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INTERRELATIONS BETWEEN WEIGHT AND LENGTH GAINS OF MALE INFANTS AND THE PLACE OF RESIDENCE OF THE MOTHER, AND FEEDING WITH OR WITHOUT BREAST MILK (A SUMMARY)

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Abstract: *In this paper the effects of the feeding with or without breast milk and the effects of urban and rural residental surroundings are investigated on the weight and length gains of the children (boys) from birth till the age of two years. In a longitudinal research program carried out on a representative sample the following have been found: The children's weight and length gains are influenced by the fact if they live in urban or rural areas more than they were fed with or without breast milk. In the background of the effect of the settlement type different cultural, social, hygienic conditions have to be presumably searched.*

Key words: *Feeding with or without breast milk; Weight gain; Length gain; Urban and rural residence.*

In 1979 we have launched a complex longitudinal survey on a nation-wide scale, with the title "Health and Demographic Study of Pregnant Women and Infants". The project, its range, selection criteria and research techniques were already published (Joubert–Ágfalvi–Gárdos 1986).

Our previous paper dealt with the relations between growth of the infant, the effect of feeding with or without breast milk, and the mother's educational level (Ágfalvi et al. in this volume). We have concluded that other factors influencing the growth should also be investigated. The present paper examines the infants' growth and feeding methods as related to the residence of the mother.

Methodological aspects: We have divided the infants studied into two groups, according to the feeding methods. The first group covered those fed exclusively with breast milk until the age of 90 days; the second group comprised those infants fed without breast milk during the same period. The growth in both groups was observed till the age of two years.

As a result of the longitudinal survey carried out on a sample representative of the country, we had already published reference data on weight and length gains from birth to the age of two years and the reference curves developed on basis of these data (Joubert–Ágfalvi 1988a, 1988b) up to the age of two years. We compared the growth of children examined according to feeding methods and types of residence to the so-called reference values. For the comparison we used the values of the number of cases (N), the mean values ($\bar{x}$) and the standard deviation (SD) of the reference data. The difference in the values was measured by t-test. In this paper we present only the boys' data.

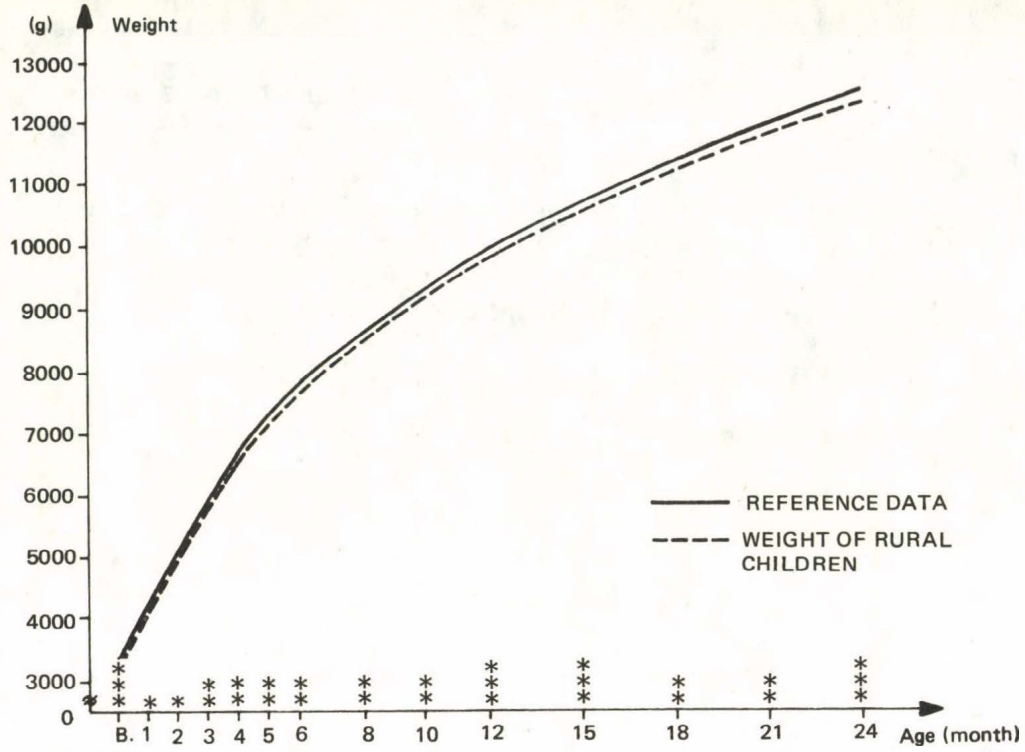

Fig. 1: Weight of children living in villages as compared to reference data (Difference in significant: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$)

