and in their willingness to change behaviour.

To abandon or redefine?

Need to broaden the scope

Health services have thus predominantly offered regular weighing to identify children who are gaining less weight than they should. The underlying assumption is that when growth is sub-optimal health education should be given to the parents. From the preceding parts it is obvious that GM performs badly as a screening tool, that what is offered does not really respond to the demand of caretakers, and that the need is broader than only weight increments as De Onis clearly suggests. What is offered in terms of advice also follows a linear paradigm between information and change of behaviour. The cause of malnutrition is distilled to a lack of information given to the mother. This unfortunately overlooks the broad environmental context of the causality of malnutrition. First malnutrition is rooted in poverty. There are often limits to what people can change in their diet. Information only frustrates parents who are very well aware of their daily struggle to provide enough food for their children as clearly demonstrated by Duffield. There are thus enough arguments to support a thesis to abandon growth monitoring altogether. But then we have been looking at one answer to a much broader problem or to put it differently; at the wrong answer to the wrongly identified problem.

Even if nutrition education has been performed in a linear fashion, it would be too simplistic to regard poverty and lack of information as the sole limiting factors in behaviour change. As the HEARTH model presented by Berggren shows, there are positive deviants in a community. These families are able to have healthy and well-nourished children although they have the same resources as families with malnourished children. The reason for this might lie in the fact that we have to a certain degree overlooked that

malnutrition of a child is a family problem. In many societies married couples live in an extended family where strict hierarchical rules apply. A mother cannot change what she gives to the child unless her husband or other members of the family approve it. In such setting it is often inappropriate that she should even propose a change in food habits. In other settings the decisions on what is spent on food and what is bought is the right of the husband. Given the serving role of women in many societies it would be highly inappropriate for her to suggest her husband to take other decision. But there is perhaps an even more profound reason for the reticence towards behavioural change. Proposing that something must change means that there is a problem, in this case a malnourished child. This would directly imply that the mother has failed to care for her child properly, and in her duties as wife and mother. Imagine the public blame and admission of failure.

If malnutrition is up to a certain degree a family issue it could also be regarded as an expression of dysfunction of the family. In a study of a nutrition rehabilitation program in Cochabamba city, Bolivia, it was found that the majority of malnourished children came from socially deprived families or families with familial tension (12). Bouville presents similar findings from an African community. In Europe a majority of failure to thrive children comes from broken homes, single parent families or where social fitting-in is less than optimal. Family tension, wives left by their husbands, living in tension with in-laws, neglect, illness or depression can all contribute to disinterest or capacity of the mother to care. These elements are not the sole property of developed countries but exist in developing countries as well, although not so well documented. Malnutrition is somewhere along the line always due to a deficient food intake, but the mechanisms responsible for this relationship are much more than poverty or a lack of information alone.

There is a demand for support in growth and development from the parents side and one can argue whether having as objective promotion of growth and development would also not address need better. Indeed, as the paper of Peltó underlines, the objective should be to promote and safeguard as much as possible the health potential of children, and this with an integrated approach. We know that children face certain risk during the first years of life. Some of them can be screened for others prevented through vaccination, others still need a communication with the parents on how to cover nutritional needs of the children or how to prevent accidents.

This needs assessment with critical periods can be translated in a schedule of contacts that are needed between family and health worker.

Screening for malnutrition should not be regarded a priority. For this GM is not very well suited. This is also the case for stunting. The pathologies related to stunting are so obvious that they will be diagnosed without using stunting as a prime clinical sign. As Hall present in his paper, a single height measurement once around the age of five is sufficient to identify the two conditions that might have been late in diagnosing: Turner's syndrome and isolated growth hormone deficiency. One aspect of screening, largely overlooked, is the ethical commitment to act upon the information at hand. In the case of stunting the causality is so complex and imbedded in socio-economic factors that health services will have very little impact on it with activities they can implement. The screening should definitely not be broadened to include height measurements.

