

THE SOCIAL ASPECTS OF CHILD NUTRITION IN TURKEY*

Sabiha Cura, M. D.**

Nutrition has many aspects: economic, medical, gastronomic, agricultural, political, hygienic, moral, religious and social. Here I shall discuss the social aspect of the problem of child nutrition as it exists in Turkey. In doing so I shall also talk about the measures needed to be taken to improve the state of nutrition in this country.

In order to understand fully the social aspect of child nutrition we must discuss it within the framework of the problem of nutrition as a whole. In general it can be said that the lower the buying power of a nation or individual the greater the consumption of carbohydrates will be and the lower the consumption of the protective foods. In other words, as buying power decreases the probability of bad nutrition increases. Where children are concerned bad nutrition can mean not only ill health but a decrease in the rate of growth and an increase in the probability of academic failure. In England a comparative study of height measurements of rich and poor children showed a difference of thirteen centimeters in average height.¹ A study of school children in the United States showed a calorie deficiency in 21 per cent of the children studied, a calcium deficiency in 28 per cent, an iron deficiency in 17 per cent and a vitamin deficiency in over 25 per cent.² This would indicate that even in rich countries a substantial number of children is under fed or badly fed or both.

If we compare infant mortality rates (age 0 to 1 year) in countries which are well fed with those which are not we find that in Australia the rate is 21 per 1,000 live births, in New Zealand 20 per 1,000, in France 34 per 1,000, in the United States 26 per 1,000, in Canada 31 per 1,000, in Chile 117 per 1,000,³ and in Turkey 206 per 1,000.*** We can see therefore that infant mortality is high in those countries which are poorly fed.

* From a paper delivered at the Second Pediatric Seminar, Ankara.

** Professor of Pediatrics, Ege University Faculty of Medicine, Izmir.

*** A study made in the city of Izmir placed the infant mortality there at 223 per 1,000.

The figure for Turkish infant mortality was derived from a survey made in conjunction with a BCG campaign in which it was determined that the overall mortality rate for children from 0 to 12 was 349 per 1000⁴. As the survey was made without distinction between villages and cities it is difficult to reach firm conclusions from the results, however, it is apparent that a mortality rate indicating that one third of all Turkish children born alive are dead before the age of 12 must surely place Turkey among those nations which have the highest child mortality rates.

It is true that we cannot always be too sure of our statistics. In central Anatolia the birth certificates of boys are frequently obtained very late in order to delay their subsequent military service. In addition many children born of parents who have had only the religious, not the civil, marriage ceremony remain unrecorded for long periods of time. The distance of municipal centers from the villages and sheer laziness are further reasons why registrations are often neglected. Were all these factors taken into account the mortality rate might be even higher than the figures indicate. A full understanding of the situation would require morbidity rates as well as child mortality rates but since it is impossible to rely on the morbidity rates for any country they will be omitted here.

In comparing the state of infant nutrition in Turkey with that in other countries it must be noted that, although at the present time in both city and village more babies are breast fed in Turkey than in Europe, the number of babies being breast fed every year is declining. In France some 35-40 per cent of babies are breast fed during their first month; 30 per cent are breast fed during the second month; 20 per cent in the third month; 10-15 per cent in the fourth month; and 10 per cent after the fourth month. (During the war, however, when parents were faced with difficulty in providing milk, the rate of breast feeding rose to 80-90 per cent.) According to research done by Dr. Süleyman Yağcı in Izmir, the rate of breast feeding in that city is 37.6 per cent in the first three months; 21.5 per cent at the ninth month; 21 per cent at one year; 13 per cent at fifteen months; and 3.2 per cent at eighteen months. *

It is probable that economic and social factors are largely responsible for the noticeable decline in breast feeding as compared with fifty years ago. Six weeks is the length of maternity leave given to a working woman in Turkey. In our opinion this is very short. If we wish to reduce the infant mortality rate, breast feeding should

* Research done at the Izmir Children's Hospital in 1956 - 1957.

be encouraged by giving mothers four months maternity leave, by building crèches for the children in every factory, and by giving the mothers supplemental pay. When we realize that 2 out of every 10 children are lost owing to bad nutrition it becomes clear that the cost of such a program would be insignificant compared with the results.

Health differences between rich and poor children who are being breast fed are not very great. However some children in the poorer classes show a deficiency in vitamins since, although mother's milk is a very valuable food, it cannot by itself supply all the nourishment needed for development.

Proof that mothers milk alone is not sufficient to prevent malnutrition can be found in a study made in children's clinics in Ankara and Izmir. In Ankara 43 per cent of the cases of malnutrition were found to have been breast fed alone, 42 per cent were on mixed feeding, 15 per cent on artificial feeding alone and in Izmir 33 per cent of the malnutrition cases were breast fed, 37 per cent were on mixed feedings, and 30 per cent on artificial feeding alone.

