

NUTRITIONAL STATUS IN HAVANA, CUBA

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SUMMARY An analysis of the dietary nutritional status in Havana in the framework of the general situation of the country is reported. Some demographic characteristics, the administrative and political organisation in the country's capital, some aspects of the food availability and the different alternatives for obtaining them are commented upon, emphasising the significance of public nutrition in the capital. The average values of per capita food consumption are expressed and the characteristics of dietary patterns and food consumption of the population are examined. In addition, this paper discusses the deterioration of the commercial and financial relationships undergone by Cuba from 1989 on, as a result of the disappearance of the Socialist bloc and the tightening of the American blockade, which have forced Cuba to concentrate her domestic efforts on the Nutritional Programme. The results of the Dietary and Nutritional Surveillance System (SISVAN) in priority sections of the population (children less than 5 years of age, pregnant mothers, and school children) are discussed. The achievements made in the nutritional status of the population, as well as the different health indicators are stressed. Likewise, an epidemiologic scenario of non communicable chronic diseases and other health disorders are reported, along with their association with diet and the major causes of death in the capital and in the country. Finally, some issues on the population's way of life that have an impact on health and nutrition are reported and the tasks undertaken to increasingly raise the population's health are discussed.

INTRODUCTION

Havana, the capital of the Republic of Cuba, is one province divided into 15 municipalities: its current population amounts to 2,119,059 people, about 20% of the country's total, making it the largest city on the island.

The population density is 2,913.2 people/square kilometre, in contrast with the average national density, which is 96 people/square kilometre.

Havana is located in the Northwest part of the island. The climate is tropical and humid tempered by trade winds. In the

summertime, the average temperature is 28°C, with the hottest months being July and August. In winter, the mean temperature is 22°C. As far as rain is concerned the annual rainfall amounts to 1400 mm. Annual mean temperature is 25.1°C and the average relative humidity is 79%.

Its total territorial extent is 727 square kilometres, covering an area of 273 square kilometres.

It is located between 19' and 25'N and between 74' and 85'W.

The population distribution has higher percentages than those of the nation for the age groups 50-64 and 65 and over (14% and 10.4% respectively versus 11.9% and 8.5% in the country), a fact that is reflected in the higher mortality rates which are present in some chronic diseases.

Life expectancy at birth in the city reached 74.2 years in 1990, slightly lower than the national average of 75.2.

The estimated number of births for 1990 was 32,122 live births, at a rate of 15.2 per 100 population, lower than the national average (17.6), 99.93 % of live births in institutions.

During the 1980's a low population growth rate was seen as a result of a lower birth rate, with a relatively higher mortality rate.

Havana is among the four cities of the world with two million or more population in 1985, that in the period 1970-85 had a growth rate lower than 1%. The other three cities were Paris, Budapest and Beijing. In London, there was a decrease in the population.

Havana is the seat of the central government, formed by the Council of Ministers and the National Assembly of the People's Power. The provincial government consists of the Provincial and Municipal Assemblies of the People's Power. All government agencies have representation at the three levels (municipality, province, nation).

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It is important to point out that the territory encompassed by the 15 municipalities of the capital is considered urban, so when dealing with urban areas in Havana we mean in fact the entire capital. Its almost complete urbanisation prevents home production of agricultural products, and forces the neighbouring province which surrounds Havana completely, except for the shore line, to guarantee the supply of these foods for the capital's population.

DIETARY AND NUTRITIONAL STATUS

In the last thirty years the population's energy requirements have been guaranteed. The energy availability in 1965 was 2551 calories, and rose in 1988 to 2953; and in Havana it surpassed 3000 calories per capita. In 1989, the calorie supply in the country was 2845 and protein availability has ranged from 66 to 79 grams (Table 1).

Up to mid-1990 Cuba had four main ways of food distribution: home production, state subsidised ration card distribution, state free market, and public nutrition.

This is the same situation in Havana, with a much lower emphasis on home production.