Responding more to demand, broadening the scope and redefining the objective towards the promotion of growth and development also asks for other evaluation tools. As argued by Engle, we also need indicators to measure development. Following the analyses done in the UK and the poor specificity of development indicators to identify deviation from normal at the individual level, there seems to be no need to introduce individual indicators and active screening. There is a risk of falling in the same trap of screening for insufficient weight increase. Arguments to have indicators on a community level are however very strong. At present they do not exist however

What alternative to offer?

Although we should accept that growth and development is very much defined by socio economic conditions, this should not lead to a sense of defeatism. The reason for the failure of nutrition education must be sought in the failure to have addressed the complex interplay between food and family dynamics. Children with a sub optimal growth should be considered symptom carriers of a family tension. A solution would need to be found within this reference framework. A patient or child centred approach is what is called for because a multidimensional problem cannot be resolved with a standardized, unique procedure. But as mentioned in the papers of Bossyns and Criel, this would need to fit in a new attitude of health workers or community workers. Standardized protocols frustrate the creativity of health workers and simplify a complex family and community context. First parents know when something goes wrong with their children and they can be asked as Tonglet shows in his paper. An approach where health workers are

free to discuss matters with parents improves matters considerably according to the presentation of François.

This poses however, some serious challenges. Medical education and attitude should refocus on putting the patient central within his environment as opposed to the search for a diagnosis and a drug treatment.

Even with a child centred approach, with all the challenges this will bring, supportive mechanisms must be in place, which also includes counselling for social or psychological problems. A clear distinction must be made from the beginning on the specificity of health service and community approaches. Both should be complementary and preferably organized at the same time.

Health services must follow up children according to a schedule of risks children face during their development period and invest in making an individual diagnosis. Here we must accept though, that much more needs to be invested in understanding the demand side of the parents. The weighing, screening and nutrition education has dominated very the way research questions have been formulated

Parents and community can and should be directly involved in a programme to promote growth and development of their children, as presented in the papers of E. Sejas, Rubin de Celis and Pecho. First a booklet that explains better growth and development issues with practical tips on growth and development, including feeding and schedules where a contact is needed with the health services increases self-determination of parents and their confidence to interact with health workers. They become clients who are more aware of their rights. The community approach underlines the important role parents can play to improve the development of their children by discussing how their children develop, what their expectations are and how their children learn, and interact socially. Community programs should be directed towards promotional aspect and increasing self-determination. They should take the form of health clubs or mothers clubs, where issues on growth and development can be discussed. It is important that this aspect includes not only mothers but also members of the community who can have an effect on child growth and development.

Whenever an activity is initiated to identify problems that might have occurred, there is also an ethical need to propose solutions and offer services. When a child is identified with a problem an individual diagnosis has to be made involving the family. The diagnostic possibilities are diverse given the multifaceted nature of growth problems. The need for curative interventions has to be excluded first or when deemed necessary,

offered. Logical as it seems, this is where many things have gone wrong in the past. Making a diagnosis means having a clinical judgement capacity. An untrained health worker cannot do this. Unfortunately, untrained health workers or even community health workers are mostly in charge of growth monitoring. In addition, very few health services provide nutrition rehabilitation, have standardized guidelines or an active referral system despite the fact that with little input, a lot can be done at the first line (13). In hospital, children are treated for diseases, and it is left to the parents to feed the child. Very little of the recently published guidelines of WHO can be found implemented. It is sad to see in how many hospitals the basis of nutritional rehabilitation is still the high protein diet.

What then about the screening? Finding and helping malnourished children should remain a top priority of health services and health programs. The most efficient way, however, to find those children is to introduce weighing during curative services. The link between disease and nutritional status is so strong that these conditions often present together. Weighing and charting weight development provides important information but one has to accept that this is predominantly so for the health workers. A weight history provides additional information on the condition of a child and helps to make a correct diagnosis and define the course of action. The weight progress has little significance for the parents. Regular weighing can still help identify malnourished children but then when it is part of a larger conceptual program of promoting growth and development. The weighing is not the prime objective anymore.

Last but not least optimal growth and development should be considered a human right. Poverty alleviation and entitlement should receive priority investment. As much as possible and preferably always, the community, health system approach and poverty alleviation should be promoted together and not as a choice menu.

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