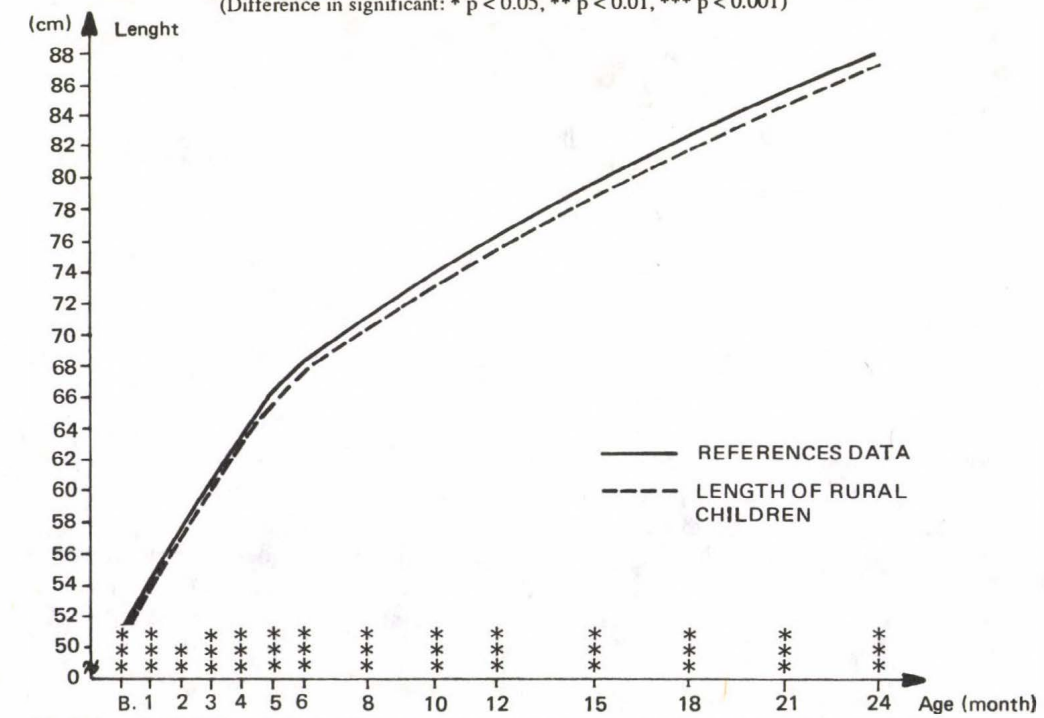

Fig. 2: Length of children living in villages as compared to reference data (Sign of significance as in Fig. 1)

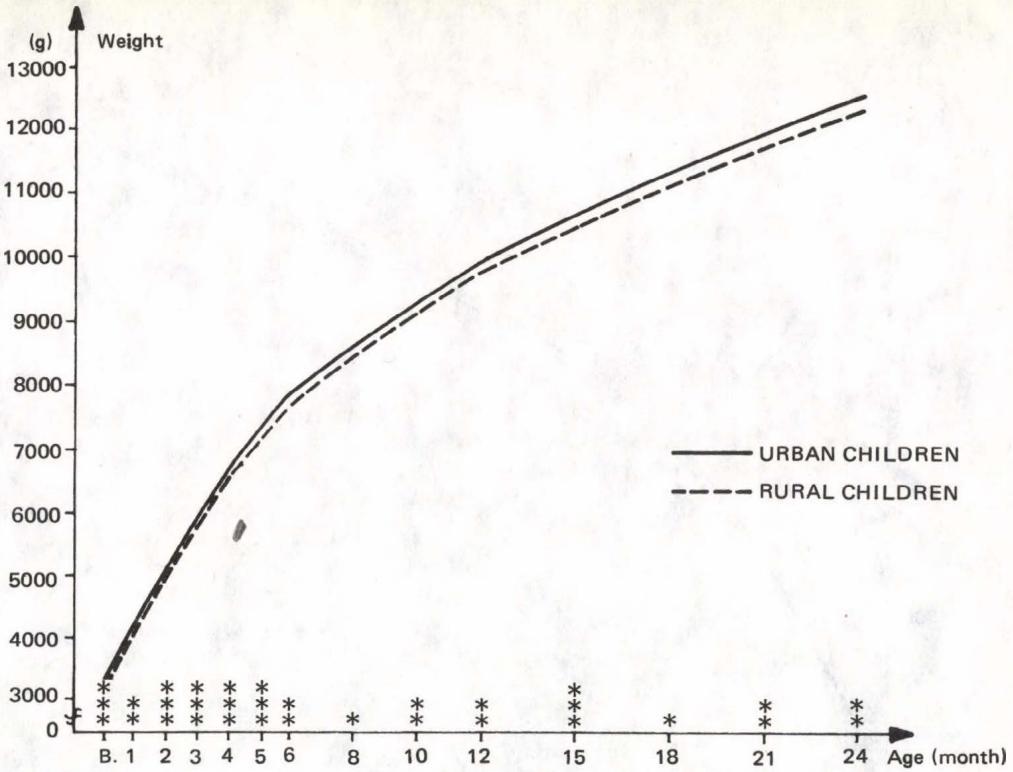

Fig. 3: Weight of children living in cities and villages up to the age of two (Sign of significance as in Fig. 1)