At present due to the economic situation in the country and owing to the need to guarantee an equitable supply of foods for the population, most products in the state free market became subject to ration card distribution.

It is important to emphasise the energy supply, attained in an equitable and even manner by the entire population through product supply by using ration cards in the retail market, since this type of distribution is made at very low controlled prices, owing to state subsidies.

A significant amount of food provided for the population is channelled through so-called public nutrition, which includes students canteens at all levels of education, from day-care centres to the Universities, hospital food services, and employees and worker's canteens in all sectors of production.

Food rations provided by these services are free, with the exception of employees' and workers' canteens, where prices are low depending on the menu content. However, an important share of the cost of this service is borne by the state, since this price does not include expenses generated by the service.

Bearing in mind the supply of foods in the retail market through the ration card system and through daily rations that guarantee public nutrition, it is thought that the majority of the population takes 72% of its calorie protein intake through these channels. This represents a good dietary assurance for Cuban citizens.

The per capita food intake is distributed as follows (Table 2).

Although the protein and energy supply shows relatively fair levels for a developing country, it is necessary to improve

TABLE 1
AVERAGE FOOD/ENERGY CONSUMPTION

	kcal	Protein (g)
1965	2 552	66
1970	2 565	69
1975	2 622	71
1980	2 867	75
1985	2 953	79
1989	2 845	75

Source: State Committee of Statistics (SCS)

TABLE 2
PER CAPITA FOOD INTAKE
(Kg/year)

Food Product 1989	Actual
Cereals	108
Sugar	51
Beans	12
Carcass Meat	39
Eggs (U)	230
Fish (whole)	18
Milk and products	144
Fats	17
Root vegetables	66
Fruits	56
Green vegetables	59

the dietary pattern, to increase the amount of vegetables, fruit, meat products and whole cereals, as well as to decrease the consumption of sugar, refined cereals, in addition to increasing the ratio of oils rich in polyunsaturated fatty acids over saturated fats.

In general, during the last three decades diet has made constant improvement, but still many food habits contributing to the development of nutritional problems persist. Suffice to say that the three major causes of death for all ages are associated with dietary/nutritional factors.

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The Cuban economy has been undergoing a deterioration of its commercial and financial relationships since 1989. The weakening of the Socialist economic bloc, coupled with the tightening of the American blockade, forced us to concentrate our domestic endeavours in the Food Programme and in action orientated towards rapid inflows of currency.

This Food programme reflects the country's economic and political desire to obtain in the shortest time possible a greater food independence and guaranteed availability, and to continue improving them until a truly rational nutrition is attained.

Protein-energy undernutrition is no longer a health problem. However, this condition persists in a small section of the child population. This is the result mainly of unfavourable cultural factors that are deeply rooted and require a long period of time to change.

A risk factor is the growing number of teenage pregnancies, whose children have had the highest incidence of low birth weight and the lowest prevalence of breastfeeding.

In 1990, from a total of 34 326 pregnancies recorded in Havana, 6120 were pregnant mothers less than 20 years old, which represent 17.9% of the total, slightly higher than the previous year (17.4%).

The year 1990 ended with a 7.1% rate of low birth weight in Havana, higher than the 6.5% for the previous year.

PREGNANT MOTHERS AT NUTRITIONAL RISK

According to data collected by the Food and Nutrition Surveillance System (SISVAN) in the year 1990, 7.3% of the total of pregnancies were classified at risk for low weight in the early months of pregnancy, lower than the one recorded for the nation, which was 8.7%. Table 3 shows the trend of this indicator from 1985 on.

Pregnant mothers with a poor weight gain during one

pregnancy showed in 1990 a 3.3% rate, lower than that for the country as a whole, which was 5.5%. This indicator has persisted around 3% in the last few years.

