Pediat. Res. *2:* 389–391 (1968)

Prevention of Malnutrition as a Problem of Ecology

Howland Award Address [3]

PAUL GYÖRGY [4]

University of Pennsylvania, Philadelphia General Hospital, Philadelphia, Pennsylvania, USA

To be found by his compeers as deserving of the Howland Award, the highest honor the American Pediatric Society can bestow on one of its members, elicits in me a degree of pride, a great personal satisfaction, and a certain feeling of a life's work well done. I wish to express my heartfelt appreciation to the President and to the members of the Council for selecting me as recipient this year of the Howland Award. It is a special pleasure and joy that the introductory remarks, I know sincerely felt, albeit flattering, were given by my true friend and old associate, Lew Barness. He deserves my special gratitude.

More than fifty years ago upon entering the university, my choice was medicine, with the fixed resolve to become a pediatrician. My chief motivation was an interest in biochemistry, especially in nutrition. The growing organism offered, in this respect, excellent opportunities for study not only in infants and children, but also experimentally in growing animals.

Fate was kind to me. It permitted and, one could almost say, steered me toward an academic career. My wife gave me all the necessary strength and encouragement to follow this direction. Teaching students, interns, residents, research fellows, attending ambulatory and ward patients, and last but not least, laboratory work and literature-search completely occupied my time, in general, seven days a week.

In the more recent decades of my pediatric career, the world has undergone cataclysmic changes, making it imperative that all physicians, and specifically we pediatricians, revise our old, through chronic conditioning, deeply ingrained views and general philosophy.

Since the early fifties, I have had the opportunity to observe the prevailing and rapidly deteriorating conditions in many developing countries of the world (Southeast Asia, Africa, Central and South America). This opportunity came about as the result of my appointment as consultant to international agencies, WHO, FAO, and UNICEF, and to USAID, the US Department of Health, Education and Welfare, the US Army, and by virtue of a grant from the National Institutes of Health. However, we don't have to leave our own country to find in the slums of our cities poverty, unemployment, frustration, and severe deprivation of children and malnutrition, with their dire consequences.

In developing countries, the large majority of the population, up to 85 %, still live by agriculture, in rural hamlets, villages, and small towns. The problems of rural areas are in many respects far different from those of the slums of our own country or of the shanty towns that fringe large cities in developing countries. Admittedly, both education and health are pivotal factors in rural as well as in urban areas. However, the shortcomings of the human ecological system in villages center chiefly around agriculture, animal husbandry, and cottage industry, whereas in urban areas, the problems center predominantly around unemployment, poverty, human dignity, and social relations.

The gap between the affluent few and the hungry millions in underdeveloped nations and that between the many affluent and relatively few, but still considerable number of poor in highly developed countries, our own included, is widening and may become unbridgeable if properly directed efforts fail.

In the great majority of developing countries today, 70 % or more of the children under 6 years of age are malnourished and have no opportunity of developing their full potential. Preschool children represent the most vulnerable age class and are especially difficult to reach. Early malnutrition and other injurious environmental factors, such as broken home life, may make a lasting imprint on the physical and mental development of these children. The limits of reversability of this damage have not yet been fully defined. However, it is highly probable that without improved social and nutritional conditions, the damage of early childhood may engulf the future generation, leaving

its mark on the general social, economic, and cultural development of the nation.

As in the fight against infectious diseases, prevention of malnutrition is vastly more important than treatment. This approach in the control of malnutrition has not received in the past, or even in recent years, the emphasis it merits. Preventive measures should apply to children already born, as well as to pregnant and lactating mothers.

The reasons for the failure of previous preventive programs were manifold; for instance, to mention only one, the well-intentioned supplying of milk powder in large numbers of developing countries was in general ineffective and wasteful. The most glaring defect appeared in the distribution of food supplements. Also, there was often lack of transportation, of adequate intensive supervision and negligence in proper 'conditioning' of families. Modern psychology stresses more and more the importance of learning through 'conditioning' for behavioral changes. Education, with its traditional lectures, posters, slides, and movies, is no replacement for conditioning through direct and persistent personal contact. Infrequent short visits of families to Maternal and Child Health (MCH) Centers, or vice versa, of health personnel or nutritionists and home economists to the home are no substitutes for continuous contacts.

Malnutrition is by no means a health problem alone. Especially in its preventive aspect, there should be a joint effort in appyling the principles of ecology which include all environmental factors such as public health, agriculture, economics, education, demography, cultural anthropology, psychology, and social welfare. This synthesis has not been carried out to any appreciable extent in the past. The pediatrician of tomorrow should not only heal but should 'prevent' malnutrition caused by faulty diet and/or deprivation with all its social implications. He should be well versed with the multifaceted problems of the human 'ecosystem'. '*Social Pediatrics*' should play an important role in the future.

