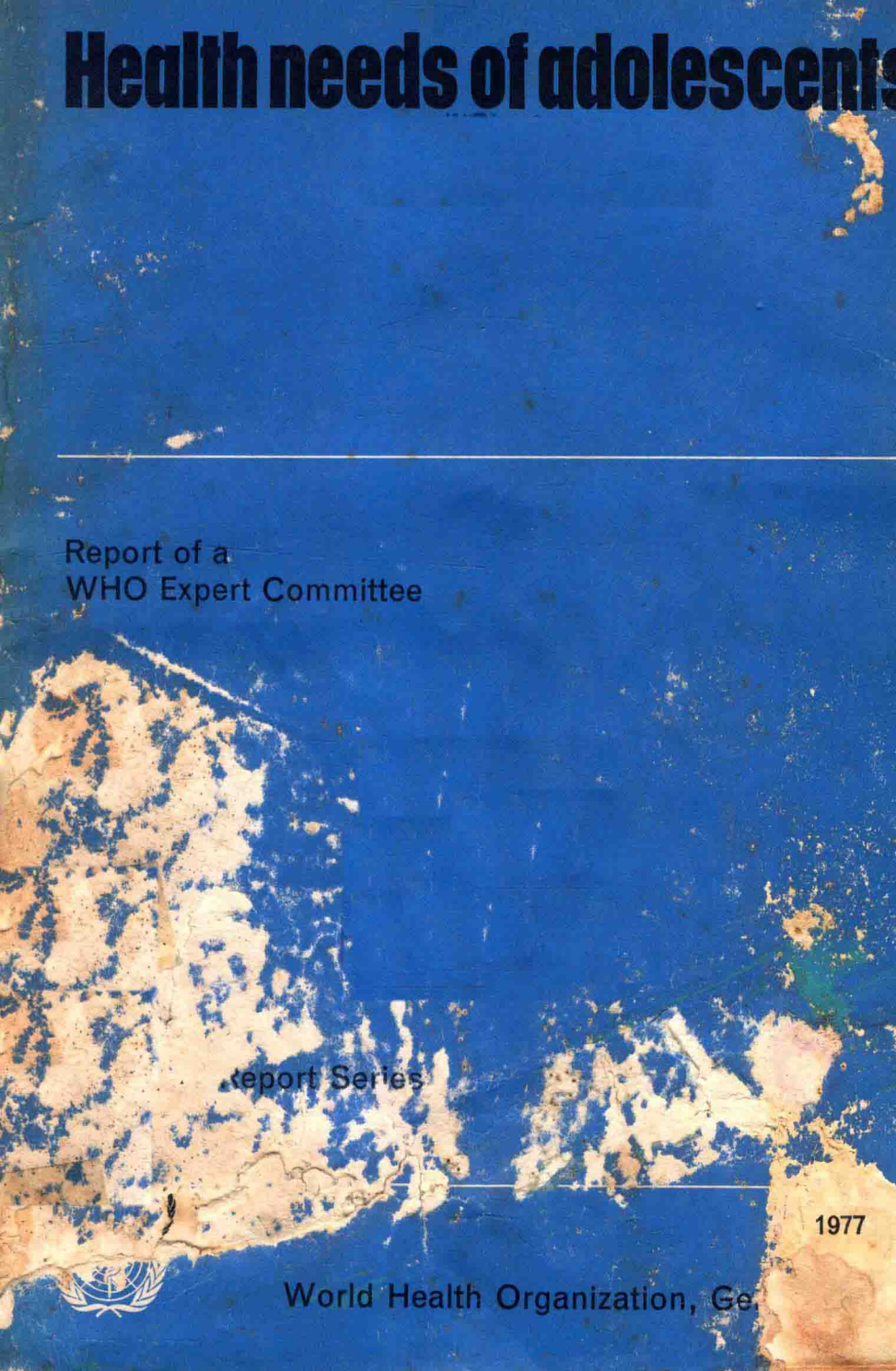
Health needs of adolescents

Report of a
WHO Expert Committee



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WHO EXPERT COMMITTEE ON HEALTH NEEDS OF ADOLESCENTS

Geneva, 28 September–4 October 1976

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HEALTH NEEDS OF ADOLESCENTS

Report of a WHO Expert Committee

The WHO Expert Committee on Health Needs of Adolescents met in Geneva from 28 September to 4 October 1976. The meeting was opened by Dr D. Tejada-de-Rivero, Assistant Director-General, who welcomed the participants on behalf of the Director-General and pointed out that relatively little attention has been given to the health of adolescents simply because mortality and morbidity rates are lower in this age group than in early childhood and because more obvious problems are seen during pregnancy and early childhood. It is, however, an acknowledged fact that if the aim is not only a reduction of mortality but the improvement of health and the quality of life, then health conditions throughout the whole cycle of reproduction, growth, and development, including adolescence, deserve due consideration.