Pregnant mothers classified as at risk for nutritional anaemia showed a 11.2% rate, slightly lower than the national rate, which was 11.4%, and higher than that for 1989, which was 9.1%

CHILDREN AT NUTRITIONAL RISK

By the end of 1990 there were in Havana 1165 children less than 1 year of age under nutritional surveillance. They had been classified as obese (above the 97 percentile for weight/height) a 3.5% rate, higher than that for Cuba which was 1.9%. As overweight (over 90 and up to the 97 percentile for weight/height), 3190 children were included in this very group (9.5%), also higher than that of the nation, which was 5.9%. 2086 children classified as thin (between the 3 and the 10 percentile for weight/height) a 6.3% rate, the national rate being 4.0%. 398 children under 1 year of age were classified as undernourished (lower than the 3% percentile for weight/height) a 1.2% rate, higher than the national average which was 0.9%.

Table 4 shows the results of the nutritional surveillance of children under 1 year of age from 1985 onwards, both in the capital and in the country as a whole.

Table 5 shows that the 1-4 age group has low rates of children at nutritional risk, although they are higher in Havana than in the nation as a whole.

NUTRITIONAL STATUS IN SCHOOL CHILDREN

In 1986, a survey of weight/height in school children in primary school (semi-boarders) and secondary school (boarders) was made throughout the country with the view to evaluating their nutritional status (Table 6).

A total of 19, 428 primary school children and 9466

TABLE 3
PREGNANT MOTHERS UNDER NUTRITIONAL SURVEILLANCE. HAVANA AND CUBA
(RATE IN %)

Year	Low weight at the beginning of pregnancy		Weight gain less than 8kg during pregnancy		Haemoglobin < 110g/l in the last trimester	
	Havana City	Cuba	Havana City	Cuba	Havana City	Cuba
1985	8.6	10.9	5.5	7.4	13.4	14.0
1988	6.1	7.9	3.0	5.3	6.8	11.1
1989	7.1	8.8	3.1	5.5	9.1	12.3
1990	7.3	8.7	3.3	5.5	11.2	11.4

TABLE 4
CHILDREN LESS THAN 1 YEAR OF AGE UNDER NUTRITIONAL SURVEILLANCE HAVANA CITY, CUBA
(RATE IN) %

Year	Obese		Overweight		Thin		Undernourished	
	Havana	Cuba	Havana	Cuba	Havana	Cuba	Havana	Cuba
1985	2.6	2.3	6.5	5.9	2.7	4.3	0.6	1.3
1988	2.0	2.0	5.8	5.4	4.3	3.6	0.8	1.0
1989	3.5	1.9	9.9	5.3	5.9	4.6	1.0	0.9
1990	3.5	1.9	9.5	5.3	6.3	4.0	1.2	0.9

Source: SISVAN

TABLE 5
CHILDREN AGED 1-4 YEARS UNDER NUTRITIONAL SURVEILLANCE HAVANA, CUBA.
(Rates in %)

Year	Obese		Overweight		Thin		Undernourished	
	Havana	Cuba	Havana	Cuba	Havana	Cuba	Havana	Cuba
1985	3.2	1.6	4.5	2.5	1.0	1.1	0.4	0.5
1988	2.8	1.4	4.0	2.2	1.4	1.1	0.5	0.5
1989	2.5	1.1	3.8	2.0	1.5	1.0	0.5	0.4
1990	2.2	1.0	3.3	1.8	1.3	1.0	0.4	0.3

Source: SISVAN

TABLE 6
WEIGHT/HEIGHT SURVEY IN SCHOOL CHILDREN 1986

Nutritional Status	Havana		Cuba	
	n	%	n	%
Primary School Children				
Undernourished	55	4.0	353	1.8
Thin	73	5.2	574	2.9
Overweight	135	9.8	2 757	14.2
Obese	87	6.3	1 765	9.3
Secondary School Children				
Undernourished	1	0.2	163	1.4
Thin	10	2.0	480	4.2
Overweight	67	13.3	1 307	11.4
Obese	18	3.6	511	4.5

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secondary schoolchildren were surveyed.

