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A NEW METHOD FOR EVALUATING POSTNATAL GROWTH IN THE FIRST TWO YEARS OF LIFE[1]

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Despite high prevalence of low birth-weight infants in developing countries, and high rates of mortality associated with low birth-weight, virtually no standards for monitoring the growth of low birth-weight babies have been developed. This article presents tables and curves that can be used by physicians and primary health care workers to monitor growth of both low birth-weight and normal infants during the first two years of life.

Introduction

An individual undergoes a series of somatic and physiological changes during intrauterine and postnatal life, from the time of conception. Concurrently, body mass increases and new functions are acquired. These biological phenomena are intimately interrelated, the increase in corporal mass paralleling a measurable increase in psychomotor ability.

The term "growth" is used preferentially for referring to anatomical and physiological changes, while "development" refers to processes concerned with the acquisition of motor, psychological, and sensorial abilities. These two processes result in the evolution, over time, of an individual's "normal" status.

The first action to take when examining an infant or child should be to assess growth and development, regardless of the reason for the examination. Development is generally evaluated by means of the standards described by Gesell (*2*) or the Denver test (*6*). Growth may be assessed by the use of tables and curves for weight-age, or for height and head circumference-age. Norms commonly used in Uruguay and other countries are derived from those published by Jackson and Kelly (*7*) and Tanner (*8-10*).

Simple standard growth measurements, such as those proposed by Weech and adapted by Nelson (*5*) are often used to evaluate weight and height. However, these charts and standard measurements deal only with full-term well-nourished children born with an adequate weight for their gestational age.

The prevalence of low birth-weight infants (LBI)—made up of pre-term infants (PTI) and small-for-gestational-age infants (SFGI)—according to different authors is between 14 per cent and 40 per cent in developing countries. This prevalence depends, in large measure, upon the socioeconomic background of the sample studied rather than the specific country. Since such children and infants are vulnerable, it is clearly important to follow their growth and development, and this poses a real problem for child health services. At present there are few references published (*11, 12*) that describe adequately the characteristics

[1] Report of a study performed at the PAHO/WHO Latin American Center for Perinatology and Human Development (CLAP) in Montevideo, Uruguay. Also appearing in Spanish in the *Boletín de la Oficina Sanitaria Panamericana* 86(2):95-104, 1979.

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of growth in these infants and children, and we think that appropriate tables and growth curves for these children will be useful.

Virtually no standards have been developed for early detection and control of growth pattern alterations. Another factor that complicates growth assessment, especially in developing countries is the fact that birth-weights are sometimes not recorded because of substandard obstetric care.

It is important to recall that neuron myelinization occurs during the first six months of life, and that low birth-weight and premature infants can attain weights within normal limits (*3, 12*) if they receive appropriate treatment during the first two years of postnatal life.

The first objective of this study is to provide data for the assessment of growth in LBI (PTI and SFGI), and for full-term infants (FTI) in their normal birth-weight range. The second objective is to provide a method that will allow the evaluation of growth velocity. For this purpose it is necessary to have body-weight measurements separated by a fixed time interval. The method to be described may be used even though neither gestational age nor birth-weight is known.

Materials and Methods

Tables were constructed based on a new criterion (*3, 12*): Mean growth velocity per weight unit (MGV/WU). The MGV/WU, which expresses growth over time (e.g., over daily or weekly periods) in grams per kg of body weight, is determined by the formula:

$$\text{MGV/WU} = \frac{\text{Weight gain (present weight minus weight at previous examination)}}{\text{Weight at previous examination} \times \text{Days between the two examinations}}$$

For example, if the infant's present weight is 3.9 kg, its previous weight was 3.000 kg, and 30 days elapsed between the weighings, then