1. INTRODUCTION

The onset of adolescence is a critical period of biological and psychological change for the individual. For many, it involves a drastic change in social environment as well. These years are highly formative for behaviour patterns and activities relevant to health.

In learning to become adults, adolescents can benefit from anticipatory guidance in respect of vital matters of human biology, health, disease, and behavioural adaptation. Though traditional beliefs still persist, they are no longer so effective in providing guidelines for behaviour in a period of major transition such as adolescence. There is a need to devise new types of guidance on ways of meeting the challenges that occur during the complex passage from childhood to adulthood in modern societies.

Recent discoveries in biological, behavioural, clinical, and epidemiological research have clarified the nature of this great transition. New scientific opportunities and the urgency of the social problems involved are likely to lead to a deeper understanding of the subject in the next decade. If utilized wisely in education, health, and social services, the available findings could make it much easier to treat effectively and,

above all, to *prevent* many of the disorders of adolescence. This in turn would decrease the adverse impact of such disorders on health in adult life.

Although there have been great advances in science and technology in various fields, including the prevention and management of disease, particularly in the last two decades, the benefits have unfortunately been limited to a relatively small proportion of the world's population. Thus today we are still faced with the great challenge of providing primary health care to a large number of periurban and rural populations that are not only deprived of these benefits but live in generally poor socioeconomic conditions. When such conditions prevail and environmental influences on health are adverse, it is obvious that, because of their physical and biological vulnerability, it is the mothers and children (including adolescents) who suffer most.

The interaction between the adolescent and the social, economic, and technological influences to which he is directly exposed should be viewed in terms not only of the care that adolescents need but also of the contribution adolescents themselves can make to the health and education of their family and society.

In this report, the problems of the health and wellbeing of adolescents are discussed on a worldwide basis, with special reference to developing countries. The sources of disease, disability, and suffering are summarized and causative and risk factors examined; health problems are placed in their social context; attention is drawn to special problems that have recently emerged and ways in which the situation might be improved by innovations in health services combined with changes in education and social services. Also discussed are such crucial questions as: how far the health status and situation of the adolescent reflect a situation originating in early life and childhood and how far the health of the adolescent and the attitudes acquired during adolescence can influence the outcome of pregnancy, the parental behaviour of future mothers and fathers, and the productivity of the future adult generation in general. Attention is also drawn to promising avenues of research that should lead to findings of vital significance and practical value for health.

The influence of the adolescent's childhood environment on his health and wellbeing is indeed great. It is the health workers concerned primarily with children who are in the best position to prevent the ills of adolescence, some of which have both immediate and long-term effects—for example, sexually transmitted diseases, high-risk pregnancy in early adolescence, the abuse of alcohol and drugs, and vehicle

accidents. Other problems that begin in adolescence may be compared to time-bombs since their main effects occur later in life.

The advantages of technological societies with their rapid industrialization and urbanization have often been attained at a high cost for the adolescent population through the introduction of complications in human relationships, personal security, and behaviour relevant to health. A deeper understanding of the situation of adolescents in today's rapidly changing societies should make it possible to view with greater compassion the biomedical and psychosocial dilemmas to which they are subject at this transitional period which has such an important bearing on health and disease throughout the life-span.

1.1 Definition of the period of adolescence

Depending on the purpose for which they are made, definitions vary as to the exact age range of adolescence and the physiological and psychosocial events that characterize it. An entirely biological definition, starting with some index of puberty onset and ending with the ability to reproduce effectively, would leave out social considerations of great practical importance. Most cultures relate the beginning of adolescence to the onset of puberty in one way or another, but they differ widely in their specifications of what constitutes the end of adolescence. There is, however, one unvarying factor : though no longer a child, the adolescent is not yet considered by society to be fully adult. Cultures specify adult roles, responsibilities, and prerogatives differently ; but, irrespective of how they are defined, adolescence is considered to be over when they are reached. As cultures become more complex, this point occurs later and later ; yet there is at the same time a secular trend towards earlier puberty. Thus, for an extended period, many individuals are biologically mature but have not yet attained full adult status.

