Consumption of Meat in Czech Countries: Historical and Social Relationships

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ABSTRACT

Controversy about the proportion of animal protein to be included in humans’ Recommended Daily Allowance has affected the quantity of meat consumed, as well as the type of meat, and this has varied over the years. This study of meat consumption in the Czech Republic until the end of the last millennium concludes that meat protein must be balanced with other foods to obtain an optimal diet.

INTRODUCTION

Archeological, palynological and other findings give us some evidence of the composition of the prehistoric diet. The consumption of meat per day by a prehistoric hunter-gatherer has been estimated at about 788 gr. of meat, together with 1,463.8 gr. of plants, i.e. 251.1 gr. of protein in all. The ratio of animal to plant proteins has been estimated at 190.7/60.4.
More recent estimates were 35% animal and 65% plant protein. In total, the diet is comprised of 33% protein, 46% carbohydrates, and 21% lipids for energy intake (Delluc et al., 1995: 74). The diet also seemed to be more homogeneous during certain periods. Meat represented the major part of dietary intake at certain times of the year, and plant nutrition during other months, depending on the results of hunting or gathering. It is possible to assume that in prehistoric times and given the same geographical, climatic and environmental conditions, the consumption of nutrients, including the consumption of meat, followed a similar pattern.

However, this data is in contrast with present day consumption of meat, or the recommendations of experts, who consider an optimal diet to be one that provides 12% of total energy intake with proteins, up to 30% with lipids, and the rest with carbohydrates (WHO 1985). Nevertheless, the present consumption of proteins in the form of meat in industrially developed countries is usually higher, as is the consumption of fat. In addition, wild animals and venison have a much lower fat content in their meat, which was surely also the case for most animals hunted in prehistoric times.

As regards to periods in human history, we can draw some conclusions mostly from historical descriptions, contemporary novels, poems, pictures etc., which have focused mainly on the aristocracy and higher social strata. There is much less information on the dietary intake of common people – peasants, urban poor, etc.; and this also applies to most parts of the world. Artistic sources for an approach to this theme were explored in academic meetings, such as that concerning “Food representation in literature, film and the other arts: an interdisciplinary and multicultural conference” (San Antonio, Texas Feb.17-19th, 2000), in which attention was drawn to dietary intake, including meat, as reflected in various art forms.

THE SITUATION IN CENTRAL EUROPE

Regarding nutritional habits and preferences in more recent centuries, there is evidence of controversy in medicine on the digestibility of meat, and its impact on health. Traditionally bread and accompanying non-meat products were considered to be the most suitable form of nourishment. This seems to be true for most societies besides those of central Europe
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(Knap, 1998). Meat was usually eaten once a week on Sunday (when possible), or on festive occasions, such as religious feasts, weddings, funerals and so on. Naturally there are only rough estimates of what was eaten or how much, including meat.

By the middle of the nineteenth century, meat already represented an appreciable part of the dietary intake. Pork, beef, veal, mutton and duck appeared on the tables of the peoples of Central Europe. This was naturally related to the social and economic situation of the particular group or region, as meat was always a more expensive food than simple bread, dairy or vegetable products. This trend continued until the second half of the nineteenth century, when, according to the belief at that time, there was an awareness that it was desirable to eat more meat for the development of the human organism and to enhance the physical performance of the individual. The demand, especially for beef and pork, both in rural and urban areas increased considerably. Important also were the cultural attitudes that influenced food choice: a greater variability of diet, including meat, began to develop (Knap, 1998). In Czechia, differences appeared among higher social strata in the cities and in more fertile areas of the Bohemian Kingdom, where agriculture was more prosperous than in the poorer mountain regions surrounding Czech countries. In the twentieth century there appeared once again significant relationships with the current political, social and economic situation. The consumption of meat fluctuated considerably, especially during the particularly difficult periods of the First and Second World Wars. The consumption of all items of diet decreased during those times, and that of meat more markedly due to its greater rarity and price. Only in the twenties and thirties was there greater attention focused on diet. This is why we have, for that period, more exact information on the quantities and types of meat consumed in relation to other characteristics of the population, such as lifestyle and the general situation of the country.

Figure 1 shows trends of meat consumption from 1936 to 1989. After a decline during World War II and the short postwar period (1949), it shows that meat consumption increased by up to 260%. This was paralleled by an increase in fat and sugar consumption. After the war, choices and preferences for different kinds of meat changed: preference for veal decreased, whereas that for beef and pork increased. At the same time, the
consumption of bread decreased. The increase of meat consumption after the war was stimulated not only by its previous scarcity, but also by the idea that much more meat, in the shape of steaks done rare, schnitzels, milaneses, etc., were essential for optimal development of the organism, better growth and increased physical performance.

