Emir. J. Agric. Sci. (1994) 6 : 128-140

TRENDS IN NUTRITION RELATED CHRONIC DISEASES IN QATAR : A CALL FOR ACTION

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ABSTRACT

Vital statistics and hospital records were used to evaluate trends in Nutritional Related Chronic Diseases (NRCD) in Qatar. The leading causes of deaths were found to be diseases of circulatory system (34% of total deaths), neoplasm (12%) and transport accidents (12%). Deaths due to NRCD were all found to be significantly increased in 1992 compared to 1982. Percentage of deaths due to NRCD was higher among the Qatari as compared to Non-Qatari and was higher among males in general. Among the registered deaths due to diseases of the circulatory system, the leading cause of deaths were ischaemic heart disease (40%), cerebrovascular disease (24%), and diseases of pulmonary circulation (23%). All three diseases caused more deaths in males in general than in females and in Qatari than in Non-Qatari. The highest percentage of deaths due to malignant neoplasm were those due to neoplasm of digestive organs and peritoneum (31% of total deaths due to neoplasm), lymphatic and haematopoietic (20%) and respiratory and entrathoraxic (15%). The relation-ship of these trends in NRCD in Qatar to the diet may be conservatively associated with high intake of rice, meat, salt and sugar among the Qatari population as reported in a recent household expenditure survey (1988). The association of change in life style and increase of NRCD need to be studied. In view of data reviewed, it is concluded that NRCD are becoming a major public health problem in Qatar that need immediate attention. Assessing community prevalence of NRCD and drawing realistic plans of action aimed at reducing morbidity and mortality of these diseases should be of high priority in health planning in Qatar.

Key Words : Cancer, heart disease, hypertension, lifestyle, Qatar.

INTRODUCTION

The role of the diet in the development of the most common causes of premature death is now well documented in developed industrialized countries. Coronary heart disease (CHD) and cancers are the most prevalent chronic diseases leading to premature death in these countries. Both diseases are strongly associated with dietary factors such as excess intakes of fat, salt, refined carbohydrates and alcohol. Obesity has been identified as major risk factor for CHD and diabetes mellitus (DM). Many developed countries have been implementing

nutrition intervention programs based on prevention-oriented health policies. In some developed countries such as North America, these policies have actually resulted in reduced mortality from CHD and reduction in the prevalence of hypertension over the past 20 years. On the other hand there have been considerable increases in the prevalence of chronic disease in some developing countries. For example in the countries of tropical South America mortality from chronic disease underwent a relative increase of 105% during the 1970s (WHO, 1990). During recent decades the populations of many developing countries have gone through rapid changes in lifestyles and dietary and health patterns. This transition, i.e. increase in mortality from chronic diseases, is being witnessed currently in the Arabian Gulf countries.

Recent reports on public health in many of Arabian Gulf countries have identified nutrition related chronic disease (NRCD) as major health problems in the region (WHO/EMRO, 1989). There is, however, a considerable lack of well documented information pertaining to trends in mortality and morbidity of these disease in the countries of the region. This observation is very true when considering reported information related to trends in chronic diseases in Qatar. This article reviews available information on trends in diet related chronic diseases in Qatar. Information was drawn from three sources, namely, vital statistics, hospital records and Household Expenditure Survey.

The state of Qatar occupies a peninsula along the western coast of the Arabian Gulf, bordered by Saudi Arabia to the South, the United Arab Emirates to the south east and Bahrain to the west. The state holds a population of 486,473 persons according to the 1990 official figures. A characteristic feature of the population pyramid is the domination of the male population in the age group 20-25 years. This reflects the large number of expatriate workers who migrated to Qatar in the mid 1970's to mid1980's period for the purpose of implementing development plans. Oil is the mainstay of the economy with recent investment to develop natural gas fields. Revenues from oil are the basis of socioeconomic development.

Trends in Mortality from NRCD

Trends in leading causes of deaths in Qatar (MPH, 1993) at present resembles those reported for developed countries. The leading cause of death is diseases of circulatory system followed by neoplasms. Table 1 shows that deaths from these two diseases as percentages of total deaths (34%, 12%, respectively), are much higher than values for developing countries (19%, 5% respectively). At the same time, deaths from infection and parasitic disease have declined considerably in Qatar (3% of total deaths), a figure well below that of

TABLE 1

Leading causes of deaths in Qatar (1992)

Cause of Death	% Total[1]	% Total[2] Disease	Developed[1] Countries	Developing[1] Countries
Circulatory System	34	42	54	19
Neoplasm	12	16	19	5
Endo.- Nutr.- Met.-Imm. [4]	4	5	-	-
Respiratory System	4	5	-	-
Infection & Parasitic	2	3	8	40
Injury & Poisoning[3]	19	-	6	5
All Others	25	-	12	21

Adapted from : MPH, (1993)

1 = Percent of total deaths
2 = % of total deaths due to disease only
3 = 12% Transport Accident & 7% other Injury and Poisoning.
4 = Endocrine, Nutritional, metabolic and Immune Diseases

developing countries (40%) and below that of developed countries (8%). The latter observation reflects advances in health and medical services established in the State in the last decade. Deaths from injury and poisoning (19% of total deaths) are mainly due to transport accidents (12%). This is common in most of the Arabian Gulf States, and in fact the figure for Qatar may be relatively low compared to other countries in region.

