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THE HEALTH OF ADOLESCENTS AND YOUNG PEOPLE IN LATIN AMERICA AND THE CARIBBEAN[1]

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The United Nations and the Governments of the Americas have made it a priority goal to create the best possible health and social conditions for people passing through adolescence and youth. This article reviews the current health conditions of these groups in Latin America and the Caribbean, as well as the general approach indicated for providing health services addressed to their specific needs.

Some limited progress has been made, especially in the last decade, toward improving maternal and child health in the Americas and this improvement has been reflected in reduced rates of mortality in early life. This reduced mortality, however, has helped to promote more rapid population growth—especially in the ranks of youths and adolescents. Partly as a result, by 1975 the 10-25 age group in Latin America and the Caribbean had grown to include 67 million individuals (*1*). Obviously, this continuing growth has created a new situation with regard to the health of these intermediate groups.

Definitions

There is general agreement that the term "adolescence" refers to a biological maturing process during which a young person begins trying to develop and perfect his or her personality, sense of identity, capacity for abstraction, and harmonious adaptation to the social environment (*2*). Chronologically, it may be said that this period runs roughly from 10 to 20 years of age, starting at the beginning of puberty and ending when most of the process of biological growth and development has been completed (*3, 4*).

The concept of youth, on the other hand, is primarily sociological, youth being the stage during which people begin to form part of society, with full rights and responsibilities. Youth, thus defined, runs roughly from 15 to 25 years of age, starting at the post-puberty stage of adolescence but then gradually extending beyond it and continuing on into adulthood. Important cultural and sociological features typically present during youth are continued formal basic education, vocational training, and opportunities for effective entry into the work force. As this implies, the biological concept of adolescence is more related to medical and health parlance, while the sociological concept of youth is more related to the process of social integration.

Basic Requirements of Adolescence and Youth

Biological Needs

In economically underprivileged groups—although not exclusively in them—the lack of proper sex education leads to early procreation and insufficiently spaced births; this increases the reproduction-related risks to which young women and their children are exposed (*5, 6*).

Also, nutritional requirements, especially the need for sufficient caloric intake and

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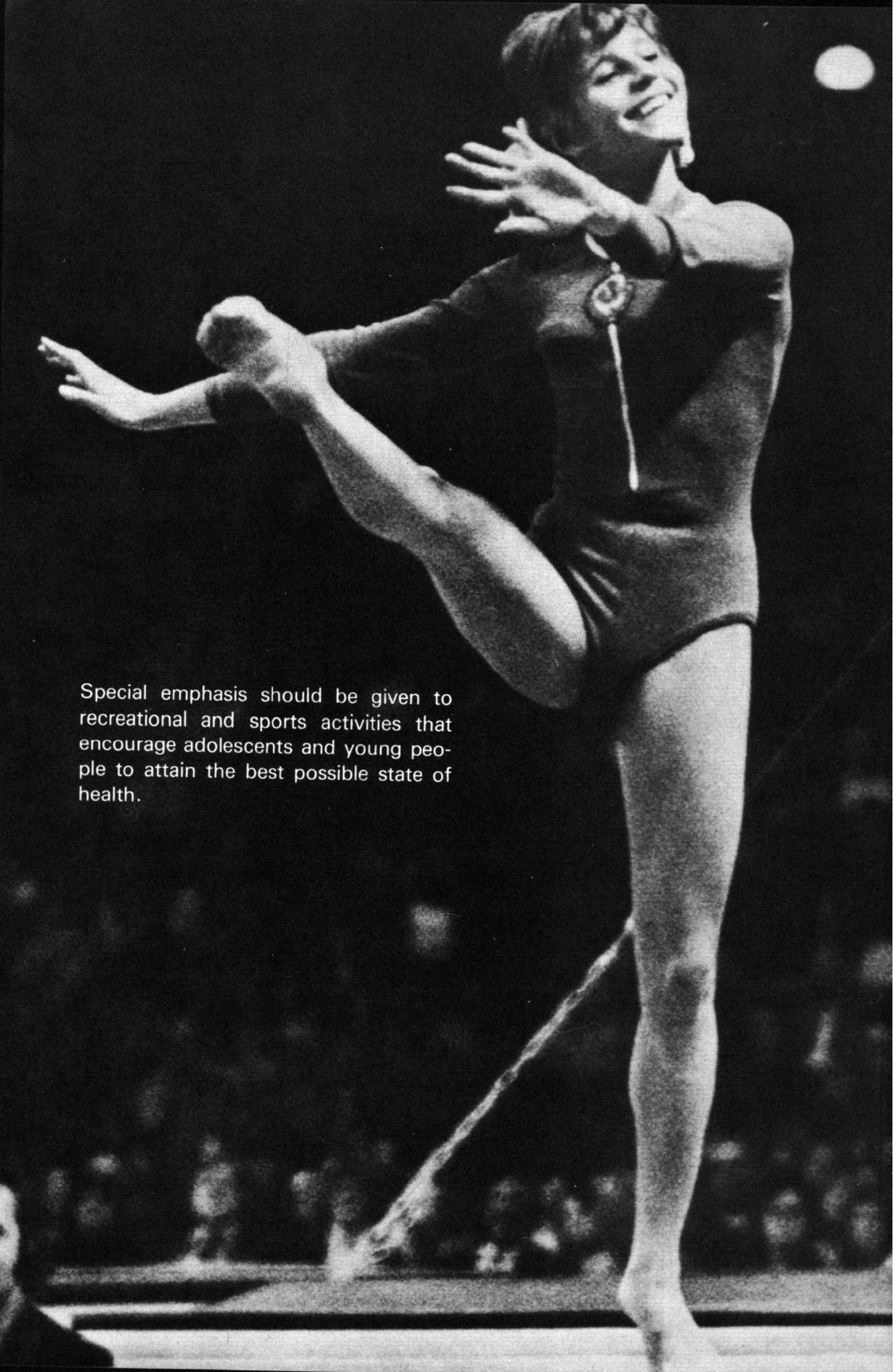