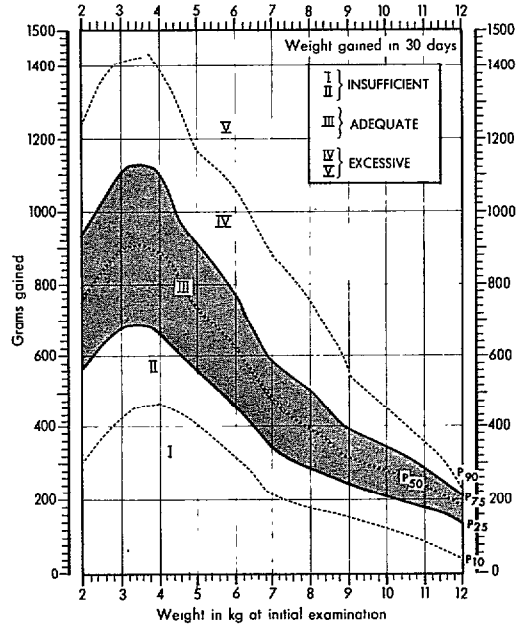
$$\text{MGV/WU} = \frac{3.900 \text{ kg} - 3.000 \text{ kg}}{3.000 \text{ kg} \times 30 \text{ days}} = \frac{0.900 \text{ kg}}{90 \text{ kg-days}}$$

$$= 0.010 \text{ kg} \times \text{kg} \times \text{day} =$$

$$= 10 \text{ grams daily weight gain per kg of body weight}$$

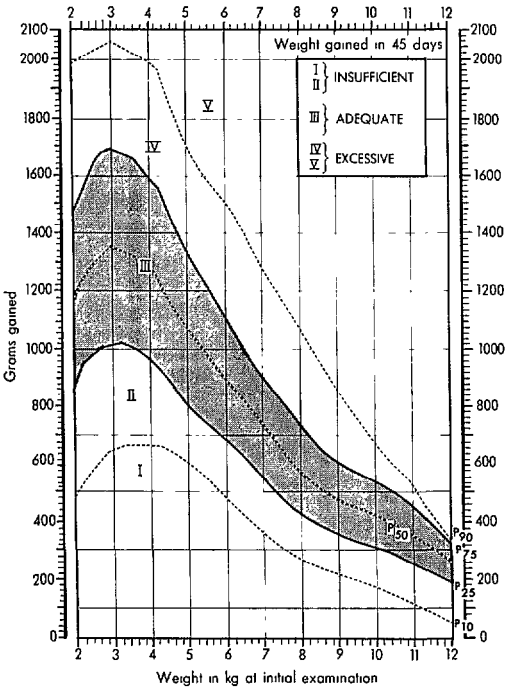
This methodology was developed in a long-term study of 112 children (64 low birth-weight infants and 48 full-term infants with adequate birth-weights) up to two years of age (*3, 13*). The sample was comprised of simple pregnancies of Caucasian mothers with similar socioeconomic

Figure 1. Curves for evaluating 30-day weight gains (MGV/WU),* showing average gains for percentiles 10, 25, 50, 75, and 90.



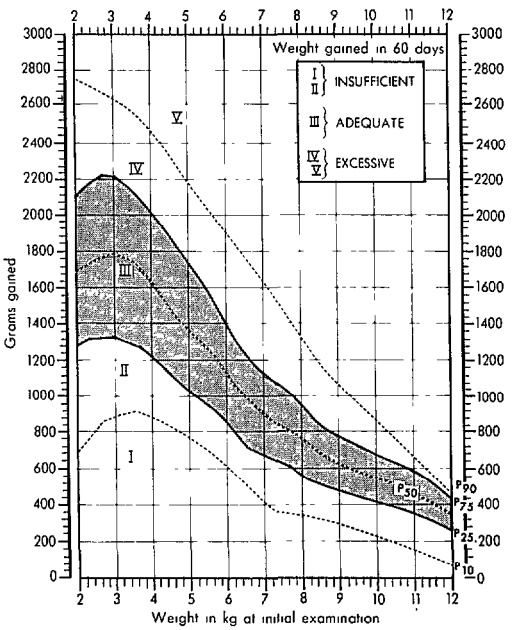
*Along the top of the graph find the weight in kg recorded in the examination performed 30 days previously and draw a vertical line downward at that point; along the left-hand edge of the graph find the grams gained in the time interval between the two examinations (present weight minus weight 60 days previously) and draw a horizontal line across the graph at that point. The zone within which the two lines intersect indicates whether the child's growth during the 60-day interval has been insufficient, adequate, or excessive.

Figure 2. Curves evaluating 45-day weight gains (MGV/WU),* showing average gains for percentiles 10, 25, 50, 75, and 90.