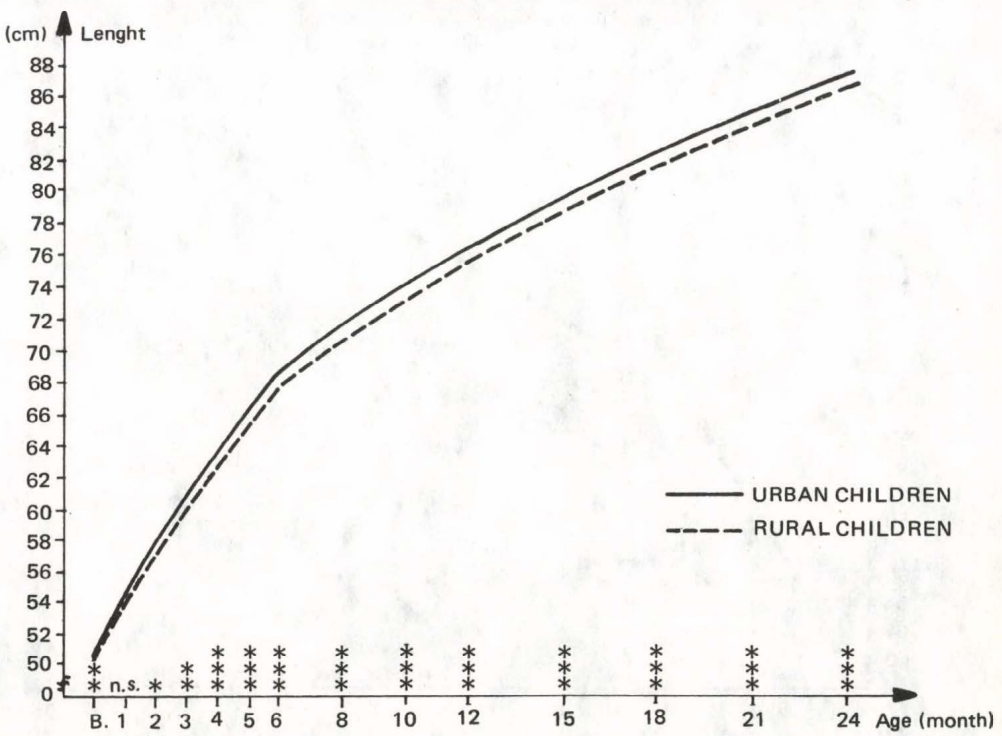

Fig. 4: Length of children living in cities and in villages up to the age of two (Sign of significance as in Fig. 1)