Special emphasis should be given to recreational and sports activities that encourage adolescents and young people to attain the best possible state of health.

for certain specific nutrients, are greater in adolescence than in earlier periods of life (*4, 7*). In the poorer segments of the population, conditions tend to limit satisfaction of these nutritional needs; thus lack of a biologically adequate diet, intercurrent disease, and concomitant emotional deprivation combine with other unfavorable organic consequences incurred earlier in life to reduce the young person's potential for full development.

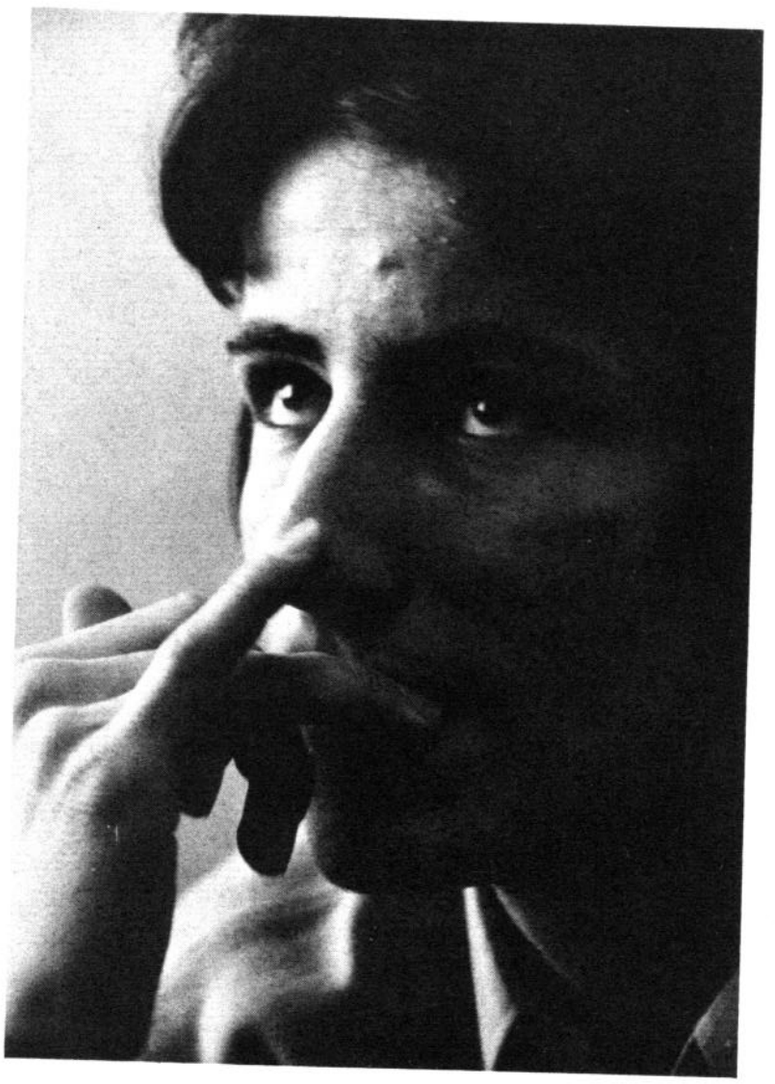
Psycho-Social Needs

During adolescence and youth the young person seeks to change his or her family and social relationships, to become increasingly independent of the adult world (especially of parents), and to strengthen relations with peers. Hence it is necessary to consider the relationship between generations—according to which adults protect children up to a certain age, an age that varies considerably from one society to another. In the Americas the process of accelerated urbanization is changing this relationship, largely because the nuclear family has come to replace the extended family that included older people and many young people in their early married years. It must be borne in mind that more than 60 per cent of all women marry before age 25. Although data available in the Region do not permit generalization, it may be said that in the urban areas of some countries, as compared to rural areas, young people usually become independent earlier and take on employment and family responsibilities earlier. Meanwhile, young people in rural areas (especially females) tend to migrate more than the members of other age groups, automatically removing themselves from their nuclear families. These circumstances produce a lack of essential health and social services for these young people, who are not eligible because they no longer belong to the family group and do not yet have their own legal status in the social system. For these reasons the young people involved also constitute a transitional group, and as such show unstable characteristics.

Educational and Occupational Problems

Between 1950 and 1970 roughly one-third of those in the 15-24 year age group were illiterate in eight countries of the Region, and roughly one-fifth were illiterate in 15 countries. Moreover, it has been estimated that while 75 per cent of the Latin American population in this age range had access to primary education in 1970, only 35 per cent had access to secondary education and only 5 per cent to higher education. This poor situation was made even worse by high rates of attrition among those entering at each level. Furthermore, formal education systems in Latin America provide only part of the preparatory needs of the young population, a fact that has recently prompted experimentation and promotion of training programs outside of school (*8*).