*Along the top of the graph find the weight in kg recorded in the examination performed 45 days previously and draw a vertical line downward at that point; along the left-hand edge of the graph find the grams gained in the time interval between the two examinations (present weight minus weight 45 days previously) and draw a horizontal line across the graph at that point. The zone within which the two lines intersect indicates whether the child's growth during de 45-day interval has been insufficient, adequate, or excessive.

Figure 3. Curves for evaluating 60-day weight gains (MGV/WU),* showing average gains for percentiles 10, 25, 50, 75, and 90.



*Along the top of the graph find the weight in kg recorded in the examination performed 60 days previously and draw a vertical line downward at that point; along the left-hand edge of the graph find the grams gained in the time interval between the two examinations (present weight minus weight 30 days previously) and draw a horizontal line across the graph at that point. The zone within which the two lines intersect indicates whether the child's growth during the 30-day interval has been insufficient, adequate, or excessive.

background in the city of Montevideo. A progressive and continual perinatal care system was provided for the mothers and newborn infants. All the infants were considered healthy and none had congenital anomalies. Anthropometry was done exclusively by two individuals trained in the techniques of Falkner (*1*) and Owen.

Measurements were made at the following postnatal ages:

15 days ± 2 day limit
1, 2, 3, 4, 5, and 6 months ± 4 day limit
8, 10, 12, 15, 18, 21, and 24 months ± 1 week limit.

No measurements outside the time limits were considered.

It was found that irrespective of birthweight, the children whose MGV/WU showed steady fiftieth percentile growth were conforming closely to the fiftieth percentile of the classic weight-for-age curves; while the children who were growing at the twenty-fifth percentile in terms of MGV/WU were found to have weight curves consistent with those children whose growth was in the tenth percentile of the classic curves. Similarly, children who were growing at the seventy-fifth percentile in terms of MGV/WU showed weight values consistent

with children whose growth was in the ninetieth percentile of the classic curves.

The figures and Table 1 presented in this article were developed on the basis of these comparative data. Table 1 shows the mean and minimum acceptable weights for infants of different ages based upon weight at birth. Figures 1-3 show ranges of appropriate weight gains over specified time intervals in terms of body weight, irrespective of the subject's date of birth and birth-weight.

Postnatal Growth Curves

The growth curves shown were developed on the basis of each subject's weight upon initial examination and his or her weight at an interval of 30 days (Figure 1), 45 days (Figure 2), or 60 days (Figure 3) after that examination. Beginning with a body weight of 2 kg and proceeding upward at 100-g intervals to 12 kg, growth rates per unit of body weight (MGV/WU) were determined for children situated in percentiles 10, 25, 50, 75, and 90. Doing this for 30-day, 45-day, and 60-day intervals permitted delimitation of the five zones shown in Figures 1-3. Information provided by these zone divisions is as follows:

Zone I: Insufficient weight gain (below tenth percentile, P 10, of MGV/WU).
Zone II: Insufficient weight gain (between P 10 and P 25 of MGV/WU).
Zone III: Adequate weight gain (between P 25 and P 75 of MGV/WU).
Zone IV: Excessive weight gain (between P 75 and P 90 of MGV/WU).
Zone V: Excessive weight gain (above P 90 of MGV/WU).

Growth Table

When the weight gains of the children under observation place them in Zone III on the charts (between percentiles 25 and 75 of MGV/WU), then in virtually all cases their total weight and age place them between percentiles 10 and 90 on the classic growth curves (*5, 7, 9*). Using this information, Table 1 shows mean weights and minimum acceptable weights for each month from birth to 24 months of age. The mean weights were derived by grouping infants according to birth-weight (starting at 1.4 kg) and adding the monthly weight gain corresponding to percentile 50 of MGV/WU. The minimum acceptable weights were derived by the same procedure, using percentile 25 of growth rate per unit weight instead of percentile 50. The minimum values obtained correspond generally to the lower edge of Zone III and percentile 10 on the classic weight-for-age curves.

