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ROLE OF MATERNAL AND CHILD HEALTH SERVICES IN THE IMPROVEMENT OF NUTRITION IN THE WEANING PERIOD

by

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Introduction

During the last two decades, great emphasis has been given to MCH care in the Eastern Mediterranean Region. Women and children form about two-thirds of the population and therefore all countries come to realize the importance of their care. The cultural development of a country and the state of civilization can be measured indeed by the amount of care and attention given to the development of maternal and child health care in the community. To build a strong nation it is indispensable to safeguard the health of the children and of their mothers, whose health is essential for the mental, physical and social growth of children.

However, the lack of financial and technical facilities in the majority of the developing countries are handicaps in the socio-economic development and in providing adequate MCH services which are basic and essential, and an integral part of the public health services. MCH services aim at providing adequate care to safeguard

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mothers and children from communicable diseases, to protect their health and welfare and that of their families, to educate and assist mothers in the protection of the life and health of their children and in the promotion of their physical, nutritional, mental and social well-being.

Nutrition plays an essential role in the health protection and promotion of the child, especially during infancy and early childhood.

Basic Data

Before limiting myself to the subject of my statements and in order to illustrate the present health and nutritional status of young children and the status of MCH services, it is important to present some information and basic data.

The information made available to the WHO Seminar on the Health Needs of the Pre-School Child, held in Karachi from 26 February to 2 March 1968, collected from the countries of the Eastern Mediterranean Region through questionnaire returns, provided the following data:

1. The children from 1 to 5 years make up from 10.5 to 15 percent of the population.

2. Crude birth rates vary from 24.4 to 52 per thousand.

3. Infant mortality varies from 27.6 to 152 per thousand live born.

4. Death rates in the age group 1 to 4, range from 0.4 to 5 per thousand of the total population, most figures being around two per thousand.

5. The most important causes of death were unanimously reported to be gastro-intestinal diseases and respiratory infections, often on the basis of underlying malnutrition. Measles, and in some countries diphteria and meningococcal meningitis, play an important part. Accidents, both in the homes (poisoning, burns, falls) and traffic accidents, play also an important role as causes of death.

6. Standards of immunization of the children from 1 to 4 against smallpox and poliomyelitis during the period 1960-1967 are satisfactory. The percentage of children immunized against the various diseases is rather low.

7. There is an appalling lack of female MCH workers in a number of countries, though in others, satisfactory progress has been made in the training of more female workers.

8. The number of attendances at the ante-natal, baby and child welfare clinics, and the number of MCH centres during the same period has increased.

Vulnerability of the Young Child

Among the causes of the high vulnerability of the young child is inadequate weaning practices and the lack of adequate weaning foods. Even if they are available, they are not prepared in a suitable way for the child, which may lead to malnutrition. Also it is at this age that the child has to go through a great number of infectious diseases. The less satisfactory his state of nutrition the less chance there is of a speedy recovery and the greater the mortality. It is understood that each period of infection tends to worsen the child's nutritional status which leads to the vicious circle: malnutrition-infection-malnutrition. Therefore, priority should be given to the young child especially between 7 months to 2-3 years, i.e. during the weaning period when malnutrition usually starts.

Health and Nutritional Problems of the Young Child

Infectious diseases prevailing in the Region are still considered as one of the main causes of morbidity and mortality among young children. These diseases include measles, diphteria, whooping cough, meningococcosis, poliolyelitis, typhoid fever and shigellosis and the many forms of respiratory and gastro-intestinal infections for which

the causal agents remain as yet unknow. Although the former group of etiologically clearly defined diseases could be counteracted effectively by immunizing the child population against i.e., diphteria, whooping cough, tetanus, poliomyelitis, smallpox, measles, etc. The latter group of diseases can only be prevented from becoming harmful by ensuring adequate nutrition, environmental sanitation and prompt medical treatment. The requirements for good nutrition and the health problems that arise when these requirements are not met, are among the most important health considerations of the young child.

Malnutrition is generally recognized as being the main problem of the young child in this Region. This is due not only to infectious diseases I previously mentioned and to the lack of production of sufficient foodstuffs proper for this age, their proper storage, transport and distribution, but also due to lack of parents' knowledge in selecting the right and suitable food and in the way of handling it, as well as to their ignorance with regard to its nutritive value, and to the sound feeding practices and weaning patterns which are affected by local customs and traditions.

