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The Mother/Child Dyad—Nutritional Aspects

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ABSTRACTS

I. INTRODUCTORY LECTURES

Chairman: *B. Vahlquist*

1. The physiology of pregnancy and lactation

by A. M. Thomson and F. E. Hytten

The history of the development of this subject will be reviewed briefly, with special reference to the personal experience of the authors. Reliable information on nutritional physiology is mostly rather recent, and many of the earlier ideas, based on misleading ideas and scanty data, have proved to be erroneous. Comments will be made on practical aspects of physiological research on pregnant and lactating women.

2. Psycho-social aspects of the mother/father/child unit

by N. Newton

Attachment, bonding, engrossment are terms used to describe the behavior of the father–mother–infant unit in the early weeks of life. All three members of the triad may have a basic falling in love experience, but biological differences modify the way such interest is shown by each member of the triad. Often overlooked is the fact that primary family bonding is reinforced through the ongoing pleasures of skin contact, breast feeding and coitus. These primary love relationships may flourish best when protected from undue stress by an affectionate cooperative wider social network.

II. NUTRITIONAL NEEDS OF THE MOTHER AND THE CHILD

Chairman: *R. G. Whitehead*

1. Nutritional needs of the pregnant and lactating mother

by G. H. Beaton

The definition of nutritional needs during pregnancy and lactation remains as much an art as a science. In many areas, such as trace element requirements, our knowledge is very fragmentary and based largely on animal studies of the effects of deficiency rather than the prediction of need. Even in the well-studied areas of human nutrition, opinions remain divided about requirements in this period. Three basic approaches have been followed, often with discordant results: (i) a factorial approach based upon a knowledge of the physiology of pregnancy and lactation coupled with estimates of the nutrients deposited in or utilized by the foetus and infant, (ii) an experimental approach based upon feeding trials with a variety of 'end points' used to assess adequacy of intake, and (iii) an epidemiologic approach in which the end point is usually birth weight and infant growth rate. By the first approach, only modest increases in protein requirements are estimated in pregnancy, nitrogen balance studies suggest that appreciably higher amounts of nitrogen can be deposited during pregnancy than can be accounted for in the factorial models; feeding trials suggest that energy intake may be the important determinant of birth weight if protein intakes are at all reasonable. If one accepts that haemodilution and fall in circulating haemoglobin levels are a normal part of pregnancy, then the factorial approach suggests that iron requirements in the previously well nourished woman undergo relatively small changes during pregnancy. Conversely, administration of large amounts of iron can maintain a higher level of haemoglobin in the maternal circulation. Which approach is correct? It is the position of the present author that nutrient intakes during pregnancy and lactation should be adequate to (*a*) permit adequate growth and "composition" of the foetus and infant and (*b*) ensure that the mother entering pregnancy in a well nourished state will end lactation in an equally well nourished state. Criteria of assessment of requirement should be based upon these objectives; criteria applied during pregnancy and lactation must take into account

the normal physiological adjustments of the maternal organism. In practice it is to be recognized that in addition to the normal requirements of pregnancy as defined above, there may also be a therapeutic requirement for rehabilitation of the previously undernourished mother.

It is well documented that a number of physiological adjustments take place during pregnancy and lactation. Usually these have the effect of minimizing maternal needs/improving the efficiency of the maternal organism and further assuring the adequacy of nutrient supply for the foetus (even at the expense of maternal tissues if total intake is inadequate). Seemingly the foetus functions as an effective "parasite". Energy intake and utilization seems to be an important exception. In the normal cycle of pregnancy and lactation considerable energy stores are deposited during pregnancy in anticipation of the needs of lactation. If energy intakes are inadequate the stores are smaller, but so too is the foetus. The "parasitic" theory does not hold.