Use of the Table and Figures

The data in the Table 1 permit one to determine the theoretical mean weight and minimum acceptable weight for any subject 0-2 years of age. Knowing the subject's birth-weight, one merely follows the corresponding column for that weight down to the line for the subject's present age, where the appropriate mean weight and minimum acceptable weight will be found. This procedure allows an initial growth evaluation to be made simply and quickly—even for subjects with birth-weights as low as 1,400 g—so long as their birth-weights and ages are known, irrespective of whether they were premature.

In cases where birth-weight or age is uncertain, or where dynamic measurement of current growth is desired, the infant should be weighed twice, with a 30-day, 45-day, or 60-day interval between weighings (whichever is most convenient), so that the corresponding curve in Figures 1-3 can be used to evaluate the weight gained in the interval. Among other things, this method can be used to learn the extent of recovery

Table 1. Postnatal growth chart for infants and young children 0-24 months of age.

Present age	Weight	Weight at birth in grams							
		1400	1500	1600	1700	1800	1900	2000	2100
1 mo.	$\bar{X}$	2000	2100	2200	2350	2500	2680	2860	2920
	Min.	1850	1950	2050	2150	2250	2415	2580	2690
2 mos.	$\bar{X}$	2860	2920	2980	3160	3340	3540	3740	3810
	Min.	2400	2490	2580	2735	2890	3055	3220	3230
3 mos.	$\bar{X}$	3740	3810	3880	4070	4260	4420	4660	4720
	Min.	3020	3120	3220	3390	3560	3740	3920	3920
4 mos.	$\bar{X}$	4660	4695	4780	4970	5160	5325	5490	5515
	Min.	3700	3810	3920	4080	4240	4460	4680	4680
5 mos.	$\bar{X}$	5490	5515	5540	5700	5860	6020	6185	6210
	Min.	4400	4540	4680	4785	4890	5085	5280	5280
6 mos.	$\bar{X}$	6185	6212	6240	6370	6500	6700	6795	6810
	Min.	5020	5150	5280	5370	5460	5635	5810	5810
7 mos.	$\bar{X}$	6795	6820	6840	6945	7050	7180	7305	7330
	Min.	5580	5695	5810	5895	5980	6145	6310	6310
8 mos.	$\bar{X}$	7305	7330	7360	7445	7530	7640	7755	7780
	Min.	6080	6195	6310	6375	6440	6595	6750	6750
9 mos.	$\bar{X}$	7755	7780	7800	7885	7970	8070	8175	8195
	Min.	6540	6645	6750	6795	6840	6995	7150	7150
10 mos.	$\bar{X}$	8175	8200	8220	8295	8370	8460	8565	8595
	Min.	6940	7045	7150	7175	7200	7345	7490	7490
11 mos.	$\bar{X}$	8565	8580	8620	8685	8750	8840	8925	8950
	Min.	7280	7385	7490	7505	7520	7710	7900	7900
12 mos.	$\bar{X}$	8925	8950	8980	9070	9080	9160	9245	9275
	Min.	7600	7700	7800	7810	7820	7910	8100	8100
15 mos.	$\bar{X}$	9880	9880	9880	9925	9970	10060	10145	10170
	Min.	8500	8570	8640	8665	8690	8785	8850	8880
18 mos.	$\bar{X}$	10720	10720	10720	10765	10810	10890	10980	10980
	Min.	9280	9350	9420	9430	9440	9520	9600	9600
21 mos.	$\bar{X}$	11440	11440	11440	11485	11530	11615	11700	11700
	Min.	9940	10010	10080	10090	10100	10180	10260	10260
24 mos.	$\bar{X}$	12040	12040	12040	12100	12160	12230	12300	12300
	Min.	10540	10610	10680	10690	10700	10780	10860	10860

Table 1. Postnatal growth chart for infants and young children 0-24 months of age.