To illustrate the incidence of malnutrition and its effect on the health and life of children in this Region, Dr. Mellander pointed in his paper to a recent survey within the WHO/FAO sponsored applied nutrition project in the Sudan which demonstrated that the prevalence of malnutrition in a group of school children (7-20 years) was 40 percent while the incidence in the youngest age group (7-10 years) was around 60-70 %. Also, in another survey perfomed within the Region, 60-80% of all children between 6 months and 2 years are found to be malnourished from the beginning of the weaning period, due to the lack of suitable weaning foods.

The two types of severe malnutrition in early childhood, marasmus and kwashiorkor, their causes and effect on the health and life of the

young child are known to all of us, and have been discussed extensively in recent years. Their prevalence in this Region and other regions as leading to a high morbidity and mortality have been dealt with by many speakers and need no repetition. Prevalence of malnutrition is so high that it constitutes a medical and public health problem and serious handicap to the national development and requires a multidisciplinary approach.

Breast-Feeding and Weaning

Breast-feeding is a natural way and suitable pattern of feeding. It is simple, convenient, easy, safe, less costly and requires no preparation as bottle-feeding, and provides emotional satisfaction. Adequate human milk is more advantageous for infants for its digestability and with regard to growth and development, immunity and low morbidity. Therefore, breast-feeding should be encouraged by all means, especially in developing countries for health, psychological, social and economical reasons known to us and which have been emphasized by many speakers. Professor Vahlquist has stressed the importance of breast-feeding in developing countries and that lack of it means life or death to the child especially during the first year of age.

It should be kept in mind that in order to achieve adequate breast-feeding, an adequate diet should be ensured for the lactating mother. Also adequate breast-feeding, both quantitatively and qualitatively, depends on maternal health and diet during pregnancy and lactation.

The early introduction of artificial feeding for more than one reason in developed countries is well understood and could be successful. However, early artificial feeding in developing countries unless there is strong and justified indication for its use, should not be recommended. Although artificial feeding among educated and wealthy people in developing countries could be successful, it should not be encouraged to substitute breast-feeding, because it is frequently

inadequate and carried great risk of contamination. It is usually inadequate either by the quantity of milk used or by its quality.

Weaning is a critical period in the child's life, when new and especially solid foods are introduced in his diet and a time he is exposed to infection. Jelliffe defined weaning as "transitional feeding" and the weaning period as "transitional dietary period". The weaning period is usually defined as the total period during which breast milk is being replaced gradually by other foods but still available, even in small quantity.

Professor Mellander has rightly used the terms of "physiological weaning" when weaning starts at 6-7 months of age and "unphysiological weaning" for the weaning starting before that period, when biological nutrition is still sufficient.

Weaning before 6-7 months of age should not be recommended in developing societies due to the susceptibility of the infant to malnutrition and infection. This is confirmed by the fact that morbidity and mortality among bottle-fed infants is higher than that of breast-fed infants. The failure of breast-feeding is one of the most important causes of malnutrition during the first and second years of life which leads not only to temporary ill health, but also to permanent sequalae affecting the physical and mental development of the young child.

The tendency to early artificial feeding in urban and rural areas of the developing countries has increased during the last two decades, partly due to the idea of imitating the developed countries or the highly civilized and wealthy people in the society. Unfortunately, this has has been strengthened by the impact of the unrestricted commercial advertising of baby foods to which the responsible authorities should pay attention in order to protect the health and life of young children.

Unnecessary causes and beliefs associated with early weaning, such as unsuitability of mother's breast milk, menstruation and pregnancy, etc., should be disregarded and mothers should be taught accordingly.

Weaning Patterns

Weaning is usually done at an early or late period of the first two years of life. As to the way of weaning, the pattern is defined as gradual or abrupt (partial or complete).

Professor Harfouche has classified weaning according to age into early weaning (1 day - 3 months), intermediate (4-11 months) and late (12 months and after). The majority of infants (92%) are weaned gradually and the minority (8%) are weaned abruptly.

In a survey on weaning, undertaken by Professor Harfouche in Lebanon, it was found that gradual weaning was due to a combination of three major factors: maternal (63.9%), infant (29.3%) and institutional (6.8%). However, abrupt weaning was due only to maternal factors (emotional, sickness of the mother, anatomical, such as breast abcess, and fissure), and onset of pregnancy. The most common cause of gradual partial weaning at an intermediate or late age was milk inadequacy. The most common cause of gradual and complete weaning was the onset of pregnancy.

