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**WHO MEETING ON SERVICE-ORIENTED RESEARCH IN
ADOLESCENT FERTILITY**

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1. INTRODUCTION

A Meeting on Service-oriented Research in Adolescent Fertility in Europe was held in Warnemünde, German Democratic Republic, from 24 to 27 April 1978. It was convened by the WHO Regional Office for Europe in collaboration with the Government of the German Democratic Republic, the University of California at Los Angeles/University of Copenhagen Joint Centre for Studies of Health Programmes, the Transnational Family Research Institute, and the Society for Marriage and the Family of the German Democratic Republic.

The Meeting was attended by 14 temporary advisers from 9 countries, 4 observers, 3 staff members from the WHO Regional Office for Europe and 1 from WHO headquarters. Disciplines represented included demography, economics, law, nursing/midwifery, obstetrics and gynaecology, paediatrics, psychiatry, psychology, social medicine and sociology.

As a follow-up to this Meeting, a Meeting on the Application of Research Findings to the Development of Adolescent Fertility Programmes in Developing Areas of the Region was held at the WHO Regional Office for Europe, Copenhagen, on 28–29 April 1978. The report of the Meeting is annexed hereto.

1.1 Opening session

The Meeting was opened by Dr M. Wagner, Consultant in Maternal and Child Health, on behalf of Dr L.A. Kaprio, WHO Regional Director for Europe. The participants were welcomed by Dr H. Raynor, officer responsible for maternal and child health in the Ministry of Health of the German Democratic Republic, on behalf of the Minister of Health; Dr E. Fleischer, Health Officer for the Rostock District, was also present. The participants were welcomed by Professor K.-H. Mehlan, President of the Society for Marriage and the Family of the German Democratic Republic, by Dr E. Holst on behalf of the Joint Centre for Studies of Health Programmes, and by Dr H. David on behalf of the Transnational Family Research Institute.

It was pointed out that the timing of the meeting was especially appropriate, since 1979 had been designated International Year of the Child by the United Nations. The European Region of WHO was unique among the regions in focusing attention upon problems of the industrialized society and the family; health needs and problems were very different from those existing 20 or 30 years ago, and also from those of developing societies.

Professor Mehlan was elected Chairman and Dr Trost Vice-Chairman; Dr S. Macintyre acted as Rapporteur.

1.2 Scope and purpose

Concern had previously been expressed by WHO about the relative lack of attention paid to adolescents, their medical and social needs and the services available to meet those needs. In particular, a WHO Meeting on Pregnancy and Abortion in Adolescence (*J*) concluded that there was a need for a wide range of research in all facets of adolescent fertility behaviour. The Meeting in Warnemunde was convened to discuss research into service-oriented aspects of adolescent fertility, the intention being to contribute to a better understanding of existing services and needs in relation to adolescent fertility.

The participants reviewed past and present service-oriented research and relevant national vital statistics in the various countries of the Region, and discussed problems relating both to adolescent fertility itself and to the services available to adolescents. While the aim of the Meeting was to make recommendations about needed research in this area, this could not be undertaken without formulating policy goals for these services and discussing the best means of achieving these goals.

2. DEFINITIONS OF ADOLESCENCE

Definitions of the age range of adolescence vary according to cultures and also according to the purpose (legal, medical, psychological or social) for which they are made. The precise age at which "adolescence" begins or ends cannot, therefore, be stated according to any universal criteria. However, there was agreement that, whatever its exact age limits, adolescence constitutes a distinctive period of the life cycle, with its own particular problems and characteristics.

2.1 General definition of adolescence and its concomitants

In general terms, adolescence may be defined as a period of transition from childhood to adulthood. This transition involves three main types of maturation: physical, psychological and social. Physical maturation involves the characteristic growth spurt leading to changes in the size, composition and shape of the body. In particular, gonadal growth and development and the development of secondary sexual characteristics lead to the ability to copulate and reproduce. Changes in the pace of this physical maturation process have been taking place in the developed countries of the world; for example, there is evidence that in Europe the age of menarche has declined from around 16–17 years in the mid-nineteenth century to 13 years

in the mid-twentieth century. In some countries in the Region the average age at menarche has declined by one year in the last decade and is currently around 12.5 years.

Psychological maturation during adolescence involves changes in cognitive skills and a development towards more abstract modes of thinking, changes in body image, an increasing awareness of identity, and emotional changes. It also involves the development of sexual identity, sexual awareness and sexual desire.

Social maturation during adolescence involves the legal transition from the status of minor to that of adult, preparation for family responsibilities, preparation for entering the labour force, and a complex set of developments involving relationships with others and the norms and expectations of behaviour prevailing in the culture.

Adolescence is a period during which there are great variations, both among individuals of the same chronological age and also within the same individual over time. In addition, there are differences in the age at which different types of maturation occur. Thus, for example, in much of Europe the minimum age at which marriage is permitted is four or five years higher than the age at which physical maturity is reached.

Factors relating to the onset, pace and completion of adolescence in any one society include individual ones which determine the age of puberty and psychological development, and environmental ones such as rural, semiurban and urban residence, social group, family circumstances, length and type of schooling and conditions in the labour market.

The onset, pace and completion of adolescence also varies between societies because of variations in:

- (a) the degree of development of the society and its standards of living which affect, *inter alia*, the age of puberty, the availability of housing for older adolescents or adolescent couples, and the average age at which formal education is completed;
- (b) legislation and regulations pertaining to the age of majority, the minimum age of marriage with or without parental consent, and the age limit for compulsory schooling;
- (c) the culture of the society and the norms, customs, role models and expectations it presents to its adolescents.

It was noted that during any one individual's passage through the period of adolescence there is a critical turning-point between early adolescence (or late childhood) and late adolescence (or early adulthood), but that because of all the above-mentioned factors there will be variations among individuals in the age at which this turning-point will be reached. The Meeting therefore felt that adolescents should not be viewed as a homogeneous group, and that in both research and policy, account should be taken of the ways

in which the meaning of the term "adolescence" varies according to the factors referred to above.

2.2 Definitions used in research and vital statistics

A problem noted by the Meeting was that research projects and available national vital statistics vary in the age intervals and cut-off points used for grouping adolescents and are therefore not easily comparable. In some vital statistics, for example, no mention of adolescent fertility is made for those below 15 years of age, and in others it is not possible to extract the age of those obtaining abortions. In some country reports adolescents were divided into two age groups, 15–17 years and 18–19 years, in others they were placed in one 15–19 year group, while in others the under-16 age group was the focus of attention. Many national vital statistics divide adolescents according to five-year age intervals (e.g., 10–14, 15–19) as is done with adults. It was felt that the collation and presentation of statistics in this form masked important variations within such five-year age groups. Vital statistics and research projects should therefore be designed in such a way that the findings can be reported in age bands that are as narrow as possible, and preferably by single year of age. This would facilitate the exploration of (a) variations between ages, (b) cross-national comparisons, and (c) changes over time in similar phenomena and their relationship with age.

3. CHARACTERISTICS AND PROBLEMS OF ADOLESCENTS

The Meeting considered that adolescent fertility could not be separated from other aspects of adolescence and the wider context in which such fertility occurred. In order to discuss the service-related problems posed by adolescent fertility, the services available or potentially available to meet these problems, and service-oriented research, it was felt important to take into consideration both the wider aspects of adolescence itself and also wider aspects of the context in which adolescent fertility, and services relating to it, are placed.

Processes of urbanization, industrialization and education have altered traditional relationships between adolescents and the rest of society and the extended family in particular. In many countries there has been an increase in the total period of schooling, which keeps adolescents financially dependent for longer.

Traditional initiation rites marking the passage into and out of adolescence, and the clear-cut rules of conduct which such ceremonies implied, have largely disappeared in most European societies. The role of elders in

influencing the attitudes, values and conduct of adolescents has diminished and younger people have concomitantly gained greater personal autonomy without necessarily gaining social or economic independence. To some extent the socialization function of the extended family has been taken over by educational and welfare institutions. In many countries there has developed a relatively autonomous youth culture whose values may differ markedly from those held by the older generation, and this peer-group youth culture may perform some of the functions of initiation into adult life formerly undertaken by the extended family. The greater mobility of modern youth and the phenomenon of rural-urban and transnational migration have contributed to a lessening of ties with the family of origin and a strengthening of the importance of the youth culture. These features of modern adolescent life have certain implications for adolescent fertility-related behaviour, but they have been insufficiently studied.