Deaths due to different types of neoplasm and diseases of the circulatory system have shown marked increases in the last decade. Between 1982 and 1992 the percentage of deaths due to different neoplasms has increased from 8.8% to 12% and that of the diseases of the circulatory system has increased from 21.4% to 34% as shown in Table 2. The incidence of all leading causes of deaths in Qatar, except that of injury and poisoning is more among the Qatari nationals than among non-Qatari (Table 3). This observation should be interpreted with caution since non-Qatari usually leave the country before the age of sixty. Data presented here are not age-adjusted. Incidence of all leading causes of death is greater among the male population in general, whether Qatari or non-Qatari. The high incidence of leading causes of deaths among the non-Qatari male may, however, reflect domination of male population over the female population rather than a true distribution between the non-Qatari male and female population.

Registered deaths due to diseases of the circulatory system in the year 1992 in Qatar show high incidences of ischaemic heart disease (IHD) and cerebrovascular disease (Table 4). Both disease are well known to be diet-related. The incidence of both diseases is high among the Qatari male. Data presented in Table 5 indicate that deaths due to neoplasm of digestive organs and peritoneum accounts for about one third of all deaths due to different types of neoplasm followed by deaths due to neoplasm of lymphatic and haematopoietic organs. The incidence of deaths due to neoplasm of bones, connective tissues and genitourinary organs is higher among Qatari and non-Qatari females compared to Qatari and non-Qatari males.

Trends in Morbidity of NRCD

Very limited data are available on morbidity of NRCD. Outpatients attendance of clinics in the only general hospital in Qatar are shown in Table 6. An increase in attendance of cardiology clinics (58%), oncology-hematology clinics (47%) and hypertension clinics (200%) between 1988 and 1992 may reflect increase in morbidity of the three diseases. However, since these are hospital-based records they cannot be related to the prevalence of these diseases. The decrease in outpatient attendance of the diabetic ophthalmology clinic may reflect improved medical management and

TABLE 2

Percentage of deaths due to some nutrition related chronic diseases in 1982 and 1992 (% of total deaths)

Disease	1982	1992
Neoplasm	8.8	12
Endo-Nutr-Met-Imm	2.8	4
Circulatory System	21.4	34

Source : MPH (1983)

TABLE 3

Distribution of leading causes of deaths by Nationality and Gender (1992)

Cause of Death	% Q[1]	% Male	% Q.M.[2]	% NQ.M.[3]
Circulatory System	60	72	64	84
Neoplasm	63	55	54	57
Endo.-Nutr.-Met.-Imm.	72	56	64	45
Respiratory System	60	70	63	81
Infection & Parasitic	56	61	60	63
Injury & Poisoning	31	82	75	85
All Deaths	54	66	61	73

Source : MPH (1993)

1 = Qatari
2 = % Qatari Male of Total Qatari
3 = % Non-Qatari Males of Total Non-Qatari

control in patients with diabetes mellitus. Nutrition management of NRCD patients has been emphasized in recent years by upgrading hospital dietetic and clinical nutrition services. This may be seen from the 75% increase in outpatient attendance of dietetic clinics.

Changes in Life Style and Emergence of NRCD

Like other countries of Arabian Gulf the econimic progress due to large oil revenues has produced rapid changes in life style in Qatar. These include reduced physical activities and changes from traditional dietary habits due to Western and Asian influences. There are no data on the prevalence of obesity in Qatar at present. We have recently studied changes in physical activity and dietary habits during the fast of the month of Ramadan. Our unpublished data indicates low levels of physical activity amongst the subjects studied. Decrease in physical activity induced by modernization and urbanization seems, unfortunately, not to be counterbalanced by increases in leisure time activity.

Before the discovery of oil, fish, rice and dates were the most commonly consumed food in coastal areas in Qatar. In the desert, rice, dates, milk and milk products (sour milk and yoghurt) were the most consumed foods among the Bedouins. Meat tended to be consumed only when guests were invited or by the upper social classes (Musaiger, 1987). The economic development resulted in increased purchasing power and introduction of wide variety of foods. In Qatar 22.3% of the family income is spent on food purchases (CSO, 1989). Food availability depends predominantly on imports since the domestic agricultural production is low (MPH, 1993). Food habits of immigrant populations from Middle Eastern and Asian countries have become integrated into the Qatari food habits. The consumption of meat has increased over the consumption of fish. Compared to non-Qataris, the Qataris consume higher amounts of meat (Table 7).