Nutrition Education

It has been repeatedly emphasized that nutrition and feeding of the child is the sole responsibility of the parents. Although this is true to a certain extent, and that the education of parents will help improve the young child's nutrition through sound weaning practices; but this alone will not indeed solve the problems. Whereas the improvement of the weaning and young children's nutrition can be achieved by education and redistribution of food within the family and by better utilization of available resources, the governmental departments concerned should bear the responsibility for the production, processing and

adequate distribution of sufficient foodstuffs, much needed for the child's nutrition, at reasonable prices that parents can afford. This is essentially important if we expect to achieve better results in the education of parents.

Educational aspects of nutrition including training and evaluation as well as applied nutrition programmes have been dealt with in other papers made available to this Seminar, and need no repetition.

Weaning Food

In view of the poor economic development, limited resources in a number of the developing countries, the development of social, educational and agricultural activities including production of foods on a large scale, to meet the needs of the population require long-term programme. However, should Government's plan for a strong and healthy generation by safeguarding the health of children, they should assume the responsibility and give priority to meet the health and nutrition requirements of this vulnerable group, particularly young children. With regard to nutrition, should it be difficult to improve the situation on family level basis, it would be easier and less costly for the countries to produce special protein-rich foods as weaning foods and supplementary foods for pre-school children, made of available local raw material. Such product is usually made of cereals, legumes and seeds, such as wheat, peas, chick peas, beans, corn and barley, or other local vegetables rich in protein, to which skim milk, sugar, salt and vitamins are added.

Similar products have been successfully produced in a number of countries under different marketed names, such as the Incaparina in Guatemala, Superamin in Algeria, Faffa in Ethiopia. Other products are underway in Tunisia, UAR and Iran.

MCH Service in Relation to Child's Nutrition and Weaning

One of the basic functions of Maternal and Child Health services is health and nutrition education of mothers for the protection of their children from communicable and nutritional diseases, health hazards, home and traffic accidents, and for the promotion of their physical, mental and nutritional health. More emphasis is usually placed on infants and young children (0-2 years) in view of their high vulnerability and of the interest that mothers give to this age group.

It is evident that the frequent contact of the MCH personnel, medical, para-medical and auxiliary, with mothers at the maternal and child health, maternal and child welfare or health centres, and at homes create an intimate and strong friendly relation, through which the personnel gain the confidence of mothers. Without it the services delivered to children and their mothers, especially the educational ones, will be ineffective or less successful.

The success of an MCH service depends largely on its organization, staffing pattern and the quality of its personnel. In the majority of countries of the Eastern Mediterranean Region, female health workers (either the public health nurse, the nurse-midwife, the community nurse, the health visitor, MCH assistants, assistant nurse, etc.), play a key role in the education of mothers, through personal contact during home visits, as well as at MCH centres where educational activities (talks, projection of slides and films, food and cooking demonstration), take place.

In view of the fact that attendants at MCH and MCW centres in the Eastern Mediterranean Region are mothers and children between 0-2 years of age, the activities of personnel are normally concentrated on the children of this age group. Educational activities are mostly geared to the young child's nutrition and weaning and on his personal hygiene and immunization.

Therefore, in view of the reasons mentioned above, the MCH health worker is most trusted and has more opportunity than any other health worker in the community to educate, guide and assist the mother in the improvement of feeding practices of the child, with particular emphasis on breast-feeding and on the weaning period, for the improvement of his nutritional health.

To be able to carry out properly and effectively the educational nutrition activities, the MCH worker, who is the key person, must have adequate basic knowledge and experience in child nutrition, weaning foods and weaning problems such as:- human milk composition and variations; cow's milk; breast-feeding, advantages and disadvantages; incidence of breast-feeding and factors related to lactation failure such as economic and social development, changes in family life, availability of artificial milk and commercial baby foods; medical and maternal factors; weaning and its process; pre-weaning, weaning and post-weaning; traditional weaning foods and practices, beliefs and taboos; what foods must be given in weaning and how to give them; staple foods available in the community and their nutritive value; the family purchasing power and income; how to improve home-made weaning foods; soft and solid foods to supplement breast-milk; feeding problems; protein and vitamins, requirement and deficiencies; undernutrition and malnutrition; special protein rich foods used as weaning and supplementary foods for pre-school child.

Should the MCH services be well co-ordinated with other health and nutritional activities, the MCH health worker can participate and play an important role in a number of activities and programmes such as applied nutrition programmes, integrated or not with weaning foods programmes. She can participate and assist, for example, in the collection of information and baseline data (age distribution, vital statistics, health and nutritional status of young children, anthropometric data, information on breast-feeding, child feeding practices

and weaning patterns, foods available and food consumption, distribution of foods within the family, food habits and taboos, family income, family budget and purchasing power, special protein rich food and acceptability test, etc.).