3.1 Sex education

Given the general trend towards the delegation of educational functions from the family to formal educational institutions, parents may no longer feel it their responsibility to provide information and guidance on matters of sexuality and personal relationships. Studies have shown that many adolescents who wanted information were afraid to ask their parents; that many teenagers have not been given any information on sexual matters by their parents; and that the information provided by parents was largely moral rather than physiological or technical (2, 3).

At the same time, the formal educational institutions may not accept the task of sex and family life education, and may be ill-equipped to deal with it. Information provided at the Meeting showed that in many countries in which sex education is permitted (or compulsory) in schools, it is not, in fact, undertaken. There is evidence that where it is provided, it may be predominantly biological in content and ignore the topic of personal human relationship (3). The education of physicians, midwives, nurses and teachers often includes nothing, or very little, on human sexuality. While many persons in the health and educational fields would agree that sex education is important, many of these adults nevertheless feel uncomfortable about undertaking the task themselves. Part of this reluctance to become involved may stem from the fact that the students are likely to speculate about the sex life and problems of those teaching sex education: some adults may find this disturbing. The reluctance to provide sex education in some cases results from an underestimation of adolescent sexual activity and a fear that providing information about sex and contraception may encourage sexual activity that would not otherwise have occurred.

There appears to be a general tendency for sex education to focus attention more on conception than on contraception. Studies have shown

that many young people, even those with coital experience, are ignorant about such basic biological facts as how soon after menarche they can conceive, at what time in the menstrual cycle they are at most risk of conceiving, the probability of conception and the efficacy and side effects of various contraceptive methods (4).

The participants started their discussion of service-oriented research into sex education by outlining the goals of sex education. It was felt that the ultimate goal should be the same as that of all education: to help people to develop their personalities to the full extent, to enable them to exploit their personal potential, and to prepare them for a happy and fruitful life according to the needs and expectations of the individual and society.

Secondly, it was felt important to see sex education as part of the wider context of general health, whether physical, psychological or social. Thirdly, at the more concrete level, it was felt that the goal should be to improve the individual's awareness of an insight into sex in the broadest sense within particular cultural settings. This would involve not only the imparting of knowledge but also discussions of attitudes and beliefs about sex. An underlying premise of these goals was that sexual activities should be pleasurable and rewarding and that no pregnancy unwanted by the individuals concerned should occur.

Many of the needed areas of service-oriented research into sex education are discussed later in this report. Several specific recommendations were, however, made about research into sex education.

Given the apparent fact that most adolescents received information about sex from their peers, it has been suggested that this fact be utilized by deliberately employing peers as educators and counsellors and training them for this function. In some countries peer counselling programmes were developed by and for young people in the early nineteen-seventies, and more recently these have been introduced into some public schools. Little research has been conducted on such programmes, and it was felt that such research should be undertaken in order to explore the feasibility of using peers as educators and counsellors.

There has previously been very little research on the relationship between sex education and adolescent sexual behaviour and fertility. It seems important to evaluate the influences on sexual behaviour of (a) the sources of sex education, (b) the type of factual knowledge available, (c) the type of relationship in which sexual behaviour occurs, (d) the individual's level of literacy and (e) the extent to which sexual partners communicate with each other.

There are many different channels through which sex education can be provided, including formal sex education in schools, local public health nurses, the mass media, the military, youth groups of various types, and peers. Similarly, there are many different methods of providing sex education, for example, by the use of lectures, private discussions, group discussions,

films, tape cassettes, etc. It was felt that insufficient information was available on the content of sex education courses for adolescents. Schools may say, for example, that they provide sex education, but what this consists of may not be clear and may also be highly variable. Research should, therefore, be undertaken into the content, methods and channels of sex education, and into the relationship of these factors to the effectiveness of sex education.

Some particular groups of adolescents may currently not be reached by sex education programmes: for example, physically and mentally impaired adolescents and those who migrate either within a country or between countries. The needs of such special groups for sex education should be explored and the existing services evaluated.

3.2 Adolescent sexuality

The average age of first coitus has been decreasing in most European countries. In contemporary Europe coitus has been experienced by about 50% of males and 33% females under 18 years of age. There is considerable variation between countries: for example, figures cited at the Meeting showed that in one country 59% of males and 37% females had experienced coitus by 18, while in another the comparable figures were 34% and 17%.

It was stressed that various types of adolescent sexual activity should not all be treated as similar in meaning, motivation and consequences, or as arising from pathological or immature motivations. Positive, normal and socially acceptable motivations for intercourse may be operative as much for adolescents as for adults, and the experience of sex may be rewarding and fulfilling for many adolescents. However, some motivations for sexual experience may be specific to the adolescent age group and be considered undesirable for the individual, the family and society. These include: giving in to peer group pressure, not wanting to be the only virgin in the class, a wish to display masculinity and obtain prestige, a need for love and attention missing in the family, and a wish to test fecundity. There is also evidence that early sexual experience among adolescents may be confusing and unsatisfactory. One country report, for example, cited figures showing that around 42% adolescents had partial anorgasmia and that only 3% were happy with their first year of sexual activity.

As it appears impractical and perhaps undesirable to prevent adolescent sexual activities, or to reverse the trend towards earlier sexual experience, services related to adolescence should be oriented towards dealing with the problems and needs of adolescents in their sexual lives. The sexual needs and problems of physically or mentally handicapped adolescents should be studied and appropriate services developed to meet these needs. It was also agreed that in thinking about adolescent sexuality, homosexual, bisexual and autoerotic activities should be considered as well as heterosexual activities.

3.3 Contraception

Although detailed, valid and comparative material on contraceptive use among adolescents is rare, it seems probable that in most European countries it is relatively low and that the least efficient methods may be those in most common use. The use of reliable contraceptives (including condoms and pills) at first intercourse varies between 7% in one country and 49% in another. Withdrawal appears to be a common form of contraception among adolescents, possibly partly because, outside stable relationships, coitus among adolescents is less frequent than among married couples and may often be unpremeditated. Studies have shown that some adolescents are relatively ignorant about certain types of contraceptives (for example, the condom), and that even among those who are knowledgeable about various methods the usage of these is often infrequent or incorrect.

The reasons for slight or inefficient use of contraceptives, it was suggested, may relate to ignorance about reproductive biology and the likelihood of conception, ignorance about the various methods available, fears about the side effects or long-term consequences of taking the contraceptive pill while still young, the unsuitability of intrauterine devices for young nulliparas, embarrassment about attending the appropriate facilities for family planning advice, and the cost of contraceptives. The Meeting believed that there was a lack of studies on the reasons for adopting or not adopting various contraceptive measures and for continuing or discontinuing them, and that such studies should be undertaken. It was also felt important to explore the long-term sequelae of use or non-use of various types of contraceptives (for example, the contraceptive pill).

3.4 Cohabitation and marriage

The proportion of adolescents cohabiting, and cohabiting at younger ages, has been increasing in many European countries. In one country the proportion of 18- and 19-year-old women marrying decreased between 1965 and 1975, while the proportion cohabiting increased markedly. Another country report noted that about 44% of adolescents who married in 1976-77 had cohabited with their partners before marriage, and that cohabitation was more common among the higher social classes. The majority of cohabiting couples were, however, childless and did not intend to start having children until after marriage.

In some of the less developed areas of the Region, early marriage is the traditional pattern, particularly in the rural areas: in one country 72% of women are married by the age of 18 years. In the more developed countries of the Region the average age of marriage, which was traditionally much higher than in the less developed areas, has been decreasing.

In Europe the proportion of those marrying following conception is higher among adolescents than among older women, and varies among countries from 20% to 60% of adolescent marriages. In one country it was reported that 59.9% of marriages contracted by women aged 16 and 17 in 1971–73 followed conception.

There is a considerable body of evidence which suggests that marriages contracted during adolescence are more likely to end in divorce than marriages contracted later (5, 6, 7, 8). One author suggests that the probability of divorce is three times higher for those marrying as teenagers than for those marrying at between 21 and 45 years of age (9). There is also evidence to suggest that those who marry in adolescence following conception are even more likely to divorce. One author has calculated that premaritally pregnant couples who voluntarily marry are twice as likely to divorce as other couples (5, 6, 8).

Those who marry young tend to be disadvantaged educationally and financially compared with their peers. Those who marry while young following pregnancy have been shown to be at an even greater economic and educational disadvantage, and this relative disadvantage tends to persist for several years (10, 11). This may affect not only divorce rates but also the living standards and quality of life for the children of the marriage.

However, marriage, whether following or preceding conception, can be a satisfying and unproblematic experience for many adolescent couples, particularly those in late adolescence. Cultural differences may influence the consequences of conceiving before marriage. For example, a widespread courtship pattern persisted in parts of northern Europe until the mid-nineteenth century, in which it was expected that intercourse or conception preceded marriage (12) and norms deriving from the historical pattern may still influence the meaning and consequences of premarital pregnancy in northern Europe, in contrast to those countries in southern Europe where virginity has traditionally been prized and premarital pregnancy condemned.

Given the trends towards cohabitation and early marriage, adolescent sexuality and adolescent fertility should not be seen as synonymous with premarital sexual activity and premarital fertility. On the worldwide scale, most adolescent fertility occurs within marriage.

The Meeting felt that services should be oriented towards helping adolescents to cope with some of the problems associated with personal relationships, including cohabitation and marriage.

3.5 Adolescent fertility and its consequences

3.5.1 Patterns of adolescent fertility

There is a deficiency of detailed, systematic and comparable data, whether statistical or behavioural, on the incidence of pregnancy and its

outcomes among the whole age range of adolescents in the countries of the Region. In some countries the topic of adolescent pregnancy is still somewhat taboo and therefore, for example, no figures are published on pregnancies in women under 15, or abortion figures are not broken down by age. Adolescents have tended to be ignored in studies on fertility, and existing statistics relating to adolescent fertility do not necessarily answer questions of importance to those wishing to study adolescent fertility patterns and changes over time. For example, the total age-specific pregnancy rate is rarely computed or presented; what is usually presented is (a) age-specific rates for live-born children and (b) age-specific rates of abortion. The total pregnancy rate (setting aside the problem of establishing rates of miscarriages and illegal abortions) has to be computed from both these rates. Moreover, if the total numbers from which rates have been computed are not published it may be impossible to establish the practical implications of changes in the rates over time or variations between countries. For example, the age-specific pregnancy rate may increase without a concomitant increase in the absolute numbers of pregnancies at that age because the total population of females of that age may have declined.

Similarly, age-specific pregnancy rates and numbers are rarely presented for single and married women separately. Pregnancy rates and numbers for single women, for example, often have to be computed from statistics showing (a) rates/numbers of illegitimate births to single women; (b) rates/numbers of abortions by single women and (c) rates/numbers of births occurring within eight months of marriage. If the numbers on which such rates are based are not presented, it may again be difficult to establish the practical significance of changes in rates.

In addition, statistics on service-related aspects of fertility may be presented "the wrong way round" for those interested in adolescent fertility. For example, figures are often published showing the proportion of adolescents among those obtaining abortions. This may not tell us anything directly about the incidence of abortion among adolescents, as, for example, changes over time may be due to changes in the number of abortions among older women.

The Meeting therefore felt that the collection and collation of statistics on adolescent pregnancy itself was an urgent necessity if research was to proceed on service-oriented aspects of fertility among adolescents. Such statistics should provide baseline information on age-specific rates of pregnancy and the outcomes of pregnancy among both married and unmarried adolescents, and should include the absolute numbers involved as well as the rates.

In the more developed countries of the Region it appears that previously the rate of live births per 1 000 women aged 15–19 years continued to increase while the rate was declining among older women. More recently, however, the live-birth rate among adolescents has either remained stable or

started to decline. In one country, for example, the rate declined from 77.5 per 1 000 females in the 15–19-year age group in 1970 to 45.1 per 1 000 in 1976. In another country the rate dropped from 50 in 1966 to 25 in 1976. Initially, this decline in the rate of live births among adolescents was matched by an increase in the abortion rate, but this trend too reversed in the mid-nineteen-seventies in several countries. For example, in one country the abortion rate among adolescents declined from 20.2 per 1 000 in 1972 to 16.5 in 1976. In many of the more developed countries of the Region the total pregnancy rate would seem to have been declining recently (e.g. in one country from 61 per 1 000 women aged 15–19 years in 1975, to 54 in 1977). It was noted that the decline in the pregnancy rate was gradually moving down the age scale, i.e., it was first marked among adult women, then among older adolescents, and later in some countries among younger adolescents. In some countries, however, the pregnancy rate among younger adolescents has not yet become stable or started to decline.

In the less developed countries of the Region, however, the birth rate is still increasing, both among adolescents and older women. Quantitatively, therefore, the more developed and less developed areas in Europe face different problems. With the decline in the birth rate in many areas, what is now regarded as important is the quality of the children born, of the experience of parenthood, and of the circumstances into which the child is born. Services are increasingly oriented towards these qualitative aspects rather than towards the quantitative aspects relating to concern about over-population. The situation in the less developed countries is different, but these same qualitative aims should also be reflected in the services there.

3.5.2 Consequences of adolescent fertility

The consequences of a pregnancy occurring in adolescence depend on (a) the age at which the pregnancy occurs; (b) whether or not the pregnancy is wanted and (c) the outcome of the pregnancy (i.e. live birth, abortion, marriage, keeping an out-of-wedlock child or surrendering it for adoption).

(a) For younger adolescents who carry a pregnancy to full term it has been reported that there are greater risks of complications in pregnancy and delivery (e.g. prematurity and postpartum haemorrhage), of perinatal mortality, and of low birth weight babies. More recently, however, this greater risk of complications in pregnancy and delivery has been questioned and at least one study suggests that the greater risk is a function of a disadvantageous socioeconomic situation rather than age (13). These risks may also be associated with a tendency towards late diagnosis of pregnancy and relatively poor prenatal care. There is no good evidence of excess maternal or perinatal morbidity or mortality among older adolescents. Indeed, the period of late adolescence is often regarded as the optimal time for efficient reproductive performance.

At the younger end of the age range the experience of pregnancy, whatever its outcome, can be psychologically and socially traumatic for the girl. At the other end of the age range of adolescence childbearing may be socially acceptable and desired in many societies (though not in all social groups) and may be psychologically satisfying to the parents. At intermediate ages the social and psychological consequences of childbearing may vary between cultures, and the crucial age at which the experience changes from a negative to a positive one, socially and psychologically, may also vary between cultures.

(b) Not all adolescent pregnancies are unwanted and there may be positive and socially acceptable reasons for childbearing in adolescence. However, many pregnancies in adolescence are accidental and unwanted and recourse is therefore made to abortion (legal, illegal or self-induced) or to adoption. Adverse psychological and social consequences may ensue from the experience of being forced to bear and rear an unwanted child, either because of cultural or family pressures or because of lack of access to abortion or adoption services.

At younger ages, there may be strong motivations towards childbearing, but these motivations may be regarded by parents, service providers and society at large as inappropriate or pathological. Such motivations might include the need to have an object for personal love and a desire to prove adulthood or get out of school. Cases in which very young girls, or mentally defective or disturbed girls, desperately wish to have a baby when this is regarded by others as inappropriate pose particularly difficult problems for service providers. The consequences for such girls of being pressured into abortion or of having and keeping the child have not been fully explored.

(c) For married adolescents who conceive there are two basic alternatives: to bear and rear the child or to obtain an abortion. For older, married adolescents pregnant for the first time there may be great difficulties in obtaining an abortion under some legal codes because of social and medical expectations that young married women should have children.

For unmarried adolescents who conceive there are four basic options: to marry the putative father, to obtain an abortion, or to bear an out-of-wedlock child and either rear it as a single parent or surrender it for adoption. The likelihood of achieving each of these outcomes tends to vary by culture, social group, area of residence (rural or urban), age, occupation and family circumstances. It also depends on the availability of services (e.g. in some countries in Europe there are no legally recognized adoption procedures) and on the readiness of parents, the father of the child, and service providers to support particular outcomes (14).

As noted earlier, while marriage following pregnancy may be unproblematic and desired, such marriages face excess risks of financial disadvantage and of eventual divorce. The likelihood of a pregnancy ending in abortion is

greatest among the younger age groups (e.g. in one country, one in two pregnancies in women 15–17 years old were terminated, compared to one in six among women 18 and 19 years old). In many countries young adolescents are more likely to have their pregnancies terminated after the twelfth week than are older women. However, little is known about the long-term consequences of obtaining an abortion in adolescence. Out-of-wedlock pregnancy is associated with lower levels of prenatal care and with higher risks of complications (e.g. higher perinatal mortality, low birth weight) than pregnancy within marriage, probably because of an embarrassment about obtaining services and the fact that women bearing children out of wedlock tend to be from relatively disadvantaged backgrounds. The wellbeing of a child brought up by a single mother may depend on the level of support both from kinfolk and from health and social services (e.g. mother-and-baby homes, financial support, day-care facilities). Even where legally available and encouraged, adoption seems to be the least popular option among single pregnant adolescents. The process of surrendering a child for adoption may be psychologically traumatic and in carrying a pregnancy to full term the younger woman will also be exposed to higher risks of physical morbidity.

The Meeting recognized that there was a dearth of systematic and comparable studies of the long-term consequences of adolescent pregnancy and its outcomes. It recommended that studies be undertaken to explore the long-term sequelae (social, economic, biomedical, psychological and demographic) of adolescent pregnancy and its outcomes, and the relationship between these different types of sequelae.

4. RESEARCH ON ADOLESCENTS

4.1 Fertility-related research on adolescents

Many features of adolescent life, both in itself and in relation to fertility, are poorly understood. Changes in the life styles and life situations of adolescents have not been matched by changes in the focus of psychosocial research. The fact that adolescent sexuality and fertility do occur has often been ignored by studies of marriage and the family. Many such studies inquire into the expectations and plans that adolescents have in relation to marriage and parenthood but do not inquire into their current behaviour and attitudes with regard to the present. Studies of knowledge, attitudes and practices in relation to contraception usually ignore adolescents, as do those on the value of children.

The Meeting therefore felt that, wherever possible, studies of sexual behaviour, contraception, motivations for parenthood, marriage, etc., should include adolescents. In the design and reporting of any such studies efforts should be made to ensure that material on different age groups can be extracted, both in order that more may be learned about the features of different age groups and also in order to facilitate comparisons between age groups. This would allow for examination of any distinctive characteristics of adolescents, and of age groups within adolescence, which may influence fertility-related behaviour and the use of services.

The participants also considered it important that studies should be mounted to explore adolescents' self-images, aspirations for the future, peer-group culture, personal values, current sexual and contraceptive behaviour, and attitudes to parenthood. Such studies should not focus on selected samples, such as pregnant adolescents, but should try to encompass all groups of adolescents, whether male or female, sexually active or not, or pregnant and non-pregnant. The basic question to be addressed is: what is adolescence actually like for today's young people? Given the range of influences which may affect fertility-related behaviour and the use of services, such studies should not focus too narrowly on topics prejudged to be relevant but should attempt to encompass all facets of the life styles, attitudes and values of adolescents.

4.2 Kinship and social networks

The influence or potential influence of the kinship and social networks of adolescents on their fertility-related behaviour should not be underestimated. Parents act as role models (either accepted or rejected) for their children and exploration of their relationships with their children may contribute to a better understanding of adolescent fertility-related behaviour. The use or non-use of contraceptives may be influenced by adolescents' perceptions of their parents' likely reaction to the discovery of their children's sexual activity. Once pregnant, the outcome of a girl's pregnancy may partially be determined by the parental reaction or expected reaction. Studies have shown that many adolescent pregnant girls expect far greater censure from parents than they actually receive: this may lead to concealment of pregnancy which, in turn, may lead to a lack of prenatal care or to the foreclosing of the option of abortion (14, 15). Parents have also been shown to influence a young woman's decision to keep or surrender an out-of-wedlock baby, or to terminate the pregnancy or not, and of course at younger ages parental consent is necessary for marriage and for medical and surgical procedures such as abortion and methods of female contraception.

A particular feature of the parents of adolescents is that they themselves may be relatively young to face "grandparenthood". Adolescent fertility may not only involve premature parenthood on the part of the

young woman or couple, but premature grandparenthood on the part of their parents. The role of other kin such as the young girl's grandparents may then become crucial in determining the outcome of the pregnancy and its long-term consequences, for example, in relation to child-minding arrangements and the facilitation of a young girl's keeping her baby.

4.3 Male adolescents

What research has been done on adolescents' fertility-related behaviour has tended to concentrate too much attention on adolescent females and to ignore their sexual partners. Similarly, many family planning clinics devalue the male role in contraceptive behaviour and exclude male participation in service programmes. The quality of the relationships in which adolescent sexuality occurs, the nature of communication between partners, the motivation of young men for sexual activity and for parenthood, the attitudes of young men about their responsibilities if their sexual partners become pregnant, and the amount of involvement of males in fertility-related decision-making are topics requiring further study if service programmes are to become more responsive to adolescents' needs.

5. METHODOLOGICAL AND PRACTICAL ASPECTS OF SERVICE-ORIENTED RESEARCH

General features of service-oriented research were discussed. It was felt that in general the flow of unused or unusable research was too great. A variety of circumstances and processes intervene between research formulation and its eventual implementation or non-implementation, and these are ill understood. It was recommended that WHO should sponsor research into these intervening processes in order that better means be found in future to ensure that the findings of service-oriented research reach those to whom they are relevant, whether at national or local level. Such a study would be of a long-term nature and should examine the natural histories of research projects and the dissemination and use of service-oriented research at both international and national levels.

If service-oriented research on adolescent fertility is to be useful, its findings must be disseminated to all relevant persons, groups and governments. It was felt that, separately from the task of exploring the natural histories of research projects, the WHO Regional Office for Europe should continuously collate and update information about completed, current and proposed research on adolescent fertility and services, whether gathered by individual researchers, nongovernmental organizations, national governments

or government organizations. This material should then be disseminated widely and regularly to the governments of Member States and be made freely available to policy-makers, service providers, training institutions and research workers on request. Much material is already available that would be useful in formulating policy for services relating to adolescent fertility, but it is not disseminated widely enough. This collation and dissemination of existing or proposed research would also be of enormous value to researchers in the field by providing them with background and comparative material, aiding cross-national collaboration or replication of studies where appropriate, and avoiding unnecessary duplication of research effort.

Service-oriented research should be usable by and useful to international agencies such as WHO, to policy-makers at the national level, and to front-line service providers. It should therefore be directed towards problems which these agencies and persons are capable of solving, service providers being involved at all stages of research, and results should be made available in time for them to be used. Further, it is important that the findings of such research should be communicated to service providers in simple, readable terms and that recommendations should also be simple and direct. Research should also be followed up by various means of dissemination such as newspaper items, conferences, and workshops as well as by journal articles.

There is a real tension between the production of quick, simple, relevant and readable research and the need for scientific vigour in research design, data collection and analysis according to the canons of good scientific method. Considerations of the usefulness and relevance of service-oriented research should not preclude considerations of good research design. Service-oriented or operational research must ultimately rest upon the existence and continuation of fundamental research, both biomedical and psychosocial, and an emphasis on the usefulness and relevance of service-oriented research should not be taken to imply a rejection of the continuation of fundamental research.

Service-oriented research should have as its ultimate objective the improvement of services from the point of view of their consumers or potential consumers as well as from the viewpoint of policy-makers and service providers. It is therefore essential to study the needs, perceptions and wishes of the potential clients of the services. Research on adolescents' perception of services and deficiencies in them is therefore necessary. Research by consumers or potential consumers, or by researchers in collaboration with them, should be encouraged.

Service-oriented research should involve a multidisciplinary approach, utilizing the various skills and perspectives of physical scientists such as physiologists and biologists; medical scientists such as obstetricians and gynaecologists, paediatricians, nurses and midwives, psychiatrists and social medicine specialists; and social scientists such as sociologists, demographers,

psychologists, economists and lawyers. It should also use the perspective, special knowledge and skills of the service providers and consumers or potential users.

It is important that a variety of different approaches, research designs and types of data collection and analysis, both qualitative and quantitative, should be used. Thus, useful studies might involve, *inter alia*, interview methods, observational or case-study approaches, participant observation, psychometric testing and the use of diaries, as well as more demographic and statistical methods and the use of existing data and official statistics.

International collaboration is of importance in the area of service-oriented research in adolescent fertility. Contacts between countries facilitate the evaluation of work carried out elsewhere and the implications of its findings, and create opportunities for collaborative or comparative research.

6. RESEARCH ON SERVICE PROVIDERS AND SERVICE DELIVERY

6.1 Services relating to adolescent sexuality and fertility

The discussion on research into service providers and service delivery embraced all available or potentially available services. Recommendations for research therefore relate generally to all types of service. The types of service that were identified as of potential relevance to adolescent fertility were:

- (a) the health care system, including family planning programmes, school health services, maternity care, primary medical care, pregnancy and abortion counselling and gynaecological services;
- (b) the personal social service system, including case-work and counselling, residential provision for mentally or physically impaired adolescents, mother-and-baby homes, child care and day-care programmes, adoption services and public housing;
- (c) the social security system, including the provision of unemployment, sickness and maternity benefits;
- (d) the educational system, including schools and universities in general and the provision of sex education;
- (e) informational and advisory services, including the mass media;
- (f) the church, including religious institutions and youth groups;

(g) organized youth groups and clubs, including political, trade union and workplace groups, women's organizations, recreational clubs and organizations such as the Scouts and Guides.

Not all of these services would be equally relevant in each country and the full list of relevant services would have to be identified at country level.

A distinction was made between front-line service providers, i.e. those persons in direct contact with clients or potential clients, and policy-makers or administrators who are not in direct contact with clients but who are involved with the development and implementation of policies relating to service provision. This latter group might include politicians, planners and administrators at the level of district, region or national government, but since decision-making structures differ considerably from country to country their precise title cannot be specified for the European Region as a whole.

6.2 Studies of services and service providers

Studies should be undertaken of service providers' and policy-makers' knowledge and perception of, and attitudes and practices relating to, adolescent sexuality and fertility. The rationale for such studies is that they might provide evidence about inadequacies, gaps and inconsistencies in the structure and operation of the services; that they could provide information about the background of knowledge, whether accurate or inaccurate, upon which service provision is based; that they would identify areas on which emphasis should be placed in the training and retraining of service providers; and that they might assist in the selection of service providers suitable for dealing with adolescents. In other words, the objective would be to provide research justification for needed changes in the structure and organization of services, and in the recruitment, training and retraining of service providers.

The topics to be studied were not listed exhaustively and they would in any case have to be adapted to suit particular types of service, service providers and countries. Attention should be given to service providers' and policy-makers' knowledge and perceptions of, and attitudes and practices relating to:

- (a) the laws and regulations concerning adolescent sexuality and fertility, i.e. those limiting the ability to provide particular services or methods, limiting user access, making certain behaviour a criminal act, and relating to drug control, advertising, education and the treatment of minors;
- (b) the nature and magnitude of adolescent sexuality and fertility and the problems they pose for the services;

(c) the scope and functioning of the services, the services actually provided at front-line level, gaps and inadequacies in services, the responsibilities of different service providers, blockages in access to the services, and possible improvements in policy, structure, knowledge, training and functioning.

A number of different research approaches to these issues were envisaged, including surveys of front-line service providers and policy-makers, case studies of the experiences of samples of clients, studies of decision-making and implementation on special issues, the application of a modified Delphi technique and historical reviews of controversies and public debates about changes in laws or the introduction of new services.

Such studies would be incomplete without complementary studies of how services and service providers are perceived by adolescents. A study was recommended, parallel with those described above, focusing upon adolescent users of services, potential users and ex-users. The research techniques might need to be varied in order to establish how far attitudes and perceptions were matched by practice. It was further recommended that studies should be undertaken of adolescents as service providers for their peers. Here again, research techniques would need to be varied and anthropological ones included.

One advantage of conducting such studies of service providers and of adolescents' perception of service providers would be that the attitudes of adolescents could be communicated to service providers, and vice versa. This would help to reduce various misconceptions that each group might have of the other and would go some way towards bridging the gap between adolescents and the adults who formulate policy and provide services for them.

6.3 Service delivery

On the topic of service delivery, a considerable amount of discussion was devoted to the relative advantages and disadvantages of creating special services specifically for adolescents which would cover the whole range of their needs, as compared with an expansion of existing services devoted to a particular problem (for example, contraception, primary medical care) and which deal with adolescents as part of their general clientele which includes other age groups. It was suggested that if existing services, for instance health services, are designed to serve adult needs then they may be psychologically unattractive to youth. Especially in rural areas, the integration of all the services to meet the health needs of adolescents seems attractive. Similarly, the integration of services meeting all the health needs of adolescents at the primary care level in all areas was deemed desirable. One fundamental problem is that even in countries where a structure of services has been set up for youth, the agencies available seldom deal with fertility questions and, in particular, with sex and contraceptive education.

The Meeting therefore felt that research should be undertaken to explore the desirability of establishing special services dealing only with adolescents and providing advice, care and referral. This would include an exploration of whether services set up basically to meet adult needs do present barriers to their use by adolescents, and a study of the nature of these barriers; whether they take the special needs of adolescents into account; and whether the service providers are adequately trained to deal with these special problems.

It was also felt important that non-traditional or unofficial sources of services be explored. Public health nurses, for example, are important sources of advice and fertility-related services in many rural areas. The mass media may be a crucial source of knowledge of, and attitudes to, sexual and fertility-related matters and services. Religious groups already perform some services such as marriage counselling. School health services have traditionally been concerned with the narrow field of physical health. They constitute a particularly promising avenue of approach because of their full coverage of at least the younger adolescents. They could be expanded and equipped to deal with sex education, sex and contraceptive counselling and the more general psychosocial problems of youth as well as with strictly biomedical matters. Youth clubs and organizations probably already function as sources of information, counselling and referral to other agencies. The role of all such non-traditional sources of service provision to youth should be explored, bearing in mind the possibility that the functions of such services could be utilized and expanded to play a major part in service provision.

With regard to all the services discussed, questions were continually raised as to their availability, accessibility, acceptability and cost to adolescents. Insufficient information is available on, for example, the actual availability and acceptability of sex education; the accessibility and costs of contraception; the availability and acceptability of mother-and-baby homes; whether pregnant schoolgirls are entitled or allowed to remain at school; whether there are perceived barriers of access to family doctors on matters relating to sex and fertility, etc. Furthermore, there is a dearth of information on how such factors might influence adolescent sexual and fertility behaviour. For example, does the availability of sex education and contraceptive supplies influence the sexual and contraceptive behaviour of adolescents? It was therefore recommended that research be undertaken into the availability, accessibility, acceptability and costs of all services relating to adolescent fertility, and the relationship between these factors and adolescents' sexual and fertility behaviour.

6.4 Training and recruitment

In general, the training given to service providers, whether they be teachers, physicians, nurses, etc., is deficient in respect of the psychosocial

needs and problems of adolescents and particularly those relating to sexuality and fertility. It is important that the training given to such persons on these topics should be examined, and that the results of any attempts to increase or improve this training be evaluated. It is also important to explore ways in which professionals dealing with young people are recruited and what criteria for their suitability are employed.

It may require special qualities in an adult to deal successfully with adolescence, and studies should be undertaken to explore these qualities and establish ways of identifying them.

7. LEGAL ASPECTS

Recently a considerable amount of data has been collected on legislation relating to fertility-related matters. While this data may implicitly reveal the extent to which the law may affect the options available to adolescents who seek or need fertility-related services, there has been a lack of any detailed inquiry into the extent of the law's influence on such services. Studies should therefore be undertaken of the ways in which the law affects the provision of services, the attitudes and practice of service providers, and the attitudes and behaviour of adolescents in relation to sexuality, fertility and the use of services.

In many cases, laws and policies regulating fertility-related services are framed in a manner which pays no particular attention to the adolescent *per se*, and therefore affects adolescents and adults alike. The extent to which these may be appropriate for adolescents should be examined. There are, however, laws and regulations specifically relating to adolescents and adolescent fertility, such as those regulating the minimum age of marriage with or without parental consent, the minimum age of consent to sexual intercourse, the minimum age of capacity to consent to medical and surgical procedures (such as prescription of the contraceptive pill, or abortion), the supply of contraceptives, the legal preconditions for abortion and voluntary sterilization, and the minimum school-leaving age.

It is apparent from some studies that both adolescents and service providers are sometimes unaware of the laws and regulations pertaining to fertility-related services for adolescents. Adolescents may not seek efficient contraceptive supplies because they fear that parental consent is necessary, and that this would mean making disclosures about their sexual activity, whereas in fact parental consent may not be legally necessary. Service providers may be in doubt about the legality of various procedures such as abortion without the parents' or spouse's consent and this may lead them to deny to adolescents rights that are actually theirs. Therefore, any programme

involving fertility-related services for adolescents should try to ensure (a) that those adolescents who may need these services are made fully aware of their legal rights, (b) that adolescents needing care are provided with it and made fully aware of the consequences, and (c) that any doubts on the part of doctors, teachers and other service providers about the legality of providing services to adolescents should be dispelled. This requires that the legal position pertaining to these services be clarified, that the knowledge of adolescents and service providers about legal aspects of fertility-related services be explored, and that means be sought for providing adolescents and service providers with the appropriate information.

8. ECONOMIC ASPECTS

Economic policies, whether designed for adolescents themselves or for the general population, may affect the types and standards of services available, adolescent fertility-related behaviour, and use of services. However, little is known about the precise effects of economic policies on these matters.

Some economic policies designed to affect the fertility behaviour of older persons may have a spill-over effect on adolescent fertility. For example, programmes involving incentives for childbearing and the provision of better facilities for parenthood may unintentionally encourage earlier marriage and earlier childbearing, or encourage adolescents to carry pregnancies to term which otherwise might have been terminated. To date, however, there is little information available on the relationship between decisions to have children and considerations of economic factors and the availability of welfare services among adolescents.

Economic and welfare policies may have more specific effects on adolescent fertility behaviour and the use of services. In some countries in Europe access to medical or welfare services for adolescents is dependent on the parents' social insurance coverage. Adolescents may then be deterred from seeking these services because their parents would have to be informed. In some countries women are only eligible for social insurance-based maternity benefit after they have accrued several years of contributions: this means that those at school, who have recently left school, or who are still students, cannot obtain these benefits and they are therefore at a financial disadvantage compared with older women. The consequences of such policies for adolescents should thus be explored.

At a stage of life at which financial resources are low, adolescents are relatively disadvantaged in comparison with older persons and may be, for example, less able to afford contraception, abortion or day care for children

if this is not provided free of charge, nutritious food for themselves during pregnancy and, later, for the child, and the general living standards usually deemed appropriate for marriage and parenthood. Such financial considerations should be taken into account in service-oriented research.

Policy decisions about service provision have economic implications for society as a whole. Policy-makers, if faced with alternative ways of providing services, must take the comparative costs and benefits into account. Furthermore, the provision of services to adolescents may have repercussions on services for other groups and for the general economy. The economic implications for societies of various fertility-related policies as they concern adolescents have not been sufficiently examined, and studies should therefore be undertaken to explore these.

9. RECOMMENDATIONS

1. The need for service-oriented research into adolescent fertility should be recognized and emphasized.
2. Adolescents should not be viewed as a homogeneous group. In the fields of policy and research, note should be taken of the ways in which "adolescence" varies according to absolute age, the pace at which individuals mature physically and psychologically, and the sociocultural and legal context.
3. All studies of fertility-related behaviour and attitudes should include adolescents, who should be identifiable as a group when the results are presented. In the design and reporting of service-oriented research on fertility, adolescents should be divided according to age intervals that are as narrow as possible (preferably intervals of one year).
4. Data on adolescent fertility, whether collected by independent researchers, nongovernmental organizations or national governments, should be continuously collected and updated by the WHO Regional Office for Europe, disseminated regularly to the governments of Member States and be made freely available to policy-makers, service providers, training institutions and research workers on request.
5. Studies should be undertaken to explore the long-term consequences of:
 - (a) adolescent pregnancy and its outcomes,
 - (b) the use and non-use of contraceptives among adolescents,
 - (c) sexual activity or non-activity in adolescence.

6. Studies should be undertaken of fertility-related attitudes and behaviour among adolescents which:

- (a) explore attitudes to parenthood, self-images and peer-group culture among all adolescents, whatever their sexual or fertility histories;
- (b) explore kinship and social networks and their influence on fertility-related behaviour;
- (c) deal specifically with male adolescents;
- (d) examine special groups such as the physically or mentally impaired and migrants.

7. Research should be sponsored on the processes intervening between the formulation of research and its implementation or non-implementation, in order to ensure the best means of eventual implementation.

8. The results of service-oriented research should be usable and relevant and therefore such research should:

- (a) be directed towards problems whose solution lies within the power of policy-makers and service providers, and should involve policy-makers and service providers throughout the research process;
- (b) be communicated in comprehensible terms and through various channels to policy-makers, service providers and other interested parties;
- (c) encourage research by consumers, or by researchers in collaboration with consumers.

9. Since service-oriented research relies upon a body of knowledge about adolescence in general, fundamental research on adolescence, whether bio-medical, statistical or psychosocial, should be encouraged.

10. Service-oriented research should involve:

- (a) a multidisciplinary approach using the skills of physical scientists, medical scientists, social scientists, service providers and users;
- (b) a variety of different perspectives, research techniques and types of data collection and analysis;
- (c) international collaboration in order to facilitate comparative research and ensure the quality of research.

11. Studies should be undertaken of service providers' knowledge and perceptions of, and attitudes and practices relating to:

- (a) laws and regulations concerning adolescent sexuality and fertility;
- (b) the nature and magnitude of the phenomenon of adolescent fertility;
- (c) the scope and functioning of the services and possible improvements in them.

12. Studies should be undertaken to examine adolescents' knowledge and perceptions of services and service providers.

13. Research should be undertaken to explore ways of communicating the attitudes of adolescents to service providers and vice versa.

14. Research should be undertaken into the relative advantages and disadvantages of integrated services designed to meet all the needs of adolescents, as compared with services with specialized functions dealing with adolescents as part of a wider clientele.

15. Research should be undertaken into the availability, accessibility, acceptability and costs of all services relating to adolescent fertility and the relationship between these factors and adolescent sexual and fertility behaviour.

16. Studies should be conducted to evaluate the training given to all those providing services to adolescents regarding the psychosocial and other aspects of adolescent sexuality and fertility, and the results of such training.

17. Research should be undertaken into the content, methods and channels of sex education programmes and their effectiveness.

18. Studies should be made of legal policies and practices and their relationship to service provision and adolescent fertility behaviour.

19. Studies should be undertaken of the implications of various economic policies relating to fertility and service provision, both for adolescent fertility behaviour and for society as a whole.

REFERENCES

1. WHO Technical Report Series, No. 583, 1975 (*Pregnancy and abortion in adolescence: Report of a WHO meeting*).
2. Sorensen, R.C. *Adolescent sexuality in contemporary America: personal values and sexual behavior ages 13-19*. New York, World, 1973.
3. Schofield, M. *The sexual behaviour of young people*. London, Longman, 1965.
4. Kantner, J.F. & Zelnick, M. Sexual experience of young unmarried women in the United States. *Family planning perspectives*, 4 (4): 9-18 (1972).
5. Christensen, H.T. Cultural relativism and premarital sex norms. *American sociological review*, 25: 31-39 (1960).
6. Christensen, H.T. Scandinavian and American sex norms: some comparisons, with sociological implications. *J. Soc. Issues*, 22: 60-75 (1966).
7. Glick, P. Demographic analysis of family data. In: Christensen, H., ed. *Handbook of marriage and the family*. Chicago, Rand McNally, 1964, pp. 300-304.
8. Cutright, P. Illegitimacy: myths, causes and cures. *Family planning perspectives*, 3 (1): 25-48 (1971).
9. David, H.P. Unwanted pregnancies: costs and alternatives. In: Westoff, C.F. & Parke, R., ed., *Demographic and social aspects of population growth*. Commission on Population Growth and the American Future. Research Reports, Vol. 1, Washington, 1972, pp. 441-466.
10. Coombs, L. & Freedman, R. Premarital pregnancy, child spacing and later economic achievement. *Population studies*, 24: 389-412 (1970).
11. Coombs, L. et al. Premarital pregnancy and status before and after marriage. *American journal of sociology*, 75: 800-820 (1970).
12. Shorter, E. Illegitimacy, sexual revolution and social change in modern Europe. *Journal of interdisciplinary history*, 11 (1): 237 (1971).
13. Bremberg, S. Pregnancy in Swedish teenagers. *Scandinavian journal of social medicine*, 5: 15-19 (1977).
14. Macintyre, S. *Single and pregnant*. London, Groom Helm, 1977.
15. Rains, M. *Becoming an unwed mother: a sociological account*. Chicago, Aldine, 1971.

Annex I

APPLICATION OF RESEARCH FINDINGS TO THE DEVELOPMENT OF ADOLESCENT FERTILITY PROGRAMMES IN DEVELOPING AREAS OF THE REGION

Report on a Meeting
Copenhagen, 28–29 April 1978

INTRODUCTION

Opening session

After the Meeting on Service-oriented Research in Adolescent Fertility in Europe (Warnemünde, 24–27 April 1978), a follow-up Meeting on the Application of Research Findings to the Development of Adolescent Fertility Programmes in Developing Areas of the Region (ICP/MCH 016(1)) was convened in Copenhagen on 28–29 April 1978. The Meeting was opened by Miss W. Haddad and Dr M. Wagner, who welcomed the participants on behalf of the Regional Director, Dr Leo A. Kaprio, and noted the desirability of considering the Warnemünde deliberations and recommendations within the context of the developing areas of the Region.

Dr M. Coruh was elected Chairman and Dr H.P. David acted as Rapporteur. The list of participants is given in the Appendix. Reviewing the highlights of the Warnemünde report and recommendations, the participants agreed that adolescent fertility behaviour was a reality in developing areas of the Region, that premarital sexual activity was increasing, and that in large urban centres sexual initiation began at earlier ages. While adolescents, especially in urban centres, perceive these trends, societal traditions frequently impede public acknowledgement of the need for services, particularly in rural areas.

Scope and purpose

The purpose of the follow-up meeting was to review the present situation with regard to adolescent fertility in some of the developing areas of the Region. The participants then surveyed the applicability of the Warnemünde meeting's recommendations on service-oriented research in adolescent fertility and added recommendations that they deemed particularly appropriate to conditions prevailing in the developing areas.

Country reports

Reports from three countries were presented. These showed that there are considerable differences between and within countries, particularly in the recognition of health problems associated with adolescent fertility behaviour. For example, availability of, and access to, sex education and information resources varies considerably between rural areas and urban centres. Early marriage and early pregnancy are more frequently observed in rural settings where traditional practices prevail in extended families. The rapidly changing life style of urban areas, including the disintegration of extended families, changing gender roles and crowded living conditions are all factors which have an impact on premarital sexual behaviour. Also noted in the country reports were the problems faced by rural youth migrating to urban cities with or without their families, and by young people migrating from one country to another.

The biomedical and psychosocial consequences of early marriage and early childbearing are receiving increasing attention. In one country a 1968 national survey found that 31% of all women were married by the age of 15 years and 72% by the age of 18. The early-marrying adolescent women experienced more unstable family situations, less participation in family decision-making, less access to modern service facilities, less opportunity for formal education, and generally faced more limited socioeconomic circumstances.

Most frequently the young couple lived with the parents of one of the spouses. A 1973 survey showed that one in every three married or unmarried women was a mother by the age of 20, the proportion being even higher in the rural areas. The proportion of still births to live births was twice as high in women aged 15–19 years as in women aged 20–24 years; a similar finding was noted in respect of mortality among infants aged less than 1 year.

The country reports further indicated the growing magnitude of medical and social problems associated with adolescent fertility, the increase in illegal abortion and consequent public health risks for the woman and society, and the limited service and educational resources for young women and men, especially in rural areas. Emphasis is increasingly placed on auxiliary health workers, e.g. nurse/midwives and other community agents, and teachers who live in the villages and can establish longer-term acceptance and personal trust. This is even more important in areas where full literacy has not yet been achieved. In one country there is a programme offering sex education at the preschool level; in another, information is provided to parents as well as to children.

Previous WHO reports

The participants in the Copenhagen Meeting were aware of previous WHO publications relating to this field, particularly the 1975 report on

Pregnancy and abortion in adolescence^a and the 1977 report on *Health needs of adolescents*.^b Many of the views expressed were again voiced and will be apparent in this report. Reference was also made to a related publication on the needs of migrant populations.^c

CULTURAL CONSTRAINTS IN SERVICE-ORIENTED RESEARCH

Definition of adolescence and service orientation

The participants concurred that adolescence is a period of gradual transition from childhood to adulthood, having diverse psychosocial and socio-economic implications in different cultural contexts. While the legal age and a clear identification of adolescence may vary from country to country (and within countries), adolescence constitutes a specific period of time in the human life cycle. Service-oriented research in adolescent fertility involves medical, psychosocial, legal and economic aspects, requiring an interdisciplinary approach, a focus on reproductive health and behaviour, and an awareness of the perceptions of service users, potential users, and ex-users.

Definition of service providers

In reviewing available service resources the Meeting considered:

- (a) the health care system with its service providers, including nurse/midwives, health specialists and auxiliary health workers as well as planners and administrators;
- (b) the educational system, including formal and informal educational resources, religious and non-denominational schools and adult educational facilities;
- (c) community services, including mass media, social security systems, labour unions, women's organizations, political parties, sports groups and military and police organizations;
- (d) youth organizations, including peer age groups.

^a WHO Technical Report Series, No. 583, 1975 (Report of a WHO meeting).

^b WHO Technical Report Series, No. 609, 1977 (Report of a WHO Expert Committee).

^c WHO Regional Office for Europe. *Health aspects of labour migration: Report of a Working Group*. Copenhagen, 1974.

There was a consensus that service resources are limited in the developing areas of the Region and that providers seldom respond to the special needs associated with adolescent fertility behaviour.

Societal constraints

Planners of service-oriented research in developing areas should be particularly aware of the societal taboos around such topics as sex education and information. The ideal of virginity has long been, and continues to be, the main guardian against premarital sexual behaviour. For example, in some countries of the Region out-of-wedlock children are not recognized by the family and adoption has no legal status. The married adolescent woman also has some difficulty in obtaining information on modern contraception and family planning methods, especially in rural areas. Sex education campaigns within and outside the school system (involving adolescents and their parents) have encountered considerable resistance.

While access to services may be easier for women, emphasis was placed on work with adolescent young men as well. Men may be more difficult to reach but the importance of the couple relationship in fertility behaviour and decision-making renders access to males imperative in service-oriented research.

BASELINE STUDIES

Baseline data collection

In considering service-oriented research on adolescent fertility, it will be useful to begin with a review of existing demographic data and related medical and school records. This would include information on the distribution of adolescents among rural and urban areas (by single age-year cohorts if possible), trends in age at marriage and at first birth, age-specific birth rates, the proportion of all births to adolescents, infant and child mortality rates by age of mother, etc. After a review of the existing material, suggestions can be made for prospective data collection and the improvement of existing record and reporting systems.

An inventory of existing medical, social and educational services will be a further aid to assessing the current situation in a given area of the Region. It will be important to ascertain both the availability of specific services and their accessibility to married and unmarried adolescents, the routes and networks used to reach services, and the entry points for adolescent women and men. Attempts should be made to identify the key institutions and other

positive forces in a society influencing the communication of ideas and the degree to which they are attuned to the recognition of adolescent fertility as a societal concern.

A particular example may be family life and sex education. Recommendations cannot be made until there is an awareness of existing training resources, the content and focal points of current curricula, and the availability of manpower training facilities. Local customs and traditions will play a major role in what can be done to fill apparent gaps in knowledge and services. After conducting a baseline survey, each country will be in a better position to assess its needs and the pace and scope of future training of trainees.

Health impact studies

As far as possible, data should be obtained on the longer-term health impact and psychosocial consequences of early marriage and early marital or premarital pregnancy on the woman, the child, the family and society. In addition to data on morbidity and mortality, an assessment should also be attempted of related psychosocial and socioeconomic costs and benefits. One developing country in the Region has already demonstrated the high social costs of abortion, especially illegal abortion among adolescents, in comparison to the much lower economic and health costs of providing sex education and contraceptives to unmarried sexually active adolescents. Such studies enhance community awareness of the reality of adolescent fertility behaviour and increase the feasibility of service-oriented research designed to yield recommendations for appropriate intervention strategies.

Attitudinal behavioural studies

There are few studies comparing the attitudes and perceptions of service providers and youths regarding adolescent sexuality, fertility and pregnancy, nor is there much information about the differences in perceptions among various service providers, or between selected service providers and sexually active young people (whether service users, potential users or ex-users). Similarly, there is little knowledge of the extent to which service providers accept the concept of adolescent fertility and are able to help individuals and couples make and implement rational decisions.

OPERATIONAL/PILOT STUDIES

Review of existing services

Through discussions with knowledgeable sources, e.g. individuals experienced in the area of adolescent fertility and the provision of services, it should be possible to identify particularly successful service programmes. If possible, such services should be carefully studied in terms of the population served, the types of providers and the results that have been demonstrated. The findings obtained should facilitate the improvement of training and service programmes for sexually active adolescents.

Pilot psychosocial studies

In planning pilot studies, consideration should be given to what data are to be elicited from which sample, how, and with what instruments. In the initial phases consultations could be held with a range of informants familiar with the life, needs and problems of sexually active adolescents, e.g. nurse/midwives, teachers, older persons in extended families, other service providers, sex educators and mass media representatives. Perceptions must be distinguished from personal opinions. The information elicited can then form the basis for more extensive field surveys among both male and female adolescents.

GUIDELINES FOR SERVICE-ORIENTED RESEARCH

Planning phase

Service providers (both front-line specialists and policy-makers) should be consulted in the initial phases of any service-oriented research programme. Unless they become involved in establishing priorities for research at the very beginning, there will be limited commitment to implementing eventual recommendations. Sponsorship should also be sought from whatever organization or facility is likely to enhance contact with research subjects.

The field work for a specific research project should be directed by a qualified researcher from the country concerned, supported by a competent team sensitive to local cultural constraints, alert to specific local problems, and acquainted with local authorities. A quota sample with matched control groups was deemed particularly appropriate for working in selected areas. Matched subgroups might include school attenders and non-attenders; married

and unmarried adolescents, sexually active and inactive, urban and rural; women who had an abortion and those who carried a pregnancy to term, etc.

Psychosocial methodology

The Meeting considered methodologies previously utilized by WHO task forces and in related studies in developing areas of the Region. It was suggested that, in using survey questionnaires with adolescent couples, interviews should be conducted with both partners separately but simultaneously. A male interviewer should work with the male partner, and a female with the female. It is essential that an acceptable explanation be provided of the aims of the research. Particularly sensitive questions might be placed at the end of the interview. Information that is already available and accurate should not again be sought. While there may be certain cultural constraints and taboos in interviewing male partners, every effort should be made to obtain their cooperation.

In studies designed to elicit the perceptions of service providers and policy-makers it would be pertinent to consider the modified Delphi technique, a method used to identify priorities and achieve informed consensus. The Delphi method has many variations, but a common feature is the repeated interrogation of informants on their expectations and understandings regarding a particular issue, e.g. adolescent fertility behaviour and services.

Additional useful research methods include participant observation of adolescent discussion groups, diaries kept for case reports, and behavioural data collected from specialized clinics and service centres. The advantages and disadvantages of direct and indirect questions, open and closed questions, and diverse rating scales were noted. Their use will depend on their appropriateness for specific research objectives.

Research staff

In countries with limited research resources and incomplete service coverage, particularly in rural areas, emphasis could be given to the utilization of existing networks, e.g. local nurse/midwives, teachers and community agents, for conducting part of the research or extending available services. Such personnel are frequently of an age similar to that of the adolescents themselves and are thus socially and culturally more acceptable.

Data analysis and exchange

In organizing service-oriented research proposals, consideration should be given at the very beginning to questions of data analysis, resources for computer programming (if necessary), and the preparation of reports for dissemination to service providers and policy planners. When requested,

WHO may be able to provide local researchers with technical cooperation through specialist consultation, fellowship training or data analysis services. Such technical consultation will also facilitate the eventual comparability of findings.

In requesting support for baseline, health impact, or other studies in adolescent fertility behaviour, care should be taken to separate developmental and research costs from the usual service expenses covered by local country resources. In this way alternative approaches can be evaluated in terms of actual costs of service provision.

To facilitate the development of cooperative research among service providers and medical and social scientists, it was recommended that WHO improve available mechanisms for exchanging information, including research methods, questionnaires, and news of ongoing or planned studies. It would also be very helpful if meetings could be convened of technical specialists working in related areas to exchange information and adapt general research protocols to local conditions.

RESEARCH UTILIZATION

Involving service providers and policy-makers

It was repeatedly emphasized at Warnemünde and at the Copenhagen follow-up meeting that service providers and policy-makers should be involved in the earliest stages of planning of service-oriented research and participate in the decisions on priority research areas so that there will be an increased commitment to the implementation of findings. Service-oriented research should be directed towards recognized problems which lie within the province of service providers and policy-makers.

It was recommended that WHO should take a more active role in communicating experiences in research utilization in the Region. There must be realistic consideration of what is needed, feasible, and implementable.

Involving interested researchers

It cannot be assumed that medical and social scientists will be automatically interested in service-oriented research in adolescent fertility behaviour. Leadership must be identified within each country and an atmosphere created designed to attract interdisciplinary interest. Country-specific priorities for service-oriented research should evolve from planning-phase consultations with service providers, policy-makers, experienced youths, and other knowledgeable persons. Eventual research findings should then be presented in a usable format with succinct summaries of findings and recommendations accompanying more extensive documentation.

RECOMMENDATIONS

The follow-up meeting reviewed the Warnemünde recommendations and concurred in principle. It was emphasized that country-specific priorities for service-oriented research should be established following:

- (a) initial and continuing consultations with service providers, policy-makers, and interested researchers;
- (b) an assessment of the existing situation by means of baseline studies; and
- (c) preliminary discussions with adolescents and other knowledgeable sources; appropriate intercountry research strategies can then be devised.

In particular, there is a need to conduct research on:

- (a) the longer-term biomedical and psychosocial consequences of early marriage and early pregnancy;
- (b) the relative costs and benefits of specialized services for adolescent youth in comparison with training all service providers to be particularly sensitive to education and information needs associated with adolescent fertility behaviour;
- (c) the perceptions of adolescent fertility behaviour and the need for services among and between service providers, policy-makers and married and unmarried adolescent men and women residing in rural, urban and semi-urban developing areas in countries of the Region.

Such information is essential for creating an atmosphere likely to enhance the training of trainers and the provision of wanted services to sexually active adolescent men and women, whether married or not.

WHO should assume a more active role in strengthening mechanisms for the exchange of information and the provision of technical services to developing areas of the Region so as to coordinate plans for service-oriented research in adolescent fertility, facilitate the design of comparable research protocols, and promote the utilization of findings and recommendations in the Region.

Annex II

LISTS OF PARTICIPANTS

*Participants in the WHO Meeting on Service-oriented Research in
Adolescent Fertility in Europe*

Warnemünde, 24–27 April 1978

Temporary Advisers

- Dr M. Bothelo, Faculty of Medicine, University of Lisbon, Portugal
- Dr H.P. David, Transnational Family Research Institute, Bethesda, Maryland,
USA
- Dr J. Deschamps, International Children's Centre, Paris, France
- Dr E. Holst, Institute of Social Medicine, Copenhagen, Denmark
- Dr R. Illsley, MRC Medical Sociology Unit, Institute of Medical Sociology,
Aberdeen, United Kingdom
- Professor M. Kozakiewicz, Polish Academy of Sciences, Warsaw, Poland
- Dr S. Macintyre, MRC Medical Sociology Unit, Institute of Medical Sociology,
Aberdeen, United Kingdom (*Rapporteur*)
- Dr R. McIntyre, Department of Economics, Pennsylvania State University,
Pennsylvania, USA
- Professor K.-H. Mehlan, Director, Institute of Hygiene, University of Rostock,
German Democratic Republic (*Chairman*)
- Dr J. Paxman, Consultant, International Planned Parenthood Federation,
London, United Kingdom
- Mr N. Rasmussen, Institute of Social Medicine, Copenhagen, Denmark
- Dr S. Teper, MRC Medical Sociology Unit, Institute of Medical Sociology,
Aberdeen, United Kingdom
- Dr J. Trost, Department of Sociology, University of Uppsala, Sweden (*Vice-
Chairman*)
- Dr D. Vassilev, Research Institute of Obstetrics and Gynaecology, Sofia,
Bulgaria

World Health Organization

Regional Office for Europe

Miss W. Haddad, Officer for Public Health Nursing/Midwifery

Dr P.S. Rönisch, Regional Officer for Maternal and Child Health

Dr M. Wagner, Consultant, Maternal and Child Health (*Secretary*)

Headquarters

Dr K. Edström, Medical Officer, Maternal and Child Health

*Participants in the Meeting on the Application of Research Findings to
the Development of Adolescent Fertility Programmes in Developing
Areas of the Region*

Copenhagen, 28–29 April 1978

Temporary Advisers

Dr M. Botelho, Faculty of Medicine, University of Lisbon, Portugal

Dr M. Coruh, Director, Institute of Population Studies, Department of Paediatrics, Medical School, Hacettepe University, Ankara, Turkey, (*Chairman*)

Dr H.P. David, Transnational Family Research Institute, Bethesda, Maryland, USA (*Rapporteur*)

Dr N. Kapor-Stanulovic, Department of Philosophy, University of Novi Sad, Yugoslavia

Professor K.-H. Mehlan, Director, Institute of Hygiene, University of Rostock, German Democratic Republic

World Health Organization

Regional Office for Europe

Miss W. Haddad, Officer for Public Health Nursing/Midwifery (*Secretary*)

Dr M. Wagner, Consultant, Maternal and Child Health

Headquarters

Dr K. Edström, Medical Officer, Maternal and Child Health

Dr A. Petros-Barvazian, Director, Division of Family Health