For research or clinical purposes, it is often useful to specify development in terms of some index of puberty such as menarche or growth spurt plus a specified number of years. However, it is difficult to utilize such definitions for general population statistics relevant to health planning. For this, it is useful to have age groups that distinguish between earlier and later phases of adolescence averaged for large populations, e.g., 10–14 years, 15–19 years. Also frequently employed is the broader concept of " youth " conventionally designated in statistical reporting as the period 15–24 years.

For the purpose of this report it is preferable to keep the chronological definition of adolescence broad so that it can be useful in a variety

of health and sociocultural contexts. The age limits proposed by an earlier WHO Expert Committee,[1] i.e., 10–20 years, appear to cover most of the events mentioned above and will be used as a basic definition in this report. However, the main characteristic of adolescence must be borne in mind, namely, that it is a period of gradual transition from childhood to adulthood.

2. SOME BASIC PHYSIOLOGICAL AND PSYCHOSOCIAL NEEDS

2.1 Growth and development

It is clear that there has been considerable neglect of the adolescent phase of life in research, education, and health care. There is a clear need for distinct and visible services to meet the specific needs in each cultural setting. Regardless of cultural differences, important as they are, there are certain fundamental characteristics of the early part of adolescence that are quite striking: rapid physical growth, changes in psychological functions and organ systems of the body, and completion of sexual development.

Adolescence is thus a period in the growth of males and females when marked morphological changes occur in virtually all organs and systems. In particular, the immature hypothalamic-pituitary-gonadal system becomes mature.[2]

The main changes are:

(1) The adolescent growth spurt: marked acceleration of size and change in shape of the body as well as of many organs.

(2) Gonadal growth and development.

(3) Growth of the secondary sexual organs and sexual characteristics.

(4) Changes in body composition.

(5) Growth of respiratory, circulatory, and muscular systems leading to increased strength and efficiency of body energy production.

This process of physical growth and maturation is accompanied by mental and psychosocial developments: an increasing awareness of

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[1] WHO Technical Report Series, No. 308, 1965.

[2] FALKNER, F. *Patterns in adolescent growth.* Unpublished document No. MCH.WP/76.2. This document is available from Maternal and Child Health, World Health Organization, 1211 Geneva 27, Switzerland.

one's own individuality, a shift from concrete to more abstract modes of thinking, and changes in the body image. Adolescence is a phase of life in which variations are exceedingly large, not only between different individuals of a given age but also within the same person over time. It is important that this should be understood by adolescents themselves, their families, the health professions, and the public at large.

It is essential to know the basic growth patterns that occur during adolescence, for these are fundamental in facilitating the understanding and care of the physical and mental health of adolescents. These patterns are related to many nutritional, biomedical, and behavioural factors. Norms for growth will vary between different regions and countries, however, and national norms must therefore be established.

The growth spurt occurs earlier in females than in males, but lasts longer in the latter. Indeed, 5% of healthy males continue to grow after the age of 18. Over the past two centuries in the more industrially developed countries, there has been a striking trend toward earlier physical (especially sexual) maturation and a somewhat less marked trend toward greater ultimate adult size. Adolescent growth and development are crucially influenced by earlier events, including events of the prenatal period and early childhood ; likewise, events in adolescence have an important bearing on subsequent health.

Adolescent growth and development are stimulated and guided by a complex set of endocrine processes going all the way back to prenatal life. The changes occurring in adolescence ultimately depend on the adequate development of the reproductive system in the prenatal period during which hormonal secretion is remarkably active. Endocrine changes in childhood are minor in comparison with those in the preceding prenatal period or in the subsequent adolescent period.

Both boys and girls produce the male hormone androgen, as well as the female hormone oestrogen, in relatively equal amounts throughout childhood. When a child reaches adolescence, the hypothalamus and pituitary mature sufficiently to develop hormonal secretion leading to the pattern typical for adults. A balance is created that is characterized by more androgen in boys and more oestrogen in girls. These hormonal changes lead directly to the physical developments that occur during puberty.