2. Nutritional needs of the foetus and the young child
by E. M. Widdowson

One of the most economical processes from the energy point of view is the making of a baby. The biggest component in the amount of energy required is the gain in maternal tissues; the energy value of the protein and fat in the foetal body at term accounts for less than 10% of the total. The requirements of energy for new body tissue expressed as kcal/kg day are fractionally higher during the two months before birth than they will ever be again. The organism is becoming larger all the time, however, and the *total* energy requirements for new body tissue are higher for the 2 months after birth than for the two months before. There is also an increase in energy requirement for maintenance after birth, partly due to losses of nutrients by the bowel but, more important, because energy is needed to maintain the body temperature in an environment that is generally cooler than the uterus.

The amount of protein laid down in the body tissues per day is higher during the last two months of gestation than after birth. Calcium and phosphorus are also retained by the body at a greater rate before birth than after if the infant is fed on human milk. Balance studies suggest that this is not so if the food is whole cow's milk, but it is difficult to be sure about the observations.

The small preterm infant lacks body fat and its dominating requirement is for energy and protein. Problems about supplies of calcium and phosphorus for these infants will be discussed.

III. NON-NUTRITIONAL DISEASES INFLUENCING THE HEALTH OF THE PREGNANT MOTHERS AND THEIR OFFSPRING

Chairman: *R. G. Hendrickse*

1. Antenatal bacterial infection—the role of nutrition in a leading cause of death
by N. Tafari and R. L. Naeye

A recent study of excessive perinatal mortality of 66/1 000 live births among 25 000 pregnancies in a preindustrial community (Ethiopia) identified causes of death in over 95% examined by necropsy. The fetal : neonatal death ratio was 2.7 : 1 indicating that most of the diseases had maternal origin. Amniotic fluid infection syndrome was the leading cause of death with a rate of 21.8 per 1 000 live births, a rate three times higher than that seen in an industrial community (USA). The infection was highest in the most poor of gravida, in those engaged in hard physical work during pregnancy and in twins. The incidence of the disorder was similar in the two communities at mid-gestation. Between 34 and 38 weeks gestation, the frequency drops in the US population while the same rate is maintained in Ethiopians. The drop in the frequency of the infection among the US population coincides with the normal appearance in amniotic fluid of a polypeptide that requires zinc for full antimicrobial activity. Examination of amniotic fluid at term among Ethiopian gravida showed that 90% lacked antimicrobial activity. The lack in antimicrobial activity was correlated with energy-protein undernutrition and low levels of zinc concentration in amniotic fluid. While bacteria gain easy access to invade fetal membranes as evidenced by the frequency of chorioamnionitis of 151.8 per 1 000 live births in the present study, it is only in 14.4% (21.8/1 000 live births) that the infection is fatal. It is, therefore, reasonable to postulate that in the deficiency in the defense against bacterial infection during late gestation, the antimicrobial properties of amniotic fluid play a crucial role. Deficiencies in the

polypeptide may require expensive supplementation, but if the deficiency can be corrected in at least a proportion of gravida with administration of zinc during late gestation, a major break through in the solution of a leading perinatal health problem can be anticipated.

2. Pregnancy and delivery complications. Mothers at risk
by Z. Štembera

The results of research and of longstanding clinical experience in countries with advanced perinatal medicine have proven that for *different* non-nutritive complications of pregnancy and labour influencing the health of the mother and her offspring several *common* principles for elaboration of an effective prevention are of importance.

1. The weight of individual risk factors is frequently different for maternal and fetal health (e.g. heart disease is more consequential for the mother than for the fetus. Post-term pregnancy, on the other hand, is relevant for the fetus but not for the mother.)

2. The final effect of a risk factor upon the fetus is destined not only by its kind and weight but also by the week of pregnancy at which it started to act and by the length of the action. According to this a single risk factor can cause congenital malformation, premature delivery, stillbirth or some kind of perinatal morbidity.

3. The improving mother–child care does not decrease the weight of any risk factor, but changes the frequency of its occurrence. As a result, the succession of their occurrence in the population of pregnant women is changing.