In Havana, 1366 primary school and 503 secondary school children were surveyed.

In this city, 4.0% of primary schoolchildren were classified below the 3 percentile (undernourished), 5.2% were classified between the 3 and 10 percentiles (thin) 9.8% were classified between the 90 and 97 percentiles (overweight) and 6.3% of primary children were classified over the 97 percentile (obese).

These figures are higher than those for Cuba as a whole in the undernourished and thin, while they were lower for overweight and obese children.

In secondary schoolchildren, there was one child below the 3 percentile, 0.2% were classified as thin, 13.3% as overweight, and 3.6% as obese. All of these figures are lower than those found for Cuba a whole.

During 1991 another survey was made in school children, the data of which are still being processed.

SPECIFIC NUTRITIONAL DEFICIENCY

Iron deficiency.

Iron deficiency is the most frequent malnutrition disorder in Cuba, the main cause being dietary deficiency.

According to studies made in the 1980's, the mean iron intake ranged from 45 and 90% of the daily recommended allowance, from 82 to 96% for girls and women of reproductive potential and from 30 to 42% for children from the second semester of life onwards, pre-school and school children. The studies made in Havana had similar findings. (Table 7 and 8)

These surveys demonstrate that anaemia is frequent in pregnant mothers, children from 6 months to 5 years, teenagers and women of reproductive potential. The rate of individuals with anaemia (haemoglobin concentration under the critical reference value) was 22-33% in pregnant women, 40-60% in children aged 6-12 months, 25-40% in children aged 12-36 months, 30-35% in teenagers and women of reproductive potential. However in primary school children the frequency was around 10% while in men it was negligible or non-existent. In a group of children it was demonstrated that although anaemia developed in the second semester of life the pre-latent deficit occurred in more than half of the children before the age of six months.

In general there is a prevalence of slight anaemia since the number of individuals with moderate to severe anaemia is small.

Vitamin A deficiency.

The results obtained in studies of the population in Havana, made by the Nutrition Institute since the late 1970's in almost all population groups (Table 9) make apparent the low Vitamin A daily intake and serum levels that allow their classification as

a health problem. These statements are true for pregnant mothers, newborn children, school children, adolescents, and adults of working age.

According to the FAO/WHO guidelines for the identification of Vitamin A deficiency as a health problem, the values in the last few decades for risk groups of 10 and 20 mcg/dl, show that mean values for serum Vitamin A concentrations were under the established limits.

Vitamin C.

Vitamin C deficiency has been demonstrated in some population groups, for example a study of pregnant women in the Centro Habana municipality, showed that the percentage of women with "high to moderate risk" serum ascorbic acid concentrations was 27.9% in the first term of pregnancy. This level eventually decreased to 12.8% in the third term, probably as a result of vitamin supplementation provided to pregnant mothers on a free and regular basis. In teenagers in the city of Havana itself, the occurrence of cases at moderate risk is more apparent.

NON-COMMUNICABLE DISEASES ASSOCIATED WITH DIET

In Havana, as well as in the nation as a whole, the epidemiologic picture is characterised by the predominance of non-communicable chronic diseases, with a growing trend in most of them.

Heart disease is still the first cause of mortality in general, with an unadjusted rate of 258.2 per 100 000 population in 1990, higher than the previous year (240.5) and the national rate (200.5).

In the year 1990 itself, the rate of potential years of life lost for people 1-64 years of age was 8.7 per 1000 population. The major clinical condition is ischemic heart disease, which accounts for more than 80% of the deaths from this cause. Acute myocardial infarction accounts for 25% of the overall mortality throughout the country.

Arterial hypertension is recognized worldwide as a frequent cause of morbidity, as well as an important risk factor in the development of other diseases. In Cuba almost all of the studies, point to a 15-20% prevalence in the population over 15 year of age in both sexes, it being more frequent in blacks.

