

PAPERS PRESENTED

INTRODUCTION

THE PROBLEM*

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In Latin America, as well as in other developing regions, the term *low birth weight* has quite different implications in terms of causes and sequelae than in the developed countries.

Low birth weight includes all those children born with a weight of 2,500 g or less. There are two main groups of these children: those whose *low birth weight* is due to a short gestational age (prematurity) and those whose gestational age is normal (fetal growth retardation). It is probable that in the Latin American countries the high prevalence of *low birth weight* is fundamentally due to fetal growth retardation more than to prematurity. This is why in the developed countries the use of the *low birth weight* term is not satisfactory, while in the technologically underdeveloped countries—as are the countries of our Region—the *low birth weight* term is still useful and practical for public health purposes.

We estimate that about 22 million children throughout the world were born with *low birth weight* in 1975. The incidence of *low birth weight* is closely related with the socioeconomic level indicators. Thus, 90% of the countries with less than 2,800 calories *per capita* per day, presented a high incidence of *low birth weight*, and the underdeveloped countries were responsible for 94% of all the children with *low birth weight*. In Latin America where the population estimated in 1975 was of 324 millions, 12 million births occurred that same year, and of these, 1.5 million (13%) or more had *low birth weight*.¹

The sequelae associated with *low birth weight* are many and varied, principally due to the multifactorial etiology of growth retardation and the changing emphasis of the different etiologic factors from one population to another. In the premature

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child, for example, the most prominent problem is respiratory difficulty with the consequent hypoxia and injury to the central nervous system. In contrast, children with *low birth weight* due to retardation of fetal growth show a tendency to hypoglycemia and hypothermia, frequent and severe infections, loss of subcutaneous fat and of the skin turgescence, high mortality and suboptimal postnatal development. Fetal growth retardation is also associated to light perinatal hypoxia, small postnatal weight loss, polycythemia and high erythropoietin levels as well as to an increase of congenital malformations.

A positive correlation between birth weight and physical postnatal growth has also been found. This is important because physical growth retardation, in its turn, is associated with psychomotor and mental development retardation and with a reduced survival capacity.² Lastly, these children show a high prevalence of anomalies in the electroencephalogram, a lower performance in vocabulary and reading tests, and a trend to low school performance.³⁻⁶

The low survival capacity associated with *low birth weight* is primarily due to a lower resistance to infection and, consequently, to a greater frequency and severity of infections. It has been shown that babies with *low birth weight* have reduced levels of IgG at birth, an important reduction in the number of peripheral lymphocytes T, and a lower capacity to produce an immune cellular response. Furthermore, a reduced opsonic function in the plasma due to reduced C₃ levels and a notorious diminution of the bacterial capacity and of the metabolism of polymorphonuclears during the phagocytosis process have been frequently informed.⁷ Thus, considering the high level of exposure of these babies to postnatal malnutrition and infection, it is not surprising to find that their probabilities of surviving during their first year of life are much more lower than those of children with normal birth weight.⁸⁻¹⁰

For the above-mentioned reasons, the high prevalence of *low birth weight* in Latin America represents not only a problem in human terms, but also a serious obstacle for the social and economic development of these countries that, up to the present moment, has not been sufficiently recognized nor adequately approached.¹

In order to analyze the biological, clinical and public health aspects of this problem, the physiologic and clinical implications of *low birth weight* are first presented, and the different mechanisms of materno-fetal transference of nutrients are discussed. Then the more important causes of *low birth weight* in Latin America are identified, followed by a discussion of its implications for action programs. The different alternatives for action constitute the final focal point of concentration of the Colloquium, to which all the presentations are oriented, particularly the last three where planned and ongoing programs in several Latin American countries are discussed.

In our opinion, this Colloquium should be followed by workshops aimed to improve the understanding of the problem and to facilitate to the Latin American Governments, the planning, implementation and evaluation of programs which pursue a dramatic reduction of the high prevalence of low birth-weight babies in the Subcontinent.

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