**FIGURE 1**
Consumption trends in Czechoslovakia (now the Czech Republic) in 1936-1989
Values in individual years expressed in % (1936=100%)

![Graph showing consumption trends](source: Parizkova)

Growth data for children in industrially developed countries shows higher values in body height and larger body dimensions, in comparison to children from developing countries. Further analyses reveal that this was significantly related not only to total energy intake, but more especially to the consumption of adequate protein. During previous periods, it was believed that an increased intake of protein, especially that of animal origin, was best for optimal growth and development. However, a more recent analysis of longitudinal growth and health data correlated with
nutritional analysis of the diet has shown that at the very beginning of life, a consumption of protein exceeding 12% of energy intake can play an important role in a predisposition to obesity later in life (Rolland-Cachera, 1995); this is usually accompanied by other additional co-morbidities. Therefore, the early intake of too much protein in industrially developed countries began to be considered a health risk for future life.

This problem was also analyzed by comparing the recommended dietary allowances (RDA) in different countries, which vary considerably (UN, 1997). Moreover RDA’s seem to be related to the economic and social situation, as well as to other characteristics of a particular country. Higher RDA’s of protein in Czech children (although the real consumption has usually been even higher – Parizkova, 1996, 2000) used to be accompanied by greater corpulence in the population, higher prevalence of cardiovascular diseases and shorter life expectancy, which were manifest up to the late 1980’s (Parizkova and Rolland-Cachera, 1998). On the other hand, there was debate over whether a child could grow satisfactorily without meat: nutritional observations showed it was possible, provided that the necessary protein and essential amino acids are supplied from other sources. A lacto-ovo-vegetarian diet can supplement these items, and more especially the semi-vegetarian diet which includes some fish and poultry. This should be sufficient for adequate child development.

Figure 2 shows the trend of meat consumption during the period following the “velvet revolution” of 1989, which resulted in a number of not only political, but also economic, social, cultural and other changes. The decrease in meat consumption is mainly explained by the decline of beef consumption, and somewhat less by that of pork. Poultry has been consumed at a constant rate. The consumption of fish has remained at a much lower level than in other countries of Western Europe. When comparing the consumption of meat in individual European countries (Figure 3), Czechs are somewhere in the middle when one considers total meat consumption. This also applies to the consumption of pork. As regards to beef, veal and poultry, the Czech Republic has had a relatively lower rate of consumption. Fish is still consumed in very small quantities: in 1997 it was 5.1 kg, and in 1998 4.8 kg, per capita per year. Mutton and goat are consumed very rarely (Stikova, et al. 1999).
FIGURE 2
All Meat Consumption in the Cz

SOURCE: Stikova et al., 1999

FIGURE 3
All meat consumption (kg/capita/year) in European countries in 1997
(BLEU – Belgium-Luxemburg Economic Union)

SOURCE: Stikova et al., 1999
**Figure 4**
Beef and veal consumption in Europe (kg/capita/year) in 1997

*Source: Stikova et al., 1999*

**Figure 5**
Pork consumption in Europe (kg/capita/year) in 1997

*Source: Stikova et al., 1999*
A calculation of the intake of individual dietary items during the period between 1965 and 1997 (Stikova et al., 1999) reveals that after the period of increased protein intake, there occurred a decline, which was especially obvious during the 1990’s (Fig.7). There are many reasons for this change. First of all, there was more scientific evidence on the need for a carefully judged recommended intake of proteins, which in our country in particular means mostly meat and meat products. In the nineties, energy intake was reduced by some 5% and that of the total amount of protein by 7%. The latter was caused specifically by a reduction of intake of animal protein (16%-17%). The reduction in lipid intake, which in our country is closely related to meat consumption, was around 13%. In spite of this decline, the overall consumption of food has remained higher than the RDA’s, particularly so at the end of the eighties and the beginning of nineties. The energy intake has been yet higher than the RDA’s by 25%-20%, and that of protein by 24%-18%. This is mainly due to the increased intake of animal protein, by 55%-30% in comparison to the RDA’s.
High consumption of animal protein in the form of meat in former Czechoslovakia during the seventies and eighties (Parizkova, 1993) was also caused by additional factors. It was not only due to traditional food preferences and a general trend in higher meat consumption in the countries of the former socialist bloc, but also resulted from economic policy and state subsidies for agricultural production, which favoured meat. However, this meat was not the much appreciated veal or “vitellino”, but mostly pork and beef from older animals, full of saturated fats and cholesterol. The RDA’s of the World Health Organization adopted in other western countries were here simply characterized as suitable only for developing countries, and this opinion is still sometimes aired today. The author has personal experience of the fact that after the participation of FAO/WHO/UNU the conclusions of the Expert Consultation in Rome (1981) and the publication of the resulting document by WHO in Geneva in 1985, the RDA’s were not generally adopted in former Czechoslovakia. One of the main reasons given was “too much of our meat remains in our butcher shops at present...” Meat of undesirable quality was moreover difficult.
to export. Therefore it seemed that it was not health, but economic and political reasons that caused an increased production of meat, and this was also reflected in local definitions of RDA’s for the Czech population.