Every Pediatric Department in Schools of Medicine should have a senior faculty member and a program centered in a Division of Social Pediatrics. Although some medical schools are attempting such efforts through the development of Departments of Community Medicine, it is my belief that the interests of children will be served best through the continuing development of social pediatrics. The academic background for the social pediatrician should continue to be the rich clinical training for pediatricians and should also include public health, and biostatistics, with some direct contact with liberal arts, such as cultural anthropology, economics, psychology, sociology, demography, etc. He should organize or help to institute postgraduate courses in the social aspects of medicine, with special emphasis on pediatrics. Health offices of states, provinces, and cities, as well as rural health centers, should have on their staff, or as regular consultants, representatives who have participated in postgraduate training of social pediatrics.

In the curriculum of medical students, more emphasis should be placed on social and related sciences in the Pediatric Department under the direction of the Division of Social Pediatrics, again, in close contact with the department of Community Medicine.

Although these ideas and programs have been formulated preponderantly within the scope of prevailing conditions of medical education in highly developed countries in mind, they apply out of necessity equally well for less developed countries. Senior well-trained pediatricians of academic institutions or health services from developing countries should be sent for postgraduate training in social pediatrics to various University Departments of Pediatrics in highly developed nations. In these training programs the needs of the respective countries should be kept clearly in the forefront. Upon their return to their homeland, these trainees could and should act as catalysts for social pediatric training.

As essential auxiliary personnel, national volunteers will be needed in implementing programs such as Head Start in the United States or equivalent programs in developing countries. International volunteers coming from foreign countries with a variety of traditions and backgrounds, the differing general philosophies, and the unavoidable difficulties in communication are, with very few exceptions, no adequate substitutes for well-selected national volunteers coming not only from their own county but preferably even from the surrounding areas of the villages (but not from the villages themselves) where their future activity will take place. Such volunteers need no specialized education but should belong to the class of 'generalists' between the age of 21–28, such as young graduates in liberal arts (sociology, psychology, cultural anthropology, political science, etc.). In their selection, special attention should be paid to individual motivation, idealism, and a high degree of unselfish compassion. The volunteers should be trained for service in selected urban projects or in villages, residing in the areas up to two years. Their short introductory training (6–8 weeks) should stress the 'multipurpose' nature of their activity. They should be able to fall back for resource support on national (state, provincial, rural centers) experts in the fields of health, agricultural extension, animal husbandry, community development, home industry, demography, social welfare, education, etc. Direct and continuous supervision of the volunteer effort is essential. This could be done either on a full-time or part-

time basis (preferably full-time) by a pediatrician or public health officer with proper training in social pediatrics. In many developing countries, with early retirement age in civil service, retired public health officers are the best available supervisory personnel. The volunteers may recruit helpers from the village population who could assist them in various activities such as organizing day care centers, kindergartens, in schools, planned parenthood, etc. Our experience tells us that all over the world there is a large reservoir of people with deep dedication and commitment ready to embark on careers of service. Pediatricians, because of their special knowledge, have a responsibility for leading the way in formulating programs through which their energies may be properly channeled in the service of children and their families.

Medical students, interns, and residents, especially those in pediatric training, should spend periods of 6–12 weeks with the volunteers of a given area.

Periodic evaluation, not only of health conditions but also of ecologic changes, should constitute a central part of all such projects. For initial pilot projects in rural areas, four villages should form one blook. Village A should receive supplements and volunteers, Village B only volunteers, Village C only food supplement, and Village D nothing.

In passing through the various way-stations to adult life, I have completed the full circle: a synthesis of medicine, scientific research in vitamins, protein, human milk, experimental and clinical nutrition to the highest priority of our times—humanity.

In paraphrasing a statement written by Kenneth T. Young, former US Ambassador in Thailand and now President of the Asia Society, '... it seems to be increasingly recognized that the essence of the challenge to understanding and coping with the problem... of general rural and urban rehabilitation is human' [1]. In conclusion, one could also quote the South Vietnamese Buddhist monk, Thich Nhat Hanh: 'Problems come if you live too comfortable a life and sufferings arise. When you focus on yourself, you find many more problems. Not realizing the suffering around you in the world—I don't think it is a happiness. You feel loneliness and emptiness, and these are more unbearable than any other kind of suffering... The most effective medicine is an experience of the suffering around you. Then you heal.' [2].

References and Notes

1. Asia *6:* 6 (1966).
2. New Yorker, June 25, p. 21, 1966.

3. Delivered at the time of the Annual Meeting of the American Pediatric Society, May 1, 1968, in Atlantic City, New Jersey.

4. Requests for reprints should be addressed to: Dr. Paul György, Professor Emeritus of Pediatrics, University of Pennsylvania, Philadelphia General Hospital, Philadelphia, Pa. 19104 (USA).