Present age	Weight	Weight at birth in grams							
		2200	2300	2400	2500	2600	2700	2800	2900
1 mo.	$\bar{X}$	2980	3100	3220	3340	3460	3570	3680	3790
	Min.	2800	2910	3020	3130	3240	3350	3460	3570
2 mos.	$\bar{X}$	3880	3955	4030	4205	4380	4490	4600	4700
	Min.	3240	3470	3700	3810	3920	4040	4160	4260
3 mos.	$\bar{X}$	4780	4855	4930	5085	5240	5340	5440	5510
	Min.	3920	4160	4400	4500	4600	4700	4800	4895
4 mos.	$\bar{X}$	5540	5605	5670	5815	5960	6050	6140	6200
	Min.	4680	4850	5020	5110	5200	5290	5380	5465
5 mos.	$\bar{X}$	6240	6295	6350	6475	6600	6670	6740	6800
	Min.	5280	5430	5580	5650	5720	5810	5900	5975
6 mos.	$\bar{X}$	6840	6895	6950	7045	7140	7205	7270	7315
	Min.	5810	5945	6080	6150	6220	6300	6380	6445
7 mos.	$\bar{X}$	7360	7405	7450	7535	7620	7665	7710	7755
	Min.	6310	6425	6540	6600	6660	6740	6820	6865
8 mos.	$\bar{X}$	7800	7840	7880	7960	8040	8085	8130	8175
	Min.	6750	6845	6940	6990	7040	7110	7180	7225
9 mos.	$\bar{X}$	8220	8250	8280	8360	8440	8475	8510	8555
	Min.	7150	7215	7280	7330	7380	7450	7520	7555
10 mos.	$\bar{X}$	8620	8640	8660	8740	8820	8845	8870	8915
	Min.	7490	7545	7600	7650	7700	7760	7820	7860
11 mos.	$\bar{X}$	8980	9000	9020	9080	9140	9175	9210	9245
	Min.	7900	7900	7900	7960	8020	8065	8110	8145
12 mos.	$\bar{X}$	9300	9310	9320	9390	9460	9495	9530	9555
	Min.	8100	8100	8100	8200	8300	8345	8390	8415
15 mos.	$\bar{X}$	10200	10210	10220	10240	10360	10395	10430	10440
	Min.	8880	8880	8900	8940	9080	9125	9170	9195
18 mos.	$\bar{X}$	10980	10990	11000	11070	11140	11175	11210	11220
	Min.	9600	9600	9620	9670	9740	9785	9830	9855
21 mos.	$\bar{X}$	11700	11710	11720	11760	11800	11835	11870	11910
	Min.	10260	10260	10260	10315	10370	10400	10430	10455
24 mos.	$\bar{X}$	12300	12310	12320	12345	12370	12390	12410	12450
	Min.	10860	10860	10860	10915	10970	10985	11000	11010

Table 1. Postnatal growth chart for infants and young children 0-24 months of age.

Present age	Weight	Weight at birth in grams							
		3000	3100	3200	3300	3400	3500	3600	3700
1 mo.	$\bar{X}$	3900	4000	4100	4200	4300	4400	4500	4600
	Min.	3680	3780	3880	3990	4100	4200	4300	4390
2 mos.	$\bar{X}$	4800	4900	5000	5090	5180	5220	5260	5400
	Min.	4360	4460	4560	4680	4800	4895	4990	5005
3 mos.	$\bar{X}$	5580	5640	5700	5830	5960	5970	5980	6110
	Min.	4990	5075	5160	5270	5380	5465	5550	5565
4 mos.	$\bar{X}$	6260	6300	6340	6470	6600	6610	6620	6730
	Min.	5550	5635	5720	5810	5900	5975	6050	6065
5 mos.	$\bar{X}$	6860	6930	7000	7070	7140	7140	7140	7250
	Min.	6050	6135	6220	6300	6380	6445	6510	6525
6 mos.	$\bar{X}$	7360	7420	7480	7550	7620	7620	7620	7710
	Min.	6510	6585	6660	6740	6820	6865	6910	6925
7 mos.	$\bar{X}$	7800	7860	7920	7980	8040	8040	8040	8160
	Min.	6910	6975	7040	7110	7180	7225	7270	7275
8 mos.	$\bar{X}$	8220	8270	8320	8380	8440	8440	8440	8530
	Min.	7270	7320	7380	7450	7520	7555	7590	7595
9 mos.	$\bar{X}$	8600	8650	8700	8760	8820	8820	8820	8900
	Min.	7590	7645	7700	7760	7820	7860	7900	7900
10 mos.	$\bar{X}$	8960	9000	9040	9090	9140	9140	9140	9220
	Min.	7900	7960	8020	8065	8110	8150	8180	8180
11 mos.	$\bar{X}$	9280	9320	9360	9410	9460	9460	9460	9530
	Min.	8180	8240	8300	8345	8390	8415	8440	8450
12 mos.	$\bar{X}$	9580	9620	9660	9710	9760	9760	9760	9820
	Min.	8440	8510	8580	8615	8650	8675	8700	8710
15 mos.	$\bar{X}$	10450	10475	10500	10550	10550	10550	10550	10640
	Min.	9220	9320	9360	9365	9370	9400	9420	9420
18 mos.	$\bar{X}$	11230	11255	11280	11300	11330	11330	11330	11390
	Min.	9880	9980	10020	10025	10030	10050	10080	10080
21 mos.	$\bar{X}$	11950	11950	11950	11950	11960	11960	11960	12000
	Min.	10480	10540	10620	10625	10630	10650	10680	10680
24 mos.	$\bar{X}$	12490	12490	12490	12500	12500	12500	12500	12540
	Min.	11020	11080	11160	11165	11170	11200	11220	11220

