4. COUNTRY PRESENTATIONS

4.1 Bahrain
Ms Nadia Ghareeb, Ministry of Health

Bahrain has experienced a rapid change and development in socioeconomic status, food consumption patterns, lifestyle and health status during the past three decades, due mainly to the oil boom and the sharp increase in income. These changes have had a great impact on the nutritional and health situation of Bahrain, with the development of a paradoxical nutrition status, as both under and over-nutrition exists. Under-nutrition is manifest as growth retardation among pre-school children and anaemia in young children, adolescent girls and pregnant women, while over-nutrition is manifested as overweight, obesity and diet-related noncommunicable diseases.

The improved standards of living and health services have led to an improvement in life expectancy, which increased from 50-59 years in the 1950s to more than 70 years in the 1990s. On the other hand, this situation has contributed to the occurrence of several chronic diseases, especially cardiovascular disease, diabetes mellitus, hypertension and cancer. In addition, sedentary lifestyles and the shift from a traditional to a more westernized diet have played an important role in changing the trends in diseases and the nutrition status of the population.

Considering the importance of dietary practices in nutrition-related diseases, it is essential that food-based dietary guidelines (FBDG) be developed for the Bahraini population, especially since consumers focus on foods not nutrients, in choosing what to eat. It is essential that individuals be provided with the necessary guidelines to assist in preventing nutrient deficiencies and chronic diseases.

Various nutritional survey studies were conducted by the Nutrition Section under the Ministry of Health in Bahrain during the last two decades. Results showed that nutrient intakes among pregnant women were below the recommended dietary allowances (RDA), mainly in energy, vitamin A, folic acid, iron and calcium. Anaemia prevalence, low haemoglobin as an indicator, showed an increase in levels from 33.5% (1996) to 41.9% (2002).

Data from a recent national survey on Bahraini adults (19 years and over) showed that obesity prevalence among males was 23.3% and females 34.2%. Overall, the data indicate that anemia and obesity problems, among various stages of life and age groups, are considered to be the most alarming health problems caused by or related to diet and nutrition.
A comprehensive national survey was conducted between 1999 and 2000 on schoolchildren in Bahrain (6-19 years). Overweight/obesity, iron deficiency anaemia (IDA), folic acid deficiency and hyperlipidaemia were found to be more common among girls (26%, 33%, 24.6%, 22.3%) compared to boys (21%, 14.7%, 17%, 13.2%), respectively; while systolic and diastolic hypertension were found to be relatively high among the boys (16.4%, 12.3%).

Reported deaths due to noncommunicable diseases in 2003, including heart disease, neoplasms and endocrine, nutritional and metabolic diseases, were found to be relatively high, percentage-wise, in comparison to other causes. It is also noted that the percentages of these diseases as direct cause of death were higher among women than among men (31%, 14%, 10% versus 25%, 14%, 7%), respectively.

Data from the national nutrition survey of Bahraini adults showed that the consumption of certain foods with high fat and sugar content were very much on the higher side. Meat and full fat milk consumption were also relatively high compared to that of legumes, nuts and low fat milk products.

Furthermore, the results of a survey of schoolchildren showed that soda drinks, sweets, snacks, meats, bread and cereals (rice) consumption were high compared to the consumption of legumes, vegetables, fruits and fruit juices, milk and dairy products among both girls and boys.

In general, it is observed that nutrient intake was equal to, or higher than, the standard among the population, especially for certain nutrients such as protein, sodium, and vitamin C. However, the intake of some micronutrients such as potassium, calcium, magnesium was below the standard among both genders. Iron and folate intakes among females of a certain age group (adolescents and adults) were also lower than the standard. Energy produced from proteins, carbohydrates and fat sources was found to be at normal levels.

Data on physical activities among Bahraini adults were collected during the National Nutrition Survey in 2002. Although the majority reported practising moderate activities (73.5% females and 67.1% males), observations showed that these reported figures are relatively high, although more and more people are practising moderate forms of physical activity such as walking.

Data obtained from the National School Survey for schoolchildren (age 6 to 19 years) between 1999 and 2002, revealed that 80% of the girls and 50% of the boys were frequently involved in some form of physical activities; 26.6% of the boys and only 6.4% of the girls reported exercising on a daily basis.
Bahrain is an oil producing country whose economy depends on oil and trade. In terms of agricultural activities, Bahrain has very limited agricultural production, which amounts to less than 3% of the food requirement. Approximately 97% of the food is imported. Local food production is limited to certain items, such as fish, chicken, eggs, and some other minor items, while foods such as cereals, meat, fruit, oil, and fat are imported.

The government policy is to subsidize main food items such as sugar, rice, wheat and meat. However, subsidizing some other important items, such as fruit and vegetables is preferable and would encourage consumption of healthier food.

Intervention programmes adopted by the Ministry of Health comprise clinics and nutrition education campaigns targeting obesity; in mother and child health, education and training of health professionals and mothers, implementation of regulations on breastfeeding and infant Hb screening; flour fortification (iron) for micronutrients; for schools, school canteen food regulations and lifestyle education campaigns focusing on diet and physical activity; the development of food-based dietary guidelines for Bahrain in 2003.

4.2 Egypt
Professor Nafissa M. Eid, National Nutrition Institute

Since the 1960s, three food groups (energy, tissue building and protective foods) have been identified and visualized as three pyramids. In 1995, FBDG were prepared by the Nutrition Institute based on malnutrition problems (protein and energy malnutrition in children, micronutrient deficiency among different population segments), food consumption patterns, RDA, and population nutrition goals (WHO, 1990), as well as economic and cultural factors. FBDG target all family members and are a guide for educators. They were designed to include: guides for healthy, balanced and safe food for the family; the importance of eating a variety of foods (three food groups); scientific basis and consideration for planning meals for various age groups; along with models for whole-day balanced meals (low, moderate and high cost) for different family members, male and female (adult, adolescents, and elderly), pregnant and lactating mothers and children. Moreover, they include information on: ideal body weight and BMI, growth curve, the