After the “velvet revolution” in 1989, together with other changes, growing scientific evidence regarding the excess of meat consumption not only received greater attention at the time, but was also believed in, especially by young people, many of whom became vegetarians. Economic analyses also showed significant differences in the energy cost of meat production as compared to the production of legumes, vegetables and cereals. The agricultural policies in the Czech Republic changed and became more realistic regarding state subsidies for individual agricultural products. It made the production of meat more expensive, thus increasing its price. This was particularly so for beef, the consumption of which decreased most markedly (Figure 2.). The consumption of poultry has increased; understandably so, since its price is lower than beef. However, health campaigns have also played an important role, since the consumption of pork also decreased, despite its lower retail price. (See Figure 2) This decline in meat consumption was for a certain time attributed to the “Klaus effect”, i.e. the impact of the economic policies of the former Prime Minister during the period of greatest change in the Czech Republic. This wide-spread popular catch-phrase demonstrates again the impact of the political and economic situation in the country on meat consumption.

However, this decrease in meat consumption may be considered positive from the point of view of general health and life expectancy in the Czech Republic: the level of serum cholesterol in our population has declined, together with the prevalence of cardiovascular disease, and life expectancy is now somewhat higher than before. This trend, together with other factors, parallels the decrease in protein and meat consumption mentioned above, which is now more comparable to Western European levels. A further effort needs to be made to lower meat consumption to a reasonable level, such as that which prevails in those European countries with the best health characteristics: lower prevalence of cardiovascular and metabolic diseases, and longer life expectancy. This would imply that the type of meat is an important factor, i.e. greater consumption of poultry and fish, which are considered optimal for health, performance and an active old age.
It is worth mentioning one more example that demonstrates that a high intake of animal protein, especially meat and meat products can have social and political consequences. Outstanding achievements in sport have been one of the trends of the official policies of former socialist countries as a means to achieve “a peaceful battle for world opinion”. All suitable (and unsuitable) means, including the special nutrition of athletes were implemented. There was a period when a very high consumption of meat was recommended, i.e. a protein consumption of 2–3 gr. per kg. of body weight per day, which applied to all sports (not only those demanding massive muscle development, such as wrestlers, weight-lifters or body-builders). In the athletes’ Training Centers, in the sixties and seventies, they were fed great quantities of the best meat, sausages, and so on, which mostly resulted in a spontaneous desire for a simpler diet with more carbohydrates. Experimental observations of the groups of athletes of dynamic sports (runners, cyclists, etc.) showed that such a high protein consumption resulted in increased urea, uric acid and ammoniac concentration in the blood (something akin to a “sub-uremic” symptom), which caused greater fatigue, lack of ability to increase the duration and intensity of training, and limited the achievement of higher levels of performance in dynamic sports. When the athletes reduced the intake of protein to 1gr. per kg. of body weight per day, and increased complex carbohydrate intake, they improved their condition significantly, increased the duration of training, and achieved better results in these sports (Parizkova and Novak, 1991). At present this RDA for protein (1-1.5 gr. per kg. of body weight per day) includes meat intake and is considered the best diet, and one that is recommended for those who have a very heavy work load.

This example also shows that exaggerated consumption of protein, which mostly means the consumption of meat, does not provide for the real needs of the human body under present day conditions, and can even be harmful. This is especially relevant to optimal growth without excess fat deposits, to desirable health prognosis, life expectancy and performance. The RDA’s for protein in most industrially developed countries already reflect this need. This was not the case until recently, and for other countries apart from the Czech Republic. Recent experiences from former socialist countries can therefore contribute to a more appropriate definition of meat
intake. The consumption of protein, and especially that of meat, should be adapted to what is desirable — not to maximal levels, so as to fall in line with the most recent and significant scientific findings, thus contributing to the promotion of healthy habits.

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