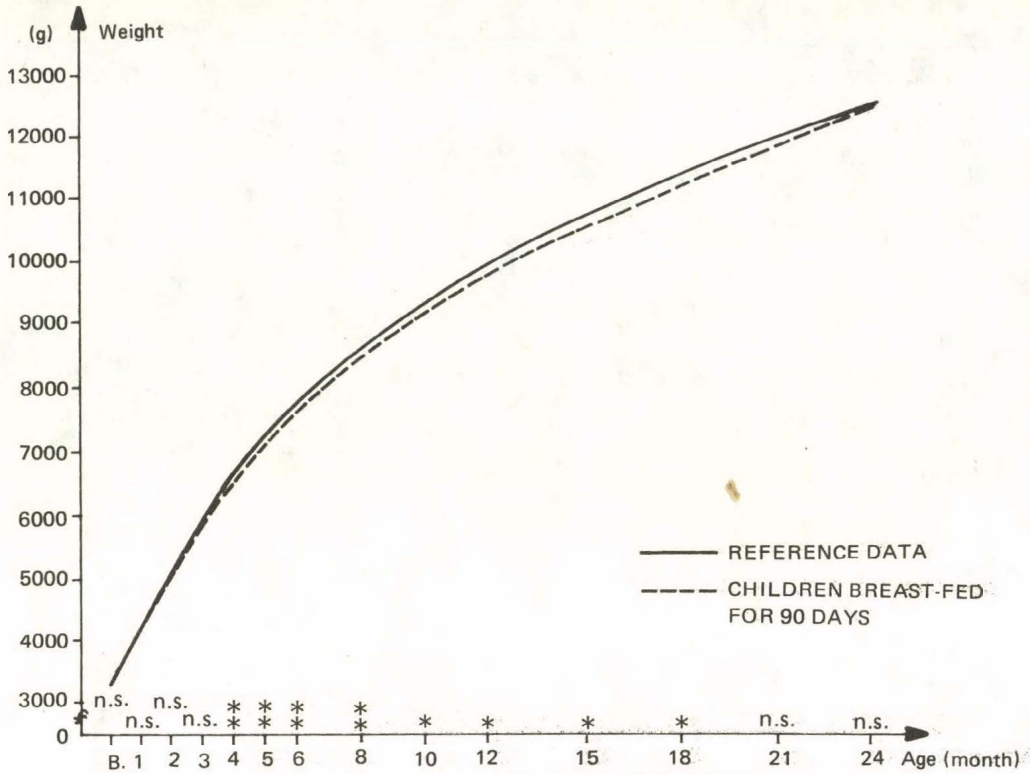

Fig. 5: Weight of children breast-fed for 90 days as compared to reference data
(Signs of significance as in Fig. 1)

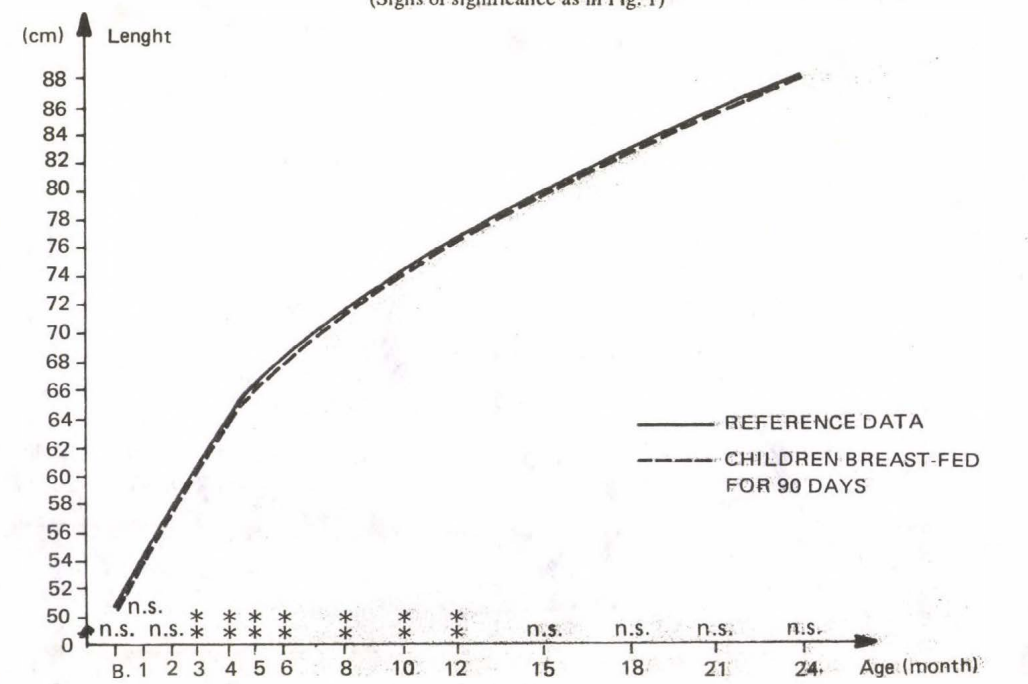

Fig. 6: Length of children breast-fed for 90 days as compared to reference data
(Signs of significance as in Fig. 1)

While examining the weight and length gains of infants fed with or without breast milk for 90 days by types of settlements, we came to the following conclusions: Within the same type of settlement there was no significant difference neither in weight, nor in length gains between the groups of babies fed with or without breast milk.

Comparing the values of the urban children's weight and length to the reference figures we note a significant difference of 5 per cent in the mean values of the weight at the age of two months, at all other ages there is no significant difference. The weight gain (Fig. 1) and length gain (Fig. 2) of the rural children, however, are lower than the reference values. Differences can be found only in the degree of significance.

Comparing the weight (Fig. 3) and length (Fig. 4) of the rural and urban children significant differences emerged in the average values at all ages, exept for the length at the age of one month.

If we compare the average values of the weight and length to the reference figures by methods of feeding the following can be stated: The weight means (Fig. 5) and length means (Fig. 6) of children fed only with breast milk for 90 days were lower than the reference values at all ages. We found significant differences in the average values of the weight at the age between 4–18 months, and in the average values of the length between 3–12 months. The weight means of children fed without breast milk do not significantly differ from the reference values, exept for the value at birth. The length means are lower than the reference values at all ages. A significant difference, however, can be found only in the first three months and the second year of life.

Summing up, it can be stated that the children's weight and length gains are more affected by the place of residence than the mode of feeding, i.e. whether they fed with or without breast milk. The effects of the locality types originated presumably from the various cultural, social and hygienic conditions.

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