It should also be pointed out that over half the young people between 15 and 25 in Latin America and the Caribbean are part of the work force constituting up to one-third of the economically active population. As a rule, the conditions under which these young people enter the work force are difficult. In the urban areas they generally begin working before completing their pre-university training, and in rural areas the situation is much worse. Furthermore, the rate of employee turnover is high, a circumstance tending to reduce both wages and social security benefits. For young people with low socioeconomic status, this usually means disguised unemployment that encourages urban migration, while for those in the middle and upper groups it means that despite adequate training their occupational opportunities are limited. This latter situation often produces a sense of frustration, since those affected are unable to find proper jobs and appropriate salary levels, a circumstance that again tends to encourage migration (*9*).



Adolescence is a time that shapes one's personality, sense of identity, capacity for abstract thought, and harmonious adaptation to the social setting.

Health Needs

The health situation of youths and adolescents must be considered part of a continuing life process shaped by previous circumstances and by the economic, social, cultural, and environmental conditions in which these people live. In turn, these young people's behavior helps to determine their health and that of their families, and their communities. Overall, it may be said that a continuum exists—the past influencing young people, and they in turn shaping their own health patterns and those of the next generation.

Basic Causes of Mortality

Accidents, suicides, homicides, complications of the reproductive cycle, malignant tumors, cardiovascular diseases, and infectious diseases are the principal causes of death in adolescence and youth. Their prevalence varies from country to country (see Tables 1 and 2) (*2, 10*).

Death from External Causes

External causes of death—including motor vehicle accidents, homicides, suicides, and the like—are the leading cause of death in the 15-24 age group in the Americas. Many of these deaths are related to consumption of alcohol and drugs.

Traffic accidents. Especially in Latin America, traffic accidents constitute a health problem of unknown epidemiology and scope. It is clear, however, that the most affected population groups are adolescents and young adults. Available statistics indicate that in 1969 accidents attri-

Table 1. Leading causes of death in the 15-19 age group, showing the rank order of the five leading causes and the percentage of total mortality ascribed to each of them in 10 countries of the Americas, in the latest year with available data.