Cancer mortality is second among the ten major causes of death. Unadjusted and adjusted rates for malignant tumours have remained stable for the last two decades and medium levels persist. In 1990, the rate was 128.5 per 100 000 population, similar to that of 1989 which was 125.3.

The most frequent sites involved were the following: lung, breast, prostate, colon and rectum, stomach and cervix.

In Western Cuba, cancer mortality rates are higher than in

TABLE 7
IRON INTAKE FOR POPULATION GROUPS STUDIED IN HAVANA CITY

Group	Year	n	Middle intake mg/day	Recommended intake (INHA) mg/day	Adequacy %	% of people whose intake is	
						1/3 Recom.	2/3 Recom.
Students from "Playa" Pre- University Institute	1980						
Men		25	9.3	18	52	-	40
Women		30	9.3	16	45	-	97
Children from 0-2 years old and parents							
Central Habana and Old Habana	1983-1988						
Children 6 months		48	5.7	10	57	6	72
Children 02-12 months		46	7.6	10	76	0	37
Childrens 24 months		48	7.1	10	71	2	42
Mothers		47	8.2	18	46	13	89
Fathers		37	10.6	12	88	5	25
Elderly	1984						
Men		29	10.0	12	83	-	3
Women		16	9.0	10	90	-	6
Childrens 0-11 years old, Cerro	1985	192	8.2	11	74	-	39
Children 0-9 years old 5 Towns	1985	81	9.0	11	82	0	33
Children 6 months, Lawton	1988	82	5.3	10	53	10	90
Children 12-36 months Central Habana	1988	76	7.3	10	73	0	36
Students Ballet Shool	1989						
Men		9	19.3	-	121	0	11
Women		11	9.5	-	53	0	82
Students "Circo" school	1989						
Men 15-18 years		7	13.6	-	85	0	0
Women		6	9.7	-	54	0	83

INHA = Institute of Nutrition and Food Hygiene

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TABLE 8
FREQUENCY OF ANAEMIA FOR GROUPS SURVEYED IN THE CITY OF HAVANA

Group	Year	n	Anaemia %
Children 6-11 months	1974	145	45
12-24 months		339	30
Pregnant mothers Central Habana Third term	1978	72	33
Pregnant mothers Central Habana Third term	1980	75	29
Playa Pre-University Institutes Students	1980		
Males		132	33
Females		207	22
Population in Enrique Cabrera Hospital catchment area	1980		
Males		57	0
Women of child-bearing age		50	25
Pregnant mothers 27-40 weeks		101	22
Women with light activity occupations	1982	69	30
Children "Alamar"	1982		
6-12 months		33	45
13-24 months		183	28
6-24 months	1983	52	42
Children Centro Gabanda and old Habana	1983-1988		
6 months		48	43
12 months		52	36
24 months		44	27
Mothers		91	24
Fathers	69	1	
Arts school students	1989		
Males		77	10
Females		97	11

the Eastern part: Havana: 173.6 per 100 000 population.

Diabetes mellitus was the sixth major cause of death in 1990, with a rate of 21.4 per 100 000 population, with a growing trend in the unadjusted and age adjusted rates in the last two decades. Havana had a rate of 24.9

Prevalence rates for diabetes mellitus in Cuba in 1989 were 10.5 per 1000 population in males and 19.8 per 1000 population in females.

Obesity, as a nutrition-dependent condition in 98% of cases, constitutes a great risk factor for the health of the individual. It is closely associated with arterial hypertension, cardiac infarction, and diabetes mellitus, among others. In a base-line study made in 1989 in the framework of an intervention programme of the Institute for Endocrinology and Metabolic Diseases in 2133 subjects aged 15 and over, living in the capital area, obesity (measured by a body mass index greater than 30 in males and 28.6 in females) was found in 14.3% of the surveyed population.