As a result of mistaken beliefs and ancient prejudices the supplementary feeding of Turkish infants is in a state of chaos. A survey in the region of Izmir indicated that the following supplementary foods, listed in descending order of popularity, were being given to children under one year: rice flour pudding, 21 per cent; rice flour soup, sweetened, 19 per cent; bread, with sauce or gravy, 15 per cent; blanc mange with water, 11.7 per cent; cow's milk, diluted with one third or one half water, 6.6 per cent; biscuit, 6.5 per cent; undiluted milk, 5.5 per cent; prepared baby cereal mixed with milk, 4 per cent; prepared baby cereal mixed with water, 3.4 per cent; blanc mange prepared with milk, 2.4 per cent; powdered milk, 1.7 per cent; fruit juices, 1.7 per cent; semolina, 0.8 per cent; vegetables, 0.7 per cent.

Inspection of the list shows that 77.4 per cent of the supplementary food is made of milk-less and protein-less carbohydrates. Moreover these products are foods which the mother considers very nutritious and relies on to the exclusion of other items (of which she is usually suspicious). Rice flour, rice flour soup, corn flour, potato flour and sugar are the chief foods which are given as supplements during the first year. These are usually given diluted with water, or with water to which a very small amount of milk has been added, and are given in small quantities - perhaps one or two Turkish coffee cups (demitasse size) per day. The fact that some of the commercial products

which are made of mixed flours are much cheaper than powdered milk increases their use and predisposes the children to flour dyspepsia.

The most interesting thing in the above list is the fact that such a small amount of powdered milk is used in supplemental infant feeding (being fatless, powdered milk should not of course be used solely and continuously for babies). It is possible that mothers who do buy powdered milk use it for other members of the family, giving the babies the starchy food which is thought to be more important for infants. More probably, mothers who do so, use powdered milk because they frequent the Mother and Child Health Centers, which are supposed to be for preventive work only but which mothers commonly attend only for treatment when their babies are ill, thus reducing the number of mothers who would otherwise be encouraged to use powdered milk by the personnel at the centers.

Even though this problem was partly solved through the large amount of powdered milk distributed to people under the American aid program, I should like to point out one fact with regret: while I was at Ankara University the mothers of many infants admitted to our clinic indicated that they were suspicious of dry powdered milk. Some of them, undoubtedly influenced by religious prejudice, claimed that the powdered milk was mixed with pig's milk (pigs and all pork products are taboo in Islamic countries, Ed.) and others said that the milk caused diarrhea and the children lost weight. Had there been adequate instruction in the centers where the milk was being distributed these problems might have been overcome.

During the last five years it has been found that 56.1 per cent of the cases of malnutrition among children in Ankara come from the surrounding villages, 38 per cent from the city proper, and 5.9 per cent from orphanages. In Izmir the situation is reversed: only 29 per cent of the cases come from the villages while the city accounts for 71 per cent. This difference can be partially explained by the fact that many of the small towns in the Izmir area have pediatricians and the rate of health centers and doctors in general is much higher than in the towns around Ankara. Again, it has been found that most of the malnutrition cases in the Ankara area (88.9 per cent) come from families of low economic and educational standing, 6.9 per cent come from educated and comfortably off families, 3.2 per cent from uneducated families with adequate incomes and 1 per cent from educated but poor families. In Izmir on the other hand only 43.8 per cent of the malnutrition cases come from families at the low

end of both the economic and educational scales, 45 per cent come from families of low education but adequate income and 11.2 per cent from families in which the reverse is true. In this case, the Ankara figures reflect the large number of needy villagers found in the area who have had little access to formal education while the Izmir figures include a large number of children from workers' families with adequate income but insufficient education. In Izmir, which is both an industrial and commercial center, the standard of living of the worker is sufficiently high to have eliminated the problem of poverty but not to have eliminated the problem of malnutrition which stems from lack of education.

The rate of secondary infection in malnutrition cases is high in both cities (70.14 per cent in Ankara, 86 per cent in Izmir). Children come late to the hospital and most of them are seen because of the secondary infection, not the malnutrition. Such cases do not stay long in hospital as the parents generally wish to remove them as soon as the secondary infection is cured, most of them therefore leave in much the same state of nutrition as when they arrived. Since they return to the same surroundings on discharge there is usually little hope of saving a substantial number of these undernourished children. Mortality caused by malnutrition in Ankara is said to be 18 per cent but this figure is much too low probably because secondary infections are usually listed as the cause of death. In reality the rate should be somewhere between 35 and 40 per cent.

After the age of about one and a half years the Turkish child generally eats whatever is prepared at home therefore it is necessary to consider the Turkish diet as a whole in discussing child nutrition. The situation with regard to the various elements in the diet is as follows:

Protein: Dr. Yağcı has made a study of the frequency with which meat is bought and eaten among the families of Izmir. He found that 50 per cent bought meat four or five times a week and ate it every day, 25 per cent ate meat once or twice a week, 21 per cent ate meat only once or twice in fifteen days and 4 per cent bought meat only once a month or less. In most cases meat is bought in very small quantities, perhaps 250-500 grams for a whole family, and is usually in the form of ground meat.