Country	Year	Accidents		Suicides		Homicides		Malignant tumors		Heart diseases		Tubercu-losis		Influenza and pneumonia		Enteritis and other diarrheal diseases		Complica-tions of pregnancy		Anemia	
		Rank	%	Rank	%	Rank	%	Rank		Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%
Argentina	1969	I	37.0	II	6.9	–	–	III	6.7	IV	5.0	V	4.9	–	–	–	–	–	–	–	–
Chile	1972	I	43.6	III	5.4	–	-	IV	5.3	V	4.6	–	–	II	6.3	–	–	–	–	–	–
Colombia	1969	I	29.8	–	–	II	7.9	V	4.1	III	6.1	–	–	–	–	–	–	IV	4.6	–	–
Costa Rica	1972	I	39.1	III	6.5	–	–	II	9.8	IV	4.7	–	–	–	–	–	–	V	3.7	–	–
Cuba	1971	I	33.1	II	15.6	III	7.7	IV	6.9	V	5.5	–	–	–	–	–	–	–	–	–	–
Guatemala	1971	III	11.5	–	–	–	–	–	–	–	–	–	–	I	15.9	II	14.7	–	–	IV	5.1
Jamaica	1971	I	20.9	–	–	–	–	IV	6.5	II	13.1	–	–	–	–	–	–	III	7.2	–	–
Mexico	1971	I	26.9	–	–	II	7.3	–	–	III	6.4	–	–	IV	6.2	V	5.1	–	–	–	–
United States	1969	I	61.2	IV	4.9	II	6.8	III	6.3	V	2.2	–	–	–	–	–	–	–	–	–	–
Venezuela	1971	I	37.7	II	8.8	III	6.1	III	6.1	V	2.9	–	–	–	–	–	–	IV	3.3	–	–

– Not one of the five leading causes of death.
Source: PAHO, Department of Health Statistics, 1974.

Table 2. Leading causes of death in the 20-24 age group, showing the rank order of the five leading causes and the percentage of total mortality ascribed to each of them in 10 countries of the Americas, in the latest year with available data.

Country	Year	Accidents		Suicides		Homicides		Heart diseases		Malignant tumors		Complica-tions of pregnancy		Tubercu-losis		Influenza and pneumonia		Enteritis and other diarrheal diseases	
		Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%
Argentina	1969	I	34.2	II	7.8	III	7.3	V	5.4	IV	5.8	–	–	–	–	–	–	–	–
Chile	1972	I	44.3	II	6.0	–	–	III	4.8	V	4.5	IV	4.7	IV	4.7	III	4.8	–	–
Colombia	1969	I	25.3	–	–	III	14.9	IV	5.8	–	–	III	6.3	V		–	–	–	–
Costa Rica	1972	I	38.3	IV	5.2	V	3.6	III	8.1	II	9.7	–	–	–	–	–	–	–	–
Cuba	1971	I	35.5	II	14.4	IV	7.2	–	–	III	8.3	V	5.0	–	–	–	–	–	–
Guatemala	1971	II	13.0	–	–	IV	9.5	–	–	–	–	–	–	–	–	I	14.2	III	12.5
Jamaica	1971	I	24.7	–	–	–	–	II	10.3	IV	5.7	III	8.0	–	–	V	4.6	–	–
Mexico	1971	I	24.6	–	–	II	11.4	III	5.6	–	–	–	–	V	5.4	IV	5.5	–	–
United States	1969	I	54.6	III	7.2	II	10.3	V	2.6	IV	6.0	–	–	–	–	–	–	–	–
Venezuela	1971	I	37.2	III	8.0	II	9.9	–	–	V	4.4	IV	4.5	–	–	–	–	–	–

– Not one of the five leading causes of death.
Source PAHO, Department of Health Statistics, 1974.

buted to motor vehicles were the first cause of death among males 15 to 24 in Canada, Costa Rica, the United States, and Venezuela (*11*).

Suicides and homicides. Suicide is one of the five leading causes of death among youths in 10 countries of the Americas. Males tend to suffer a higher incidence of suicide than females; on the other hand, attempted suicides are more common among females. Males show a preference for firearms and females for some form of poisoning. The suicide rate among students is often higher than among other young people the same age. Though investigation of the causes of suicide is only just beginning in Latin America, it may be said that these causes appear to be connected with psychic disorders and problems of social adaptation (*12*).

Death from homicide is most common among males 20-24 years of age, this being one of the five leading causes of death for that age group in 15 countries. It should be pointed out, however, that this category includes deaths stemming from social and political disturbances, events that have particularly affected this age group in certain countries (*12*).

Complications of Pregnancy, Childbirth, and the Puerperium

Over the past five years these birth-related complications were among the five leading causes of death in females 15-24 years of age in 19 countries of the Americas (Table 3). Moreover, such disorders appear to have been the leading cause of death among females 20-24 years of age in no less than 11 countries.