TABLE 9
 POPULATION AT RISK OF DEVELOPING VITAMIN A DEFICIENCY BASED ON CALCULATIONS OF SERUM LEVELS DETERMINED IN
 DIFFERENT POPULATION GROUPS OF HABANA, EXPRESSED AS A PERCENTAGE OF THE TOTAL POPULATION

Population group	Year	n	High risk 10 µg/dl %	Moderate risk 20 µg/dl %	Low risk 10-30 µg/dl %	30 µg/dl %
Adolescent (Lenin School) Males.	1979	69	1	-	40	25
Adolescent (Lenin School) Females.		105	2	-	64	32
Adolescents (IPU) Males.	1979	70	1	-	38	62
Adolescents (IPU) Females		114	2	-	61	37
Adolescent Males.	1979	36	-	-	54	46
Adolescent Females.		26	-	-	54	46
Pregnant women 1st. Trimester.	1978	59	14	42	44	0
Pregnant women 2nd. trimester.	1978	59	17	35	44	4
Pregnant women 3rd. trimester.	1978	59	39	52	9	0
Fishermen (departing)	1981	79	3	20	68	29
Fishermen (returning)	1981	65	11	37	75	14
Pregnant women 1st. trimester.	1983	113	25	-	69	6
Pregnant women 2nd. trimester.	1983	53	30	-	49	21
Women of working age	1983	83	5	38	-	-
Men of working age	1983	62	5	24	-	-
Children 1 year old	1983	42	12	-	-	-
Children 2 year old	1983	39	8	-	-	-
Children 6 months old	1983	52	19	-	60	21
Elderly in care	1984	28	7	25	56	39
Elderly at home	1985	34	4	7	21	75
School children	1987	277	1	-	47	52
Women about to give birth	1988	155	30	-	-	70
Adolescents (15-18 years)	1989	61	7	-	28	65
School children, Santa Fé	1990	31	14	-	-	-
School children Cojimar	1990	32	17	-	-	-
Adults	1991	38	3	18	50	47

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The rate of obese women was clearly higher (20.1%) than that of men.

According to conservative estimates, it is considered that about 25% of the Cuban population must be obese.

Hypercholesterolemia (blood cholesterol over 6.4 nmol.l) was found in 18.8% of the people studied in the above-mentioned sample. The percentage of women with high figures for cholesterol was also higher than that for men (22.7 versus 12.8 respectively).

It may be noted that the apparently healthy population shows a high percentage of people with risk factors for non-communicable diseases that are susceptible to modification.

That is why a great deal of the primary care efforts are currently aimed at correcting these factors.

In analysing the mortality scenario in Havana, it is seen that nine non-communicable conditions are among the ten major causes of death. Only influenza and pneumonia are included as communicable diseases.

TRENDS IN MORTALITY RATES FOR AGE GROUPS

Children under 1 year of age

The five major causes of death in this groups coincide with the country's (Table 10 and 11). Mortality rates for these causes are similar or lower than the national rates.

1-14 age group

Trends are similar to those in the country as a whole. However, the fifth place includes, heart disease, as well as bronchitis, emphysema, and others in addition to deaths for meningococcal infection.

15-49 age group

The first five major causes of death coincide, being higher than the country's rates in the cases of malignant tumours and diseases.

50-64 age group

The first five major causes of death are higher than those for the country as whole. Outstanding is the increase in diabetes mellitus mortality rate for this age group, which replaces accident mortality rates in fourth place.

65 and over age groups

Except for the mortality rate for cerebrovascular disease, rates in the city are higher than the country as whole, with arterial and arteriolic diseases displacing influenza and pneumonia from fourth place.

Infant mortality rate in Havana has remained below the country's mean (See table 10). In 1975, the city had a 24.1 rate per 1000 live births, reaching 10.0 in 1990.

In children under 5 years of age, the mortality rate has had a more favourable trend than in the country as a whole (Table 12). In the three-year period 1984-1986 a rate of 15.3 per 1000 live births and a survival rate of 98.5% were seen. In the last three-year period 1987-1990 a rate of 12.5 with a 98.8% survival was seen (Table 13).