4. A successful prevention of one risk factor can call forth a risk on another area. E.g. introduction of legal abortions decreased maternal mortality due to sepsis as a consequence of criminal abortions. The risk of premature delivery, however, increased. An intensive care for pregnant women suffering from diabetes caused a manifold decrease of perinatal mortality. But the infants share increasingly in perinatal morbidity.

5. The most serious complications for the fetus are those resulting in delivery of a very premature fetus or inception of a fetoplacental dysfunction. Even if the latter derangement is caused by non-nutritive complications (e.g. gestosis, postmaturity), it frequently results not only in acute or chronic fetal hypoxia, but also in intrauterine malnutrition and delivery of a small-for-date fetus. Consequently, there is no sharp borderline between nutritive and non-nutritive complications influencing the health of the offspring.

IV. FACTORS AFFECTING THE NUTRITION OF MOTHER AND CHILD IN PRE-INDUSTRIAL COUNTRIES

Chairman: *M. Behar*

1. Cultural traditions and nutritional taboos related to pregnancy and lactation
by D. B. Jelliffe

(Abstract not received.)

2. Quantity and composition of breast milk in malnourished mothers
by B. Belavady

Lactation imposes stress on women and hence, nutritional status and dietary intake may be expected to play an important role in breast milk secretion. Breast feeding for long periods is common among women belonging to the poor socio-economic groups in developing countries as compared to women in the affluent countries. Among the women of the former group, the dietary intake of all nutrients is low and their nutritional status is not satisfactory. However, clinical deficiency diseases are not common among nursing women. These women are considered to be "apparently" normal by us and only those who show specific signs of deficiency are referred to as "malnourished".

Studies available indicate a daily secretion of milk of the order of 400–700 ml for over a one year period in undernourished women. Reported yields in well-nourished mothers were 850 ml or less over a duration of six months or less. In a report from Egypt, malnourished mothers had lower yields than normal mothers.

The total protein concentration and fractionation in milk appears to be normal in the "apparently" normal mothers. In severely under-nourished, the ratio of casein to whey proteins showed an increase. Special proteins like lysozyme, lactoferrin and immuno-reactive proteins are not low. The fat content is either low or in the low normal ranges of values observed in well-nourished women. Lactose

is slightly higher and the calorie content per 100 ml milk is not very different. Calcium, iron and phosphorus content are in the normal ranges though early studies had indicated low calcium content in milk of Chinese women. The unsatisfactory dietary intake of nutrients by the mothers is reflected in vitamin concentration in milk. All the vitamins studied are low in milk of under-nourished mothers.

Supplementation with different nutrients indicated that there was a direct relation between the intake of vitamins by the mother and their concentration in milk. Such a relationship was not observed with other nutrients.

One unusual feature in the composition of milk of under-nourished mother was the high concentration of creatine and creatinine in milk. The protein intake of the mother affected the creatine concentration in milk.

3. Patterns of breast feeding and weaning
by Y. Hofvander

In the WHO Collaborative Study on Breast Feeding three widely different socio-economic groups are being investigated as regards length of breast feeding and weaning: The urban elite, the urban poor and the traditional rural population. Although conditions vary greatly area-wise some common patterns may be identified.

In the well educated elite group comprising professionally active mothers the period for whole breast feeding is usually very short, 6–8 weeks or less, partly because the paid maternity leave period seldom is longer, but also because artificial feeding is considered fashionable.

The pattern in the other extreme, the traditional rural population, is more varying. In general, breast feeding continues for a long time although the period for whole breast feeding may vary from half a year to more than a year. In certain cultures abrupt weaning takes place after half a year or sometimes less to ensure a new pregnancy. In most cultures children are abruptly weaned when the mother becomes pregnant. Exceptions are certain Eskimo tribes who breast feed all through the next pregnancy.

The urban poor sector—from public health point of view an increasingly important group—tends to have a brief period of *whole breast feeding* while partial breast feeding may continue for a long time, a pattern which in the given environment is unsatisfactory from immunological and nutritional points of view and predisposes to gastroenteritis and malnutrition.