The above MCH educational activities and services require professional health personnel adequately trained in health and basic nutrition. Unfortunately, a small percentage of the child population in the countries of this Region is covered by MCH services which are more curative than preventive. The number of MCH personnel, medical and para-medical, is appallingly insufficient. Due to the lack of qualified health personnel adequately trained in MCH, the majority of MCH activities are carried out by MCH auxiliaries of poor educational background, inadequately trained to cope successfully with these services. For the same reasons, most countries have to rely on health auxiliary personnel for many years to come, not only in MCH, but in other related health fields. However, better results could be obtained if efforts are made to recruit personnel of higher educational background and to improve and strengthen their training with more emphasis on health and nutrition education. Incentives should be used to attract such personnel to carry out effective MCH services.

In view of the limited number of MCH centres and insufficient number of MCH personnel, and due to the fact that other health centres and medical institutions are delivering MCH services as an integral part of the public health and medical services, it is essential to provide the health personnel (nurses, midwives and auxiliaries) working in these centres (e.g. health centres, paediatric and maternity wards and hospitals, nurseries, etc.) with additional training and adequate knowledge in child nutrition with emphasis on child feeding practices during the weaning period. Short training and refresher courses should be organized for this purpose. Medical and para-medical curricula should include a great deal of preventive medicine including nutrition.

Attention should be given to the training in health and nutrition education of personnel such as social workers and supervisors working in nurseries, day-care centres, social and welfare centres, and community development centres which usually provide social and welfare services to mothers and children.

Dais (traditional birth attendants or indigenous midwives) attend most of the deliveries and have close and strong relations with mothers and families, especially in rural and semi-urban areas, and mothers seek their advice on the health and nutrition of their babies. Dais could play a key role in the improvement of infant health and nutrition during the weaning period. Agricultural extension workers could also assist if they are provided with the required health and nutrition knowledge.

The WHO Seminar on the Health Needs of the Pre-School Child, Karachi, 1968, recommended a number of effective measures relatively easy to implement, to combat malnutrition and to improve the young child's nutritional health, which are to be considered by health administrators and planners in the planning and implementation of applied nutrition, weaning food, and nutrition education programmes which would be better integrated in one programme.

Recommendations

To enable MCH services to play a key role in the improvement of child's nutritional health in general, and his nutrition during the weaning period, in particular, it is recommended that:

1. In order to increase the percentage of child coverage by truly preventive services, efforts be made to expand, strengthen and improve, quantitatively and qualitatively, MCH services through MCH centres and other related health centres and medical institutions delivering MCH services all over the country.

2. To improve the knowledge in nutrition of MCH personnel with emphasis on child nutrition during the weaning period and on weaning food and practices. Regular and periodical short training and refresher courses could be organized for this purpose.

3. Special attention be given to this in the medical and para-medical curricula supplemented by practical field training and demonstration in MCH and other related and suitable centres.

4. Attention be also given to provide similar knowledge to social workers and other personnel working in the field of health and social care and welfare of children as well as to dais in the communities, who could be guided, advised and supervised by MCH personnel.

5. Studies should be made to obtain more information on child feeding practices, weaning habits, frequency of malnutrition and availability of foodstuffs rich in protein.

6. Education of mothers in the way of composing, preparing and administering the necessary food for their children and of improving home-made weaning food, if possible, as well as to use a special protein rich food, if available, during weaning and post-weaning periods should play an important part in health education. This should be carried out at various levels, through personal contact, group instruction and by mass media. MCH centres should be prepared to play a key role in this respect and their personnel should be instructed in the early detection of minor signs of malnutrition and in its handling.

7. Governments as well as the general public should be made aware by every suitable means, of the size and urgency of the problem of malnutrition in the young child and its results and effects on the social and economic development of the country.

8. In areas where the basic diet is deficient and where development schemes aiming at increasing food production and improving quality of the basic diet cannot be initiated for any reason, a specially processed rich protein food mixture for the weanling and the pre-school child should be produced. Such food mixture should preferably consist of locally available foodstuffs, be safe and acceptable to the mothers and children and distributed on commercial basis and at a reasonable price.

9. Immunization programmes and control of endemic diseases should be strengthened as it would help to improve the nutritional status of the young child, especially during the weaning period.

10. Supplementary feeding programmes and family level programmes should be integrated with MCH and other existing health, social and other services concerned with family and child welfare services.

11. Co-ordination of the above-mentioned activities should be implemented by the Government concerned to ensure the maximum use of available resources.

References

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