LIFE STYLES AND TRENDS IN HAVANA AND IN CUBA

Some studies show that a low percentage of the population is willing to exercise regularly, in a manner independent from their working activity, both in the capital and in Cuba.

At present, there are circumstances leading to the increase in physical activity among them: the massive introduction of bicycles, as a major means of transportation for students and workers.

The Grandparents' Clubs have also been a favourable factor, which is already giving positive results.

Generally, the Cuban population needs to improve their knowledge of and attitudes towards the selection, preparation and consumption of foods in order to develop a food supply with the characteristics of a balanced diet.

Some nutritional taboos still persist such as giving too much importance to Cuban taro in the diet of children under one year of age instead of to potatoes. This happens in spite of the fact that the former is a feculant starch-rich root with very little protein content.

Weaning is started early to the detriment of breastfeeding.

There are negative practices such as peeling some vegetables (tomatoes, pumpkin and squash, cucumber), and also cooking them generally with plenty of water which is not taken advantage of, and so forth.

Breakfast is underestimated, and supper is the heaviest meal. This, added to poor exercising, contributes to obesity.

A high consumption of salt, sugar, and saturated fats persists and pork is the most favoured meat. Some fish species are not valued nutritionally as they should be.

Many green and yellow vegetables are dismissed by the population, in spite of their nutritional value.

Hygienic handling of foods is poor, particularly in places providing school/workplace meals. That is why food poisoning is reported all the year round, particularly in the summer time.

Breastfeeding rates are very low. Most infants under the age of three months ingest an alternative type of milk (mixed nutrition) in their diet or have been weaned completely.

In 1990, the National Survey on prevalence and duration of breastfeeding and nutrition in the child under 1 year of age was made. The Survey included 6688 individuals throughout the

TABLE 10
 PRINCIPAL CAUSES OF DEATH, HAVANA (1990)
 (Rate per 100 000 population)

Overall mortality		15-49 age group	
Heart diseases	258,2	Accidents	36,3
Malignant tumours	170,5	Malignant tumours	30,5
Cerebrovascular disease	82,2	Heart disease	23,8
Accidents	51,7	Suicide	12,7
Influenza and pneumonia	443,6	Cerebrovascular disease	9,6
Diabetes mellitus	34,2		
Bronchitis - emphysema - asthma	5,4	50-64 age group	
Suicide	14,8	Heart disease	324,7
Cirrhosis and other chronic liver conditions	14,3	Malignant tumours	284,8
Perinatal disorders	6,9	Cerebrovascular disease	111,9
		Diabetes mellitus	53,7
		Accidents	47,1
1-14 age group			
Accidents	16,9	65 and over	
Congenital abnormalities	5,4	Overall mortality	
Malignant tumours	3,7	Heart disease	1 888,3
Influenza and pneumonia	2,7	Malignant tumours	1 061,0
Heart disease	0,8	Cerebrovascular disease	579,4
Bronchitis-emphysema, asthma	0,8	Arterial and capillary vessel disease	371,8
Meningococcal infections	0,8	Influenza and pneumonia	3 651,4

Source: Anuario Estadístico 1990

country. It was found that the characterisation of infant nutrition in the population is significantly different from the international recommendations. In the country there is a low prevalence of exclusive breastfeeding at birth, which is particularly remarkable in some provinces like Havana. This is probably associated with organisational problems in maternity wards that discourage natural feeding.

The rapid decrease in natural lactation in the first term seen throughout the country, particularly in the Western provinces, seems to indicate that an optimum advantage has not been taken from the great development of health services nor from the potential provided by mass organizations to develop effective and lasting educational activities.

PUBLIC AWARENESS. NUTRITION AND HEALTH EDUCATION

The joint work of the Ministries for Public Health and Education, as well as other agencies of the Central State Administration, has made it possible to develop nutrition and health education targeted at the school population, teachers, technicians and food handlers.

In this connection, programmes and standard guidelines have been developed and training and improvement seminars have been carried out. In addition they have been included in the curricula and syllabuses at the different types and levels of the National System of Education.