Table 1. Postnatal growth chart for infants and young children 0-24 months of age.

Present age	Weight	Weight at birth in grams				
		3800	3900	4000	4100	4200
1 mo.	$\bar{X}$	4700	4800	4900	4990	5080
	Min.	4480	4580	4680	4770	4860
2 mos.	$\bar{X}$	5540	5600	5660	5750	5840
	Min.	5020	5150	5280	5360	5440
3 mos.	$\bar{X}$	6240	6290	6340	6420	6500
	Min.	5580	5695	5810	5895	5980
4 mos.	$\bar{X}$	6840	6920	7000	7025	7050
	Min.	6080	6195	6310	6375	6440
5 mos.	$\bar{X}$	7360	7420	7480	7505	7530
	Min.	6540	6645	6750	6795	6840
6 mos.	$\bar{X}$	7800	7860	7920	7945	7970
	Min.	6940	7045	7150	7175	7200
7 mos.	$\bar{X}$	8280	8300	8320	8345	8370
	Min.	7280	7385	7490	7505	7520
8 mos.	$\bar{X}$	8620	8660	8700	8725	8750
	Min.	7600	7750	7800	7810	7820
9 mos.	$\bar{X}$	8980	9010	9040	9055	9070
	Min.	7900	8000	8100	8105	8110
10 mos.	$\bar{X}$	9300	9330	9360	9360	9360
	Min.	8200	8240	8380	8385	8390
11 mos.	$\bar{X}$	9600	9630	9660	9660	9660
	Min.	8470	8550	8640	8640	8650
12 mos.	$\bar{X}$	9890	9920	9940	9940	9940
	Min.	8720	8800	8890	8900	8900
15 mos.	$\bar{X}$	10730	10750	10780	10780	10780
	Min.	9420	9480	9550	9550	9550
18 mos.	$\bar{X}$	11450	11470	11500	11500	11500
	Min.	10080	10145	10210	10210	10210
21 mos.	$\bar{X}$	12050	12080	12100	12100	12100
	Min.	10680	10730	10780	10780	10780
24 mos.	$\bar{X}$	12590	12610	12640	12640	12640
	Min.	11220	11270	11320	11320	11320

experienced by children being given different treatments for malnutrition.

Since the growth being measured, though continuous, may be less rapid at some periods than at others, more than one measurement should be made to confirm a diagnosis. One pair of weighings may be inadequate; but if repeated weighings place the subject in the same zone of the weight-gain charts, these findings may provide the basis for a conclusive diagnosis. If a lower than adequate value (Zone I or II) is obtained—even in a single examination—the child's medical history should be consulted and an exhaustive physical examination performed to investigate the possible causes of the inadequate weight gain.

Used together, these charts and the table permit early detection of significant degrees of undernutrition and obesity—even (in the case of the charts) when subject's gestational age and birth-weight are unknown. An additional important advantage is that both the table and charts are very straightforward and can be readily used by workers providing primary health care.