During puberty, the ovaries and testes produce enough steroid hormones to cause accelerated growth of the genital organs and the appearance of secondary sex characteristics. In girls, fluctuating excretion of oestrogen anticipates the menstrual cycle before menarche.

The onset of puberty is triggered by a complex interplay between the endocrine glands and the brain. Messages are transmitted from the brain to the pituitary gland, and the pituitary hormones then stimulate the secretion of sex hormones in increasingly large amounts. These hormones have important effects on various tissues of the body, including the brain, probably facilitating its maturation. Hormonal changes also seem to be related to concomitant changes in sexual and emotional behaviour, including aggressiveness. It is remarkable that so little psychobiological evidence is available on the subject, and there is a need for longitudinal research on the relationships between endocrine changes, bodily changes, and behavioural changes over the years of adolescence.

The great biological variability in individual patterns of growth and of pubertal change can have profound psychological effects on the adolescent in whom they are markedly early or late in comparison to his or her friends or classmates. An example of this remarkable variability is the fact that, among male adolescents whose maturation process is ultimately perfectly normal, the sharp upsurge in testosterone blood levels characteristic of the onset of puberty may appear as early as 11.5 and as late as 17.5 years of age.

2.2 Nutritional and psychosocial needs

The nutritional requirements of adolescents are considerably greater than those of younger children because of their rapid growth, and the more strenuous nature of their work and/or other physical activities. However, the energy, protein, and other nutrient needs still cannot be precisely determined because of the wide differences between individuals with regard to speed of growth and amount of activity. The energy requirements for optimal growth are not known, but recent studies suggest they may be somewhat lower than earlier estimates.[1]

Several exogenous factors may interfere with nutrition :

— food supplies that are inadequate in quantity and/or quality
— psychological and/or social factors likely to affect appetite
— food fads and cultural attitudes
— infections and parasitic diseases.

Dietary imbalance, however unimportant for short or medium periods, may lead to metabolic abnormalities in the long run. Thus,

[1] BEATON, G. H. & BENGOA, J. M., ed. *Nutrition in preventive medicine*. Geneva, World Health Organization, 1976 (Monograph Series, No. 62).

high-energy, high-fat diets constitute a risk factor for coronary disorders in adult life.

It is obvious that, among people living in extreme poverty, accentuated in many cases by social deprivation, the conditions necessary for healthy growth and development in adolescence will be lacking. The populations in much of the developing world suffer in childhood from severe protein-energy malnutrition, multiple childhood infections, and parasitic infestations, as well as a possible lack of psychological and social stimuli. This combination is associated not only with high morbidity and mortality rates in childhood but also with impairments in adolescence, such as retarded physical and intellectual development.

A generational cycle may be established when a young woman unfortunate enough to grow up in such circumstances becomes pregnant. The very poor and very young mother is likely to be severely overburdened, especially (in most societies) when she is unwed and her child unwanted ; her child is likely to be weaned early, to have an inadequate diet, and to be deprived of necessary stimulation and socialization.[1] The care of women in these circumstances should be given high priority by the health services as well as the educational services.

Special attention should also be paid to determining specific risk factors for various diseases and disabilities in adolescence, which is, in general, a time of special vulnerability. This could lead to rational intervention strategies, e.g., measures by the health, educational, and social services to deal with conditions involving a relatively high risk of a severe or common disorder.

Adolescent development may well have distinctive physical, biological, and psychological requirements. As already stated, there is evidence that nutritional requirements are higher during adolescence than in most other periods of life. The adolescent may also have special requirements in regard to psychological stimulation, sleep, and exercise. Certain distinctive psychosocial aspects of adulthood first come into prominence during the years of adolescence. These include : interpersonal and occupational commitment ; potential for pregnancy, childbirth, and parenthood ; and participation in the larger society. Strategies for coping with these developments are difficult to devise under conditions of poverty. Such surveys as exist on the subject show the

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[1] PROTEIN ADVISORY GROUP. Statement No. 18 on relationship of pre- and post-natal malnutrition in children to mental development, learning and behaviour. *PAG Bulletin*, **2** : No. 2, pp. 23-24 (1972).