THE "P" IN GMP – A MAJOR SHIFT IN GROWTH MONITORING PROGRAM OF A PRIMARY HEALTH CARE PROJECT

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Abstract. Growth monitoring and promotion (GMP) is the monitoring of a child's growth to promote, maintain and restore health. The "P" in GMP relates to the promotive, preventive and curative actions which accompany the monitoring process.

Data from two of the Primary Health Care field sites of The Aga Khan University, Essa Nagri and Azam Basti (squatter settlements), in Karachi for May 1989 was analyzed to determine the relationship between weight change and nutritional status. 21% of 2,838 children had a decrease in weight from April to May 1989. Children in Grade I malnutrition (n = 274) contributed much more to this decrease than children with Grades II and III (54 and 5, respectively). By focusing attention only on those with Grades II and III malnutrition, the obvious ones, we have been missing the opportunity to prevent a deterioration of those in Grade I, though it is easier and less time consuming to reverse this trend in early stages of malnutrition.

To ensure more quality-time for community health workers' focus on the at-risk population, three alternative "high-risk" groups are proposed. Promotion of growth and weight change needs to be stressed more, instead of the nutritional status only in GMP programs.

INTRODUCTION

Growth Monitoring and Promotion (GMP) is the regular measurement, recording and interpretation of a child's growth change in order to counsel, act and follow up results. Growth monitoring is not an intervention, per se, like ORT and immunization, to be applied in response to need; it is a continuous activity which incorporates all key interventions with the goal of improving the health of children (Thaver, 1991).

The most widely promoted method of growth monitoring is weighing and charting growth, since weight gain is believed to be the most sensitive indicator of growth and is universally applicable (Foundation for Indonesian Welfare, 1985). There is considerable confusion about the basic objectives of growth monitoring (Gopalan, 1987) and lack of understanding of what growth monitoring is meant to do in specific situations which can lead to faulty implementation (Hendrata and Rohde, 1987).

Since normal growth slows down long before overt malnutrition is apparent. Morley (1977) defined the objective of growth monitoring as pre-venting growth retardation through *timely and early* detection of faltering growth. Gopalan (1987) asserted that promoting growth monitoring as an integral part of preventive and promotive health care can be justified only if the objective is to prevent growth retardation.

The emphasis on growth rather than nutritional status, however, is a key operational communication strategy (Gopalan, 1987; UNICEF, 1984) and it has been recommended: "To provide health care for children, move away from the immediate objective of prevention of malnutrition and monitor *adequate* growth" (Morley, 1979). The monitoring of weight gain with an orientation towards health promotion is not only more cost-effective than the screening of nutritional status with an orientation towards treatment and rehabilitation but also more acceptable to both mothers and health workers as it provides more opportunities to observe changes or improvements in nutritional status (Teller, 1986).

The Aga Khan University, Karachi, has started experimental Primary Health Care modules in 6 squatter settlements of Karachi. A team of health personnel including community health workers

(CHWs) are providing a package of preventive, promotive and curative services in each of these modules. In five of the six PHC modules, growth monitoring was done each month regularly by weighing all the children under 5 years and recording the weight on the growth card. This paper is based on the data collected from two field sites (Azam Basti and Essa Nagri). The objective of the study was to find the relationship between weight change and nutritional status so as to document the need for a targeted approach in monitoring the growth. Based on the findings, an attempt has been made to identify the "at risk" population so as to propose a method of improving the quality-time spent by community health workers on home visits.

MATERIAL AND METHODS

Essa Nagri and Azam Basti are two of the squatter settlements of Karachi, presently under the surveillance system of The Aga Khan University. During their home visits the CHWs weigh all the children under 5 years either by Salter (for under 2 years) or bath room scales with an error margin of 50 and 100 grams, respectively. The children were weighed with minimal clothes on. Besides plotting the weight of all children under 5 years on the growth charts, CHWs recorded the weight change from previous month (increase, no change, or decrease), nutritional status and age category of the child on the daily activity register. The weight change was defined when there was a visible change in the direction of the curve. All the data for a period of one month were entered to an IBM compatible computer using the software dBase III plus program. SPSS/PC+ was used for the detailed analysis. As all of the data collected during a month from 2 field sites was used for analysis, there is no sampling or bias in selection.

RESULTS

In May 1989, 1,692 children from Essa Nagri and 1,146 from Azam Basti were weighed. Forty-seven percent of those weighed were under 3 years of age (Table 1). About 62% of these children were normally nourished according to NCHS standards, based on Gomez's classification (Table 2). This is in sharp contrast to aggregate nutritional

Table 1

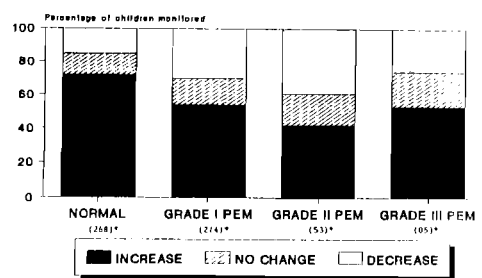Age groups distribution of children monitored in May 1989.

Months	Essa Nagri		Azam Basti		Total	
	No.	%	No.	%	No.	%
0-11	347	20.50	231	20.20	578	20.40
12-35	<1	27.10	459	40.00	917	32.30
36-59	1-3	52.40	456	39.80	1,343	47.30
Total	3-5	100.00	1,146	100.00	2,838	100.00

Table 2

Nutritional status of under 5 in May 1989.