We must not forget that 75 per cent of the people in the Izmir study came from the city. In Ankara most of the village people have meat only at holidays and those who could be said to eat a balanced diet probably number not more than 7-8 per cent.

In the Black Sea region fresh and dried fish is a cheap and plentiful source of protein for both rich and poor.

Eggs are used for food only when they are very very cheap.

Neither city people nor peasants are overly fond of whole milk but they consume fairly large amounts of products made from milk such as yogurt and cheese. The milk consumed comes from cows, sheep, goats and water buffaloes. Owing to poor feed and low standards of care given to the animals their milk is poor in nitrogen and butter fat, as compared with European milch animals, and scanty in quantity. The scarcity of green grass areas on the Anatolian steppes, where grass appears at the most for a few weeks in spring, causes Turkish milk to be poor in vitamins. Pasteurized milk can be found in only two cities (Ankara and Istanbul) and in very small quantities. This means that all other milk is sold without control and usually at a relatively high price owing to its scarcity. If milch cows were provided for the peasant in regions where animal husbandry is possible; if more powdered milk factories were established and if the price of milk were lowered by one fourth it would contribute to milk being considered a necessity rather than a luxury and would be highly recommendable from the point of view of child health.

Carbohydrates: In Turkey the chief source of nourishment is bread. The Anatolian peasant provides for his need of protein, as well as carbohydrates, mostly with bread or similar foods. In some villages a type of cracked wheat pilav (bulgur) is used as frequently as bread and even in villages where rice is grown the peasants who grow it sell the rice in cities and eat bulgur themselves. In central and eastern Anatolia flour soups and dishes made of wheat dough are the staple foods.

Vegetables: Dried vegetables such as lentils, chick peas, and beans are used in great amounts in central and eastern Anatolia whereas people of the Aegean region, which is fertile and well-watered, use fresh vegetables in both winter and summer. All over Anatolia the two chief vegetables used by the peasant are the tomato and the onion, both fresh and dried. The peasant who eats a very small amount of vegetables such as green beans, squash, leeks and spinach, eats even less of the carrots, potatoes and peas which are so important in child nutrition.

Fats: In the southern and Aegean regions olive oil is used almost exclusively. As there are no vitamins in olive oil, it is obvious that people eating no animal fat and relying exclusively on olive oil

may suffer from a deficiency of vitamin A. In the eastern regions there is a greater use of animal fat and in some places poppy oil, sunflower oil and sesame seed oil are used. In other regions it is difficult to obtain any fats at all, vegetable or animal. The scarcity of animal fats and their high cost have increased the demand for the lower priced synthetic fats. Although it is claimed that these products contain, or have had added to them, various vitamins it is not felt that they are an adequate source of vitamins for children. Fats in demand among the poor city people are suet and mutton fat which are not suitable for small children because of the digestive difficulties they cause.

Fruit: Owing to variations in climate and difficulties of transportation some regions of Turkey have an abundance of fruit while others have almost none. In the Aegean region the most common fruits are grapes and figs; in the west and south oranges, lemons, melons and watermelons are found; in the north nuts; and in central Anatolia apples, pears and apricots. Dried fruits and nuts are of little importance in the Turkish diet. In a few regions a sort of molasses made from grapes, apricots, mulberries or pears is used instead of sugar. Some fruit is made into jams or jellies. In general the peasant either sells the fruit he grows or is unable to buy it because of the high prices caused by the difficulty of transportation.

Since available foods vary so greatly from region to region it is difficult to generalize about Turkish nutrition. Separate studies should be made for each agricultural region.

In order to combat malnutrition in Turkey more information is necessary. Full and adequate statistics must be acquired on: 1) the number of infants and children and the number of lactating and pregnant women in the country, 2) the number of active people in the population and the ratio between city people and peasants, 3) the amount, kind, and cost of foods consumed, and 4) the volume of food stocks, reserves on hand, and necessary imports.

Once armed with this information the pediatrician and others interested in child welfare must: 1) encourage breast feeding, 2) educate mothers on the correct time to start supplementary feeding and the correct kinds to give, 3) attempt to inform all the people of the facts on nutrition, 4) encourage the training of dietitians and the instruction of social workers and nurses in nutrition, 5) expound the benefits of proper nutrition through publications, cinemas, posters, shows, broadcasts and talks - it is not enough to give people the information, it must be certain that they have understood it.

In addition to all this the government must see that children do not suffer nutritionally from the social and economic conditions of their families. The state should take direct measures with regard to the production and distribution of children's food, particularly milk, and see to it that, for example, no child goes without milk merely because of lack of transportation. Special funds should be set up for effectively increasing the buying power of families according to the increase in their members.

Summary

A survey of child nutrition in Turkey indicates that a large majority of infants are improperly fed either owing to being kept solely on the breast for too long or to being given supplementary feeding that is poor in protein and rich only in carbohydrates. The situation with regard to older children parallels that of adults, the quality of nutrition depends upon the availability of foods and the income and educational level of the family.

It is stated that malnutrition is one of the leading causes of mortality among children and that it is the most important and the most widespread problem encountered by the pediatrician in Turkey.*

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