SUMMARY

Despite the high prevalence of low-birth weight infants in developing countries, and of heavy mortality associated with low birth-weight and malnutrition, virtually no standards for measuring the patterns of growth of low birth-weight infants and young children have been developed. Moreover, there are many cases where a subject's birth-weight has not been recorded, a circumstance further complicating any attempt to determine whether appropriate growth is being achieved. The aim of this article is to present tables and charts that can be used for this purpose by primary care workers and other health personnel.

Previous work done at the Latin American Center for Perinatology and Human Development in Uruguay found a close relationship between the mean daily amount of weight gained per unit of body weight and rates of growth indicated by classic weight-for-age curves. This relationship persisted regardless of whether the children (in the 0-2 year age group) were premature or had a low birth-weight for their gestational age. On the basis of this relationship, it has been possible to construct charts employing current weight versus weight gained over a specified period to show whether a given subject's rate of weight gain is insufficient, adequate, or excessive. Likewise, a table for subjects with known ages and birth-weights has been constructed. This combined the subject's birth-weight with anticipated rates of weight gain per unit of body weight to provide a similar basis for growth evaluation.

REFERENCES

(*1*) Falkner, F. *Human Development.* Saunders, Philadelphia, 1966.

(*2*) Gesell, A., and C. Amatruda. *Diagnóstico del desarrollo* (3rd edition). Paidós Eds., Buenos Aires, Argentina, 1966.

(*3*) Martell, M., L. B. Bertolini, F. Nieto, S. Tenzer, R. Ruggia, and R. Belitzky. *Crecimiento y desarrollo en los dos primeros años de vida postnatal.* Scientific Publication 672. Latin American Center for Perinatology and Human Development (PAHO/WHO), Montevideo, Uruguay, 1977.

(*4*) Sinclair, D. *Human Growth after Birth* (2nd edition). Oxford University Press, New York, 1973.

(*5*) Nelson, W. E., V. C. Vaughan, and R. J. McKay. *Textbook of Pediatrics* (9th edition). Saunders, Philadelphia, 1969.

(*6*) Frankenburg, W. K., and J. B. Dodds. The Denver developmental screening test. *J Pediatr* 71:181, 1967.

(*7*) Jackson, R. L., and H. G. Kelly. Growth charts for use in pediatric practice. *J Pediatr* 27:215, 1945.

(*8*) Tanner, J. M. The assessment of growth and development in children. *Arch Dis Child* 27:10, 1952.

(*9*) Tanner, J. M., R. H. Whitehouse, and M. Takaishi. Standards from birth to maturity for height, weight, height velocity, and weight velocity: British children, 1965 (I). *Arch Dis Child* 41:454, 1966.

(*10*) Tanner, J. M., R. H. Whitehouse, and M. Takaishi. Standards from birth to maturity for height, weight, height velocity, and weight velocity: British children, 1965 (*II*). *Arch Dis Child* 41:613, 1966.

(*11*) Babson, S. G. Growth of low birth-weight infants. *J Pediatr* 77:11, 1970.

(*12*) Cruise, M. O. A Longitudinal study of growth of low birth weight infants: I. Velocity and distance growth from birth to 3 years. *Pediatrics* 51:620, 1973.

(*13*) Martell, M., F. Falkner, L. B. Bertolini, J. L. Diaz, F. Nieto, S. M. Tenzer, and R. Belitzky. Early postnatal growth evaluation in fullterm, preterm and small-for-date infants. *Early Human Development* 1:313, 1978.

INTERNATIONAL DRIVE AGAINST ENDEMIC GOITER*

An estimated 200 million or more people throughout the world are unnecessarily affected by goiter, since the technical means to prevent the disease—adding iodine to table salt—are available at very low cost. Iodine deficiency causes common, endemic goiter, a widespread nutritional deficiency disease found particularly in mountainous areas, which causes enlargement of the thyroid gland. Cretinism, or other forms of mental deficiency, and neurological disorders are frequent among children born to mothers with the disease.

The Fourth Ministerial Session of the United Nations World Food Council meeting in Mexico in June 1978 adopted the resolution, endorsed by the General Assembly, urging governments to "adopt the goal of eradicating" endemic goiter within the next decade and to establish measures to achieve that goal. Nineteen countries have been asked by the executive heads of the United Nations World Food Council, the World Health Organization, and the United Nations Children's Fund to join in the proposed program.

*Adapted from WHO press release, 13 February 1979.