The chances that a pregnant woman will die of these complications is actually somewhat smaller for women in this latter age group than for those in others, because the incidence of such complications is lower. However, because of the larger number of pregnancies among women in this age range, there is a larger total number of deaths.

Illicit abortion is an important cause of maternal mortality. The incidence of such deaths is undoubtedly underestimated, there being no statistical records.

Table 3. Mortality data showing the rank (among the five leading causes of deaths) and the percentage of total deaths from complications of pregnancy, delivery, and the puerperium (ICD 630-675) in the female population 15-24 years of age in 10 countries of the Americas, in the latest year with available data.

Country	Year	Age groups			
		15-19 years		20-24 years	
		No.	%	No.	%
Argentina	1969	III	8.1	II	10.9
Chile	1972	II	10.7	II	14.4
Colombia	1969	II	10.9	I	15.5
Costa Rica	1972	III	11.3	III	9.1
Cuba	1971	IV	6.1	III	11.4
Guatemala	1971	V	5.5	III	7.2
Jamaica	1971	I	15.1	I	20.3
Mexico	1971	II	10.2	I	12.7
United States	1969	–	1.8	–	2.9
Venezuela	1971	III	8.5	I	14.0

– Not one of the five leading causes of death.
Source: PAHO, Department of Health Statistics, 1974.

Existing data for 10 Latin American cities' urban zones indicate that abortion accounted for 13 to 53 per cent of all maternal deaths. Data obtained by the Inter-American Investigation of Mortality (*12*) indicated that in one country 16 per cent of the maternal deaths in the 15-24 age group were due to abortion. It is noteworthy that in urban areas the major portion of these deaths in the 15-24 age group occurred among single women (*12*).

Regarding the epidemiology of all these complications, it must be borne in mind that they reflect a social problem arising largely from processes of acculturation and urbanization and from the often uncertain protective role now played by the family in many settings.

Other Causes

It should also be pointed out that in many places malignant tumors, heart disease, and various types of communicable diseases—especially pneumopathies and in some areas tuberculosis—are found among the five leading causes of death in the 15-24 age group in Latin America (see Tables 1 and 2).

Principal Causes of Morbidity

Although morbidity varies in different urban and rural environments, most of the morbidity among young people in Latin America and the Caribbean tends to arise from accidents, diseases connected with the reproductive process (including venereal diseases), and mental and psycho-social disorders. In addition, in rural areas morbidity produced by malnutrition and concurrent infections tends to be significant.

Accidents

Besides costing lives, accidents leave many temporarily or permanently disabled victims in need of rehabilitation. In fact, for every person who dies in an accident, an average of 10 to 15 are gravely injured and 30 to 40 are slightly injured.[3] Young automobile drivers are the most affected, and this fact is linked to psychological, physiological, and pathological factors that influence their behavior on the road.