Consumption of rice among Qataris is very high. Qataris also consume high levels of salt and sugar and sweets and apparently adequate quantities of vegetable and fruits. Food consumption data presented in Table 7 are based on household expenditure and do not reflect true intakes. However, it can be concluded from these data that consumption of rice, meat, salt and sugar is relatively high among Qataris. Similar trends in food consumption have also been reported in other Arabian Gulf countries (Kamel & Martinez, 1984, Aziz, 1985).

The Qatari population is undergoing rapid transition towards affluence. Chronic diseases develop as countries become more affluent. With affluence there is a progressive increase in

TABLE 4

Registered deaths due to the Circulatory System Disease in Qatar

Disease	% Total	% Q[1]	% Male	% Q.M.[2]	% NQ.M.[3]
Hypertensive	10	55	55	53	57
Ischaemic Heart	40	64	72	64	87
Pulmonary Circulation	23	37	90	81	95
Cerebro-vascular	24	71	63	59	73
Other	3	73	73	62	100

Source : Adapted from MPH (1993)

1 = Qatari
2 = % Qatari Males of Total Qatari
3 = % Non-Qatari Male of Total Non-Qatari

TABLE 5

Registered deaths due to malignant Neoplasm in Qatar (1992)

Disease	% Total[1]	% Q[2]	% M	% Q.M.[3]	% NQ.M.[4]
Lip, oral cavity & pharynx	2	100	50	50	0
Digestive organs & peritoneum	31	60	60	62	57
Respiratory & Intrathoracic	15	76	70	69	75
Bone & Connective Tissues	9	40	20	0	33
Genitourinary Organs	11	69	31	33	25
Lymphatic & Haematopoietic	20	56	61	54	70
Unspecified	12	71	64	60	75

Source : Adapted from MPH (1993).
1 = % of total deaths due to malignant neoplasm.
2 = Qatari
3 = % Qatari male of total Qatar
4 = % Non-Qatari male of total Non-Qatari

TABLE 6

Outpatient Attendance of Selected Clinics at Hamad General Hospital (X 1000)

Clinic	1988	1992	% Change
Cardiology	12	19	+ 58%
Diabetes	12	12	-
Oncology/Hematology	2.3	3.4	+ 48%
Hypertension	0.3	0.9	+ 200%
Cardiac Surgery	2.2	2.2	-
Diabetic Opthalmology	0.2	0.1	- 50%
Dietetics	2	3.5	+ 75%

Source : MPH (1993)

TABLE 7

Estimated per caput consumption of various foodstuffs in Qatar - Grams per person per day (1988)

Foodstuffs	Qatari	Non-Qatari
Rice	313	120
Wheat Flour	60	73
Meat	173	113
Fish/Shellfish	57	60
Fresh Milk (ml)	30	60
Eggs (each)	0.5	0.5
Citrus Fruits	125	110
Other Fruits	242	197
Fresh Vegetables	276	281
Legumes & Pulses	9	13
Salt	23	17
Sugar & Sweets	127	97

Source : CSO (1989).

consumption of animal fat and free sugars. Based on epidemiological data from developing and developed countries (Burkitt and Trowell, 1975) concluded that with westernization of the diet, chronic diseases emerge first as diabetes, followed by CHD and cancer of the digestive system. Changes in life style in Qatar have led to emergence of diet-related chronic disease in patterns typical for those observed in developed countries.

Health Policies

Problems of increased mortality and morbidity from chronic diseases in Qatar have not been dealt with systematically. Especially lacking is any attempt to study the prevalence of chronic diseases. Medical care of patients suffering from these diseases has become a burden on health expenditure. There are no prevention - oriented activities in the State. Despite the increase in these diseases there has been no increase in the Government sector of certain health professionals, i.e. specialists in preventive health, nutrition, and biostatistics, needed in collecting information on the incidence of chronic diseases in the community and in planning and executing intervention programs. There is no regular system to monitor nutritional and health status of the population.

No programs of formal instruction in nutrition have been established yet in Qatar. Medical professionals and other health workers are not trained in the field of nutrition in general and in the role of diet in prevention of chronic disease in particular.

Conclusions and Recommendation

With the recently introduced changes in life style, nutrition related chronic diseases are becoming major health problems in Qatar accounting for most of the mortality and morbidity and incurring substantial health care costs. The trends in chronic diseases observed in Qatar are very similar to those identified in developed countries and countries undergoing transition towards affluence.

In line with the WHO study group recommendations to national governments on nutrition and prevention of chronic disease (WHO, 1990), it may be recommended that the Ministry of Health in Qatar ensures the availability of experts in the field of monitoring nutrition and health status, who can develop a nutrition-health surveillance system. Health authorities should take the initiative to establish a national board for food and nutrition to formulate policies in field of food and nutrition, to advise the council of Ministers in related matters, and to coordinate between different

government sectors in implementing programmes in nutrition and health based on information obtained through community surveys.

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