Grade	Essa Nagri		Azam Basti		Total	
	No.	%	No.	%	No.	%
Normal	1,027	60.7	741	64.7	1,768	62.3
Grade I	548	32.4	366	31.9	914	32.2
Grade II	101	6.0	36	3.1	137	4.8
Grade III	16	0.9	3	0.3	19	0.7
Total	1,692	100.0	1,146	100.0	2,838	100.0

N=1768/I=914/II=137/III=19 TOTAL: 2838
•Decrease: 266/274/63/5

Fig 1—Nutritional status by weight change in Essa
Nagri + Azam Basti 0-< 5 years May 1989.

status of children in Pakistan where only 43% are
normally nourished (National Nutrition Survey,
1988). Fig 1 shows the weight change according to
nutritional status, the weight of twenty-one percent

of 2,838 children under 5 years of age decreased
from April to May 1989.

Children in Grade I Malnutrition (n = 274) con-
tributed much more to this decrease than children
with Grades II and III (53 and 5, respectively). By
focusing attention, only on those with Grade II
and III malnutrition (those obviously demanding
attention), we have been missing the opportunity
to prevent a deterioration of those who were either
normally nourished or were in Grade I malnutri-
tion.

To improve the efficiency of time spent by
Community Health Workers during home visits,
an "at risk" population was identified for regular
home visiting. Three approaches, that look at a
combination of weight change from the time the
child was last weighed, nutritional status and age
of child, were used to identify "at risk groups" —
A, B and C (Table 3). Group A includes all 0-59

Table 3

"High risk" approach for targeted quality-time home visiting.

Nutritional status	Weight change	Group A			Group B			Group C		
		0-11	12-35	36-59	0-11	12-35	36-59	0-11	12-35	36-59
Normal	+	NA	NA	NA	369	NA	NA	369	340	NA
	0	NA	NA	NA	30	NA	NA	30	68	NA
	-	NA	NA	NA	23	NA	NA	23	88	NA
Grade I	+	NA	NA	NA	77	NA	NA	77	203	NA
	0	26	55	69	26	55	69	26	55	69
	-	29	112	133	29	112	133	29	112	133
Grade II	+	NA	NA	NA	10	NA	NA	10	14	NA
	0	3	6	17	3	6	17	3	6	17
	-	4	25	24	4	25	24	4	25	24
Grade III	+	NA	NA	NA	4	NA	NA	4	2	NA
	0	1	1	2	1	1	2	1	1	2
	-	2	3	0	3	3	0	2	3	0
Grand total		2,838			2,838			2,838		
"High-risk" popula-tion according to groups		521	(18.0%)		1,026	(36%)		1,740	(61%)	

Legends: + = increase in weight
         0 = no change in weight
         - = decrease in weight
         NA = not applicable

months old children who are at very "at risk" (ie when there is no change or a decrease in weight of malnourished children). Group B includes all 0-11 months old children and "high-risk" in 12-59 month age group. In Group C all 0-35 months old children are taken including "high-risk" in the 36-59 months age group. Table 4 shows the number of children in each of these groups for Azam Basti and Essa Nagri. A good operational strategy to improve the efficiency of CHW's time during home visiting could be to weigh only the children in group C monthly (ie only 0-35 months) and the others (36-59 months) could be weighed quarterly. In Azam Basti and Essa Nagri only 61% of the children would be weighed regularly - the CHWs would thus be able to spend more time in counselling the mothers of the high risk children.

DISCUSSION

The linkage of "P" (promotion) with "GM" (growth monitoring) provides the communication process which reinforces current actions when growth is favorable and calls for a change when growth is unfavorable. A key factor that must be followed closely in malnourished but more so in healthy children is whether or not they are gaining weight at the rate expected for their age. When a

Table 4

Summary of high risk group selection for quality time home visits by CHWs.

Group	"High risk" population	Essa Nagri 1,692	Azam Basti 1,146	Total 2,838
A	All 0-59 months, very high risk children	328 (19%)	184 (16%)	512 (18%)
B	All 0-11 months, plus high risk in 12-59 months	629 (37%)	397 (35%)	1,026 (36%)
C	All 0-35 months, plus high risk 36-59 months	978 (58%)	762 (66%)	1,740 (61%)

Total number of children included for **growth monitoring** in May 1989 = 1,692 in Essa Nagri, and 1,146 in Azam Basti.

child's weight is decreasing or even remaining unchanged, this is to be considered a danger signal. Instead of weighing all the children under 5 years of age each month, a "high risk," quality time approach should be followed. Those identified as malnourished and also losing/not gaining weight should be managed by a problem solving approach. Thus, besides dietary enquiring, illnesses and social problems should be explored by having friendly dialoque with the mother/parent. The action plan for management of malnourished children should incorporate not only dietary advice and food demonstrations but also illness management and child-care management. It should also be stressed here that within the so-called "high-risk," group there are many children who are healthy and gaining weight. Promotion of growth by warning and positive reinforcement should be practised with as much emphasis and advises given for those who are losing weight.

Where the concepts underlying growth monitoring are not understood and there is no feasible operational strategy, it is not surprising that in many projects all that is left in practice is a superficial ritual of weighing and charting, or growth monitoring is used only as a strategy to help implement other interventions, such as supplementary feedings, more efficiently. This approach has been strongly criticized on practical, economic and even psychological grounds (Rohde, 1985; Gopalan, 1987 a, b).

The underlying purpose of growth monitoring is to prevent malnutrition, not to rehabilitate its victims (Hendrate, 1985) and that it should be used to detect problems before nutritional status is seriously jeopardized (Griffiths, 1985). Should there be a definite shift to preventive and promotive aspects in nutrition programs, then the strategy would be to emphasize better antenatal care and under 3 years child care with a strong health and nutritional education component (Mukarji, 1985).

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