However, the required level for educators to act as the major

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TABLE 11
PRINCIPAL CAUSES OF DEATH, CUBA 1990
RATE PER 100 000 POPULATION

ALL AGES		5-14 AGE GROUP	
Heart disease	200,3	Accidents	16,1
Malignant tumours	128,5	Malignant tumours	4,3
Cerebrovascular disease	66,2	Congenital abnormalities	3,6
Accidents	49,0	Meningococcal infections	1,5
Influenza and pneumonia	30,3	Heart disease	0,7
Diabetes mellitus	221,4		
Suicide	20,2	15-59 AGE GROUP	
Bronchitis, emphysema, and asthma	10,1	Accidents	41,6
Cirrhosis and other liver diseases	8,4	Heart disease	21,8
Certain congenital diseases	7,7	Suicide and self-inflicted injury	20,7
		Cerebrovascular disease	9,7
LESS THAN 1 YEAR OF AGE			
Certain perinatal diseases	4,4	50-60 AGE GROUP	
Congenital abnormalities	2,5	Heart disease	226,4
Influenza and pneumonia	0,7	Malignant tumours	255,0
Enteritis and other diarrheal diseases	0,5	Cerebrovascular diseases	94,9
Accidents	0,3	Accidents	43,9
		Diabetes mellitus	41,5
1-4 AGE GROUP			
Accidents	1,8	65 AND OVER	
Congenital abnormalities	0,8	Heart disease	1 829,7
Malignant tumours	0,7	Malignant tumours	973,1
Influenza and pneumonia	0,4	Cerebrovascular disease	579,3
Meningococcal diseases	0,3	Influenza and pneumonia	300,7
		Arterial and capillary vessel disease	289,2

Source: Anuario Estadístico 1990

promoters of health in the community has not been reached.

As part of the National Food and Nutrition Programme a subprogramme of Food Culture has been under way since 1987.

It includes multisectorial participation of all ministries and organisations that in one way or another are involved in diet and nutrition.

The general objectives of this subprogramme are:

To provide the consumer population with the information required to set out the basis of a food culture that will enable

the population to select, prepare and consume foods in keeping with their nutritional requirements and with a full awareness of their association with health.

To guarantee the appropriate flow of information between food producers, importers, and distributors in such a way that supply is increasingly consistent with the public's demands and requirements.

During the development of this Campaign, information is being collected for assessment through the activities of the Central Commission for Food Culture, as well as the activities

TABLE 12
INFANT MORTALITY RATE (per 1000 live births)

	Havana	Cuba
1975	24,1	27,5
1980	17,2	19,6
1985	14,0	16,5
1989	10,4	11,1
1990	10,0	10,7

TABLE 13
MORTALITY RATES IN CHILDREN UNDER 5

	Mortality rate per 1000 live births		% survival	
	1984-1986	1987-1990	1984-1986	1987-1990
Cuba	18,1	13,8	98,2	98,6
Havana	15,3	12,5	98,5	98,8

carried out by the 14 Provincial commissions one from each of the 14 provinces in the country and the Municipal commission of the Isle of Youth.

For spreading educational messages, the mass media, both nation-wide and province-wide, particularly the press, radio and television, are available. These messages are labelled with the Campaign's logo and motto.

Among the priority-given activities a National Campaign for Breastfeeding is currently under way aimed at all sections of the population and the member of the health team.

During all these years, studies have been made to help provide a deeper insight into the topic of food as well as to deal effectively with orientation.

An example of this is the study made of some economic and historical aspects of nutrition in Cuba in the 15th and 16th centuries.

Some surveys have been made of the preferences and consumption of vegetables by the Cuban population.

They have served as the basis of population orientation work which includes the making of recipe books, newsletters, magazine articles, as well as courses and training.

It is apparent that progress has been made in the knowledge and attitudes towards nutrition and diet; unfortunately, the quality of this trend is poor.

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