The pattern of breast feeding and weaning is decisive to a great extent for the state of nutrition, health and development in the young child. Provided milk produce is ample whole breast feeding safeguards the child nutritionally and immunologically for half a year or even longer. Inadequate milk production may explain faltering growth from 3–4 months or even earlier. Gradual weaning on realistic and nutritionally adequate foods from 4–6 months is generally advocated.

4. Effect of maternal nutrition on the mother/child dyad
by A. Lechtig, H. Delgado, R. Martorell, Ch. Yarbrough and R. E. Klein

Data from the INCAP longitudinal study suggest that maternal nutrition, both before and during pregnancy, has an effect on birth weight. The relative contribution of calories and proteins to an increase in birth weight depends on the balance of these nutrients in the home diet of the population under study, type of physical activity, prevalence of disease and magnitude of the maternal nutritional stores before pregnancy. The anticipated impact of a nutritional intervention on birth weight ranges between 25 and 84 g of birth weight per 10000 calories ingested during pregnancy. The expected reduction in the proportion of low birth weight babies following a nutritional intervention will depend on the estimated fetal weight increase and on the proportion of LBW babies existing prior to the intervention.

In addition, improved maternal nutrition contributes to decrease infant mortality rates and improves breast milk output and nutritional status of the breast-fed infant at least during the first six months of age. Caloric supplementation during pregnancy also reduces the risk of low weight gain during pregnancy, decreases the duration of postpartum amenorrhea and may increase the probability of a shorter birth interval. Maternal height, head and arm circumference may be used as simple indicators to select target populations for health and nutritional interventions. Food supplementation during pregnancy also decreased diastolic blood pressure and increased the prevalence of lower

limbs edema. The public health relevance of these findings is discussed and recommendations made to decrease the high world wide incidence of fetal growth retardation.

5. Impact of fertility regulation on the health and nutrition of mother and child
by C. C. Standley

Fertility regulation is defined as control over the timing, spacing and number of pregnancies.

Its impact on the health and nutrition of mothers and children is discussed from several points of view:

(*a*) In the absence of the practice of family planning, how do the timing, spacing and number of pregnancies affect these parameters? The data from developed countries are briefly summarized and results from WHO studies in developing countries are presented in greater detail.

(*b*) What direct evidence is there for the benefits of family planning?

(*c*) What adverse effects do specific methods of fertility regulation have on health and nutritional status on mothers and children? Results of recent WHO studies are discussed.

V. FACTORS AFFECTING THE NUTRITION OF MOTHER AND CHILD IN INDUSTRIALIZED COUNTRIES

Chairman: *G. H. Beaton*

1. The mother's and father's role and function in an affluent society
by R. Liljeström

(Abstract not received.)

2. The mother's emotional contact with the newborn infant
by E. Lagercrantz

The emotional relation between mother and infant is of the utmost importance for the infant's physical health and its harmonious mental development. The mother's emotional attitude to the child is far more important than the routines with which she takes care of the infant. These attitudes are the result of her long individual development from infant to woman. But the mental state during pregnancy is also very important as motherly feelings for the expected child develop which later take concrete expressions in the mother and child interaction. The motherhood and the mother–child relationship will be discussed from several points of view:

Mothers' interaction with their newborn infants.

Mothers' conflicts in pregnancy and postpartum.

Children's development at 6 and 18 months related to the emotional contact with the mother.

3. The mother's choice of food for herself and her baby
by L. Abrahamsson

The possibilities for mothers to make a real choice of foods are often limited by several factors. Among the limiting or decisive factors are, e.g., food availability, economic situation, tradition, food and nutrition education, especially from medical personnel, and food legislation that controls advertising and product quality. These factors influence the nutritional value of the diet and are, therefore, all of importance for the development of the child, either indirectly during pregnancy and lactation or directly such as during the weaning period.

The pregnant mother's nutritional status affects the development of the fetus. The availability of foods is generally sufficient in industrialized countries. However, in some countries there are pockets of poverty. Lack of education, often combined with poverty, has a negative effect on the food habits even in industrialized countries. The need for food during pregnancy varies with the manner and standard of living. In affluent groups, physical activity is often reduced during pregnancy. As in this group the mothers also can choose among an abundant variety of foods, there is a risk of overfeeding the child already during uterine life. Furthermore, health and nutrition information has perhaps gone beyond its objectives: compare the saying "A pregnant mother must eat for two" and "One tooth for each child". This, in combination with a short period of breast-feeding, makes it difficult for mothers to reduce their body weight to what it was before pregnancy.

During early infancy breast-feeding ought to be the chosen feeding practice. However, in industrialized countries different sociological and cultural factors make the mothers choose bottle-

feeding instead. In some countries weaning may start very early, as for example in USA, where solid foods are introduced by the mothers even earlier than the already too early time suggested.

The choice of food for the weaning child varies greatly from one socio-economic group to another. One debated subject has been the differences between industrially produced and home-prepared food. In Sweden the frequency of iron deficiency anaemia has almost been eliminated completely among small children. This is due to the ready-to-eat, enriched milk cereal based products commonly used from about 4–6 months of age. Very few families prepare this type of food at home. Fruit and vegetable purées or mixed baby-foods in jars were served daily to 78% of Swedish infants (0–11 months) and to 5% of children between 20–24 months in 1972. Since then baby foods have been much discussed, including in the news media. If the study were repeated today the figures would probably be lower. Today many mothers consider baby foods in jars to be too expensive compared to home prepared food. On the other hand, there are mothers who serve their children industrially produced food because they do not have enough confidence to choose and prepare adequate meals.

4. Causes and consequences of early weaning
by S. Sjölin

Around 1970 breast feeding in most industrialized countries was in general limited to a very brief period. Even people, who since long had had a thorough insight in these matters did not seem to worry, and only a few studies had been undertaken to reveal causes and consequences of this remarkable manifestation of civilization. An explanation to this relaxed attitude may have been that infant morbidity and mortality continued to drop in these countries despite a successively shortened breast feeding time. Seemingly, infants could manage quite well without breast milk.

Most attempts to reveal the causes of the decreasing breast feeding rate in industrialized countries have failed to disclose the causes, but have unequivocally demonstrated a number of background conditions related to the duration of breast feeding. Determining factors are e.g. the mother's age, civil status, education, social class and experience of breast feeding. Young, single mothers, belonging to the lowest social class and with few school years tend to breast feed the shortest time. These factors, however, are not in themselves to be regarded as immediate causes of early weaning.

By means of a prospective in-depth study of 71 mother–child pairs we have been able to show that the direct reasons for early weaning could be found and could be divided into those referable to the mother herself (51.4%), to the environment (6.6%) and to the interplay between the mother and the environment (41.3%). During the course of lactation each mother ran into breast feeding difficulties on one or more occasions ("lactation crises"), triggered by many different types of physical and/or environmental stress factors.

The consequences of early weaning, which were so obvious and serious even in industrialized countries before basic hygienic measures were commonly adopted, have recently again attracted an increasing interest of research workers. It now seems evident that the consequences of early weaning even under excellent hygienic conditions are more important to the health of infants than was believed some 10 to 20 years ago. Above all the increased risk of alimentary tract infections, of allergic reactions and of malabsorption have recently been convincingly established. Since long it has further been known that artificial feeding also results in a higher incidence of constipation and obesity. There are, however, no indications that the early introduction of cow's milk formulas should lead to an increased infant mortality.

5. Overfeeding during infancy
by O. Wolff

It is possible that overnutrition may occur already in intrauterine life. Measurements of skinfold thickness in newborn infants show a correlation with the mothers' skinfold thickness. This correlation may be due to genetic factors and/or to excessive placental transfer of fatty acids from the obese mother to the foetus.

Overfeeding is more common in infants who are artificially fed than in those who are breastfed. Inaccurate reconstitution of the feed may be one reason for overconsumption of nutrients by the artificially fed infant. There is a tendency to give non-milk solids, normally as cereals, already at an early age, to both bottle and breastfed infants, and the introduction of such foods during the first month of life is associated with accelerated weight gain.

Disturbances in the emotional relationship between the mother and her infant may lead to overfeeding.

Overnutrition in infancy has certain effects:

1. In adipose tissue it leads to an increase in mean fat cell size and in fat cell number. Whether this increased cellularity persists indefinitely and whether it influences prognosis is not known.
2. It accelerates linear growth.
3. It predisposes to respiratory infections.

As far as the prognosis of obesity in infancy is concerned, there is agreement in the literature that though the majority of obese infants will be of normal weight in childhood, obese infants run a greater risk of remaining obese than do infants of normal weight. Estimates suggest that about 20% may remain obese. Retrospective studies of obese children suggest that in 40–50% of the children the obesity had its onset in infancy.

The incidence and prognosis of obesity in infancy differ between different social classes and communities and may be influenced by health education.

6. The responsibility of the food industry and the importance of its cooperation with nutrition research institutes

by L. Hambraeus

Scientific and technological advances in the food industry have made it possible to produce a variety of new foods that combine acceptability and good nutritional values from edible raw material. However, the food industry has a great responsibility in the use of their innovative technology and especially in the marketing of new food products. Food analogues, i.e. foods that duplicate the composition of a conventional food as well as its role in the diet, can, however, influence the pattern of food consumption and secondarily give rise to unwanted nutritional effects. This can be especially harmful when the product it replaces contributes significantly to the daily allowance of any essential nutrient.

Collaboration between the food industry and nutrition research institutes of the university is advantageous for several reasons. First it is essential that the producers give appropriate consideration to the nutritional quality of their products and that new processes do not harm this quality. Secondly it is essential that nutritionists in their nutrition education activities stimulate the food industry to produce suitable products for the market, e.g. low fat milk, low fat margarine. The role of nutrition researchers in informing the food industry of the expected development in consumers' needs and nutrition recommendations, to adapt their product development to the coming market, is another example of fruitful collaboration. A more complex practical problem is to find how the rights of the research fellow and inventor should be defended, since he seldom has the economic possibilities of marketing his knowledge and inventions and easily could be overrun by industry. It is essential that the use of nutrition facts in marketing of food products is well balanced. There is a large risk of using fortification as a means for marketing if fortification is used without legal restrictions. There is a need for the establishment of a policy of the use of fortification and enrichment. It also seems essential to establish internationally applicable guidelines for the proper development and adaptation of food technology innovations.

One area which has been most discussed during recent years is the marketing ethics of infant food industry on a national as well as an international basis. In 1975 the International Pediatric Association adopted recommendations for action programs for encouraging breast feeding and stressed a need for curtailing promotion of artificial feeding. It is in this respect of interest to note that already in 1964 a group of Swedish pediatricians worked out "Medical standards for marketing of infant foods". The fact that the Swedish baby food industry has respected the adopted rules and shown a clear ambition to follow them is a good example of fruitful collaboration and responsibility.

The various Nutrition Foundations seem to offer a suitable forum for nutrition and food scientists of the universities, those engaged in nutrition education of the public and representatives of food industry to discuss mutual problems. In Sweden we have also had fruitful collaboration between the National Board of Health and Welfare and the food industry in launching the campaign "Diet and Exercise" throughout the country.

VI. PUBLIC HEALTH PROGRAMMES INTENDED TO SUPPORT THE MOTHER/CHILD DYAD. THE ROLE OF PRIMARY HEALTH SERVICES

Chairman: *O. Mellander*

1. An integrated MCH package delivery as part of primary health care

by A. Petros-Barvazian

(Abstract not received.)

2. Nutrition programmes as integrated part of general health programmes for mother and child

by M. Behar

Children from conception until they are fully incorporated in their family diet—at about the age of three—are considered the most vulnerable to malnutrition, and in whom the consequences of malnutrition are the most serious. Pregnant and lactating mothers and children up to about 3 years of age should therefore have priority in the public health activities to correct malnutrition. There is a further need to identify and concentrate attention on the population groups and families at greater risk.

Among the limitations and pitfalls which have prevented a more effective action of the health services to correct malnutrition in mothers and children, the following ones are discussed: insufficient coverage of the services; their disease rather than health orientation; the isolation of nutrition oriented activities from other health services; the concentration of attention on the food components of the problem without enough recognition of other responsible factors which the health workers contribute to reduce; the inadequate planning and implementation of "nutrition interventions", e.g. food supplementation and nutrition intervention.

Activities, specifically oriented to prevent and correct malnutrition in mothers and children, that could be carried out at the primary level of health care as regular integrated components of the programme are suggested. They are classified into three categories: monitoring of the nutritional situation, nutrition promotion and care of the malnourished.

Areas in which further experience is needed for the effective application of available general principles into health programmes at the primary level of health care, in order to improve the nutritional situation of mothers and children, are suggested.

3. Family planning programme as integrated part of general health programmes for mother and child

by F. Sai

The importance of postponing the first pregnancy until the early twenties, spacing children at intervals of about three years and stopping childbearing after the age of 35 for the health of women and their children, is analysed. Evidence is adduced from different parts of the world to show the age and parity related morbidities and mortalities. The contribution made by family planning programs essentially consisting of:

(i) efforts to delay the first pregnancy until the early twenties;

(ii) spacing children at intervals of not less than three years; and

(iii) stopping childbearing when the mother is 35 years of age,

is illustrated.

With this as a background, strategies are put forward for the integration of family planning programs into MCH and general health programs for mother and child. These strategies lean heavily on overall community involvement, the use of non-health personnel in delivery systems and education programs, and an advocacy for the liberalisation of abortion and sterilisation laws together with the removal of restrictive legislation which does not take cognizance of the scientific facts on the relative safety of contraceptives.

4. Socioeconomic planning. Legislative measures to improve the nutritional status of the mother/child dyad

by M. Manciaux and M. Péchevis

For many years the problem of improving the socioeconomic conditions relating to pregnancy and early infancy has been attacked by the passage of legislation to protect working women in developing countries. The nutritional benefits of such legislation were dependent on pre- and post-natal leaves and on the provision of nursing "breaks". Later, with the decline in breast feeding, some specific steps were taken to improve maternal and child

nutrition by providing maternity and family allowances, clean milk and supplementary foods at little or no cost. ILO, WHO, and PAHO have reviewed such legislation.

However, the inadequacies of these measures, and the difficulties in implementing them, are quite evident: some were limited to working women or to a special social or professional group. Also, such legislation, even when it exists in a developing country—based on a model adapted from an industrialized country—affects relatively small numbers of the population, and does not protect those who have the greatest needs, namely pregnant and lactating mothers and infants in rural and periurban areas. Within this context, the diminution of breast feeding, the misuse of Western commercialized dietetic products and uncontrolled fertility have had disastrous effects.

Newer knowledge concerning nutritional needs and the qualities of breast milk and changes in the processing of commercialized infant milks and foods have resulted in newer legislative approaches which require that the labels include details about the various components, methods of use, etc.

Certain legislative measures are designed to define the import requirements, regulation of free distribution to consumers, and advertising to the public. Recent legal suits have resulted in expanding the public awareness of these problems and will speed further legislative changes.

Because of such events, each country will be obliged to define its own nutritional policy, depending on internal conditions and its priorities: better application of existing measures, extending benefits to the entire population, adoption of new criteria for mother and infant foods, making them safer and better adapted to the nutritional needs of the mother–child dyad.

VII. GENERAL DISCUSSION

Chairman: *D. B. Jelliffe*

Recommendations for action at country level. Role of National Governments, International Agencies and other bodies