Venereal Diseases

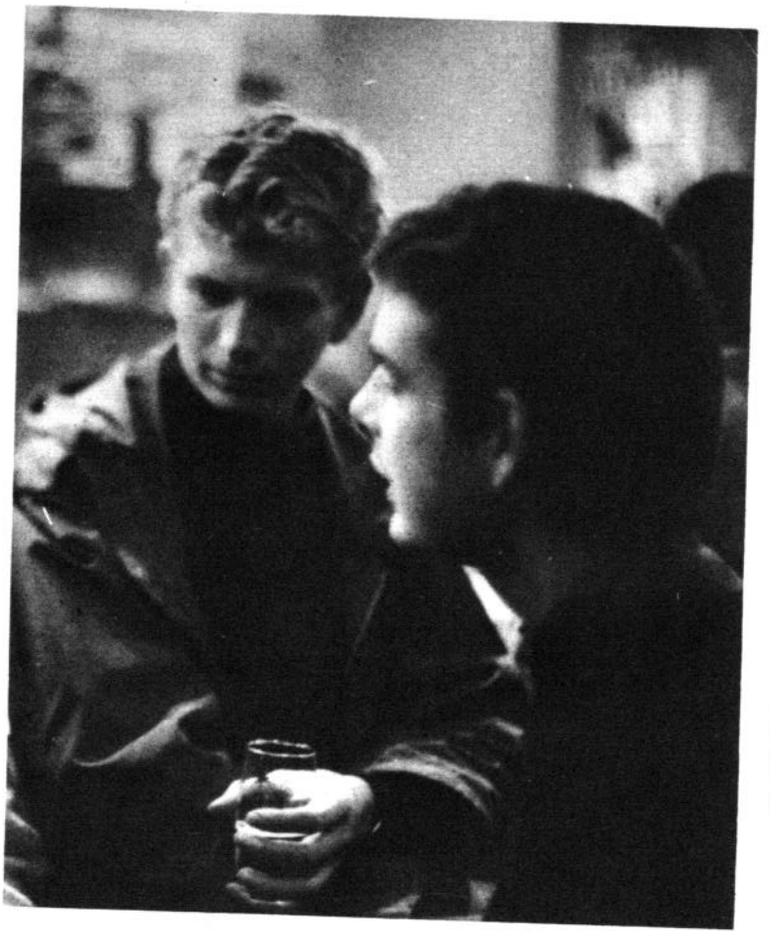
Over the past decade the incidence of venereal diseases, especially gonorrhea, has risen in a large number of countries at all levels of development. The increase has been significantly greater among the young than among the whole population. For example, in recent years the incidence of gonorrhea has risen 53.1 per cent among Venezuelan males 10-19 years old, while rising only 10 per cent among the Venezuelan population as a whole (*13*). In the United States over two-thirds of all gonorrhea cases currently occur among people under 25 years of age. In addition, a study of nine countries (*14*) indicates a similar distribution of both gonorrhea and syphilis among males and females 15-19 years old, a pattern that does not occur in older age groups.

The whole situation reflects a social pathology in which prostitution and drug addiction are included. The increase in the number of venereal disease cases is also due to more permissive sexual attitudes, as well as to lack of proper sex education and failure to take effective preventive measures. In addition, the social stigma peculiar to venereal diseases interferes with both prompt medical treatment and adoption of effective epidemiologic measures.

Mental and Psycho-Social Disorders

Adolescence and youth are characterized by behavior changes reflecting difficulties with social adaptation. Such changes may

[3] *World Health*, October 1976.



Adolescence and youth are times when habits leading to alcoholism seem especially apt to form. Hence key research and other activities directed against alcoholism should be addressed to the 15-24 age group.

result in depression, alcoholism, and drug addiction; and these may lead in turn—in the most serious cases—to criminal behavior.

Alcoholism. Besides the specific organic damage it produces, alcoholism is a very important factor in the genesis of other morbid conditions. These include suicide (25 per cent of the suicides in Chile occur among alcoholics), homicide (17 per cent of the homicides in Colombia are associated with alcoholism), and traffic accidents (one-third of all traffic accidents in Peru involve alcoholics) (*15*).

It can be assumed that a certain proportion of alcoholics—among whom males predominate—are like smokers in that they acquire the habit during youth. For this reason, it is important to direct preventive and research activities at the 15-24 age group.

Drugs. Drug addiction affecting young people stems from their curiosity, desire to express independence, need to belong to a given group, escapist tendencies, and desire to experience a state of well-being. Major factors determining drug consumption, on the other hand, are availability of the drug in question and social and family acceptance (*16*).

The United States has seen a sizable increase since 1967 in the illicit consumption of nonopiate drugs, especially among middle-class youths who are in the last years of high school or the early years of university or military life. Information obtained in 1972 indicated that about 23.6 per cent of the North American population had used marijuana on some occasion between the ages of 12 and 17 (*16*).

Other Problems

Among the other problems affecting health in adolescence and youth are emotional disorders of various kinds (including

those relating to education and vocational training), malnutrition, parasitic diseases, obesity, dental caries, various dermatoses (including acne), and metabolic and endocrine problems (including goiter and diabetes).

Proper nutrition, as already noted, helps ensure normal development. Precise techniques for assessing nutritional status have been developed (*16-19*), but effective epidemiologic surveillance is lacking. Those survey data which do exist indicate that young people may satisfy only 70 per cent of their nutritional needs (*10*).

Health Services for Young People

National programming and institutionalization of health services for young people is of recent origin in Latin America and the Caribbean. That is because young people's health care priorities cannot be delineated by criteria related to specific morbidity and mortality risks, these risks being relatively slight at their period of life. To achieve true efficiency with this incipient programming, it will be necessary to analyze the nature of the present status of health services directed at youths and adolescents in Latin America and the Caribbean, and to assess the efforts being made in the countries of that region (many of which involve international cooperation) to overcome the problem at hand (*2*).

Health programs and services for young people must be integrated; that is to say, they must consider both the preventive and curative aspects of the problems involved. Young people must be brought in as participants, so that they are both users of the program and its protagonists—exercising their potential roles as promoters of the health activities involved (*2, 10*). In addition, it is essential that such health programs be multidisciplinary, confidential, and widely accessible (*20*).

Since psychological, cultural, and social factors often condition the needs of youth, a health service for young people should offer educational, vocational, and legal services—either directly or through referral mechanisms. Likewise, the health service should provide an opportunity for developing recreational and sports activities (*2, 4*). To these ends, psychologists, sociologists, social workers, and lawyers should work together, using an interdisciplinary approach.

In general, a health service for adolescents and young people should include medical services proper—including teams to provide diagnosis and treatment and for control of emergency situations, ad hoc statistical registries, and follow-up and referral systems. Likewise, steps should be taken to provide dental care, detection and timely treatment of sensory anomalies and behavior problems, and treatment of alcoholism and drug addiction. It is especially important, in addition, to provide young people with opportune advice about matters involving these two latter problems (*19*).

Attention should also be given to services providing orientation for family life—orientation including sex education, information about contraceptives and provision of appropriate devices, early detection of cervical and breast cancer, and diagnosis and control of venereal diseases (*4, 21*). Finally, it is vital that attention be given to assuring adequate nutrition and to the general subject of health promotion.

The programming of youth health activities requires both information about the knowledge and attitudes of young people and data from epidemiologic studies capable of determining actual conditions prevailing in each setting. In this regard, some interesting studies have been made (*22*) that specify the types of problems young people present, the priority they assign to such problems, and the persons (including general practitioners, peers, and family members) whom they are most likely to consult.

Information obtained by youth health

Health services that promote personal adjustment to the community and provide orientation for family life have special importance in youth and adolescence.

services should be confidential. That is, it should not be transmitted indiscriminately to the subject's family, school, employer, or other requesting agency. This practice makes it easier to gain access to young people and to forestall the sanctions to which those suffering from certain diseases are exposed.

As a rule, youth health services should be offered on the premises of general health services; occasionally, however, their installation at schools, or at customary places of work or recreation, improves accessibility (*2, 4, 16*). It is also important to adopt a useful and realistic program that extends coverage, especially primary health care, in periurban and rural areas where the problems are most severe (*2*). In appropriate cases, when specific resources are available, innovative youth health projects can be undertaken for research and training purposes (*2, 10, 23*).

In addition, youth health programs should offer conditions that will ensure research in several areas—including juvenile pathologies, the operational effectiveness of the services provided, and the training received by professional, technical, and volunteer personnel. This personnel training element is particularly important, because it is necessary for youth program personnel to create a special atmosphere of confidence (*2, 4, 23*).

Programming of Youth Health Services

In contrast to the United States, Canada, and certain European countries, Latin America and the Caribbean have seen little development of specialized youth referral services intended for the care of specific pathologies—including behavior disorders, sensory and psycho-motor disabilities, and metabolic diseases—aside from those services associated with university centers.

Health activities directed at young peo-

ple have not been considered in the broader context of the youth health promotion that can be achieved through local centers promoting cultural, educational, and recreational activities and physical well-being. Neither have young people been allowed to participate regularly as protagonists in health programs, and voluntary cooperation by young people in this field has generally been limited and temporary. Moreover, when such cooperation has occurred, the youth groups involved have merely come to constitute an additional resource of the health services, little advantage being taken of their leadership potential in formulating the programs involved.

The Role of International Collaboration

Over the past decade various international agencies, in particular those belonging to the United Nations system, have become aware of the basic role of youth in promoting the concepts of peace, mutual respect, and understanding between peoples (*24, 25*). This has led to coordination of certain activities by the United Nations and its specialized agencies (*26*) and to establishment of appropriate mechanisms for achieving adequate coordination between the specialized agencies, national governments, and national and international youth organizations (*27*).

In this regard the cooperative programs promoted by UNICEF deserve mention, especially those dealing with diagnosis and formulation of national policies for protection of young people in Latin America (*28, 29*). The Food and Agriculture Organization (FAO) is also carrying out important activities, most of them in conjunction with the World Food Program (WFP), to promote adequate nutrition for young people; and UNESCO and ILO have carried out promising activities designed to satisfy the needs of young people in the respective fields of education and labor. In addition, the United Nations Fund for Population Activities (UNFPA) has promoted research on human reproduction and has carried out activities designed to strengthen family planning programs, whose beneficiaries include young people (*30*).

The Organization of American States (OAS) has prepared valuable reports on the welfare of young people (*31, 32*). Special mention should also be made of the work by the Inter-American Children's Institute in Montevideo, Uruguay, on integral protection for infants, young people, and the family (*26, 32*).

In 1965 and 1976 World Health Organization (WHO) expert committees met to define the problems of young people and to lay the basis for adolescent and youth health programs (*3, 18*). Also, education for family life received special attention at the 27th World Health Assembly in 1974 (*33*). The Assembly recommended that WHO programs give more importance to the multidisciplinary component of health education in order to increase the protection afforded mothers, children, and young people facing the risks of modern life.

In accord with the Sixth Program of Work of WHO, the Pan American Health Organization is carrying out cooperative activities in the Region of the Americas that are designed to meet the health problems and serve the needs of young people in the various countries, in accordance with the requirements of the Governments involved.

The III Special Meeting of Ministers of Health of the Americas, held in 1972 in Santiago, Chile, with the technical advice of the Pan American Health Organization, drew up a policy for protection of the health of mothers, children, young people, and the family, and reviewed the strategy that should be adopted to achieve the pertinent goals (*34*). The Pan American Health Organization has also been providing advisory services through its projects in the areas of maternal and child health,

nutrition, mental health, and venereal disease control.

In addition, PAHO's Governing Bodies (*35, 36*) have emphasized that the design of an ad hoc methodology for analysis of the health problems of youth is essential. With that end in mind, the Pan American Sanitary Bureau has undertaken preliminary studies (*2, 10, 37, 38*) to help define relevant conditions in Latin America and the Caribbean; these studies are to be followed by more detailed investigations designed to thoroughly assess the youth health picture in order to properly program youth health activities. As previously noted, such activities should be included in the plans and programs of the respective countries' existing health services, and special attention should be given to obtaining the active cooperation of young people and their organizations.

SUMMARY

There is no doubt that people passing through adolescence and youth have special health needs. Although the life-threatening risks faced by these young people are smaller than those confronted by most other age groups, those risks are still significant. Moreover, young people run a considerable risk of morbidity and debilitation from such causes as accidents, reproductive problems, malnutrition, and behavior problems. Considering that the health, knowledge, habits, and status of these young people will play a major role in shaping the health of the next generation, there is every reason to devote the effort required to satisfy their needs.

For the most part, the countries of Latin America and the Caribbean are just beginning to respond to this need and to seek eventual establishment of integrated health activities addressed to the specific problems of youth. In general, such activities should be carried out within the context of the general health services, making use of the latter's specialized facilities. It is also important for youth activities to maintain a distinctly separate identity, because of the vital need to maintain the confidence and secure the active participation of the young people involved.

To achieve efficient programming and development of youth health services, it is important to embark on a continuing human resource training program and to undertake the necessary epidemiologic research. It is also necessary to analyze the conditions of the existing health services in Latin America and the Caribbean, and to obtain the technical cooperation required, making use in many cases of the collaboration offered by various international agencies.

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POLIO IN PERSONS REFUSING VACCINATION*

In Canada six cases of poliomyelitis, including four paralytic, occurred in the Province of Ontario during late July and early August 1978. Poliovirus type 1 was isolated from these cases as well as from 50 persons out of 500 who were investigated. Two cases occurred in the Province of Alberta, one paralytic and one poliovirus-associated aseptic meningitis. Also, there was a case of paralytic poliomyelitis in the Province of British Columbia.

The eight cases from Alberta and Ontario belong to groups rejecting vaccinations because of personal beliefs. All nine cases had a history of either direct or indirect contact with visitors from the Netherlands, belonging to the group responsible for the transmission of the disease there.

In the Netherlands, as of 2 August a total of 95 cases of poliomyelitis had been reported in the epidemic that started in early May within a population rejecting vaccination because of personal beliefs. Paralysis occurred in 71 of the cases and aseptic meningitis in 24. Eighty-six cases were confirmed and one death occurred in a 3-month-old infant.

In June there were 58 cases diagnosed and in July, 12 cases, indicating a decreasing trend. No cases occurred among persons with a history of immunization.

*Taken from the *Weekly Epidemiological Report* (PAHO) 50(45):259 (8 November 1978). (Based on: *Canada Diseases Weekly Report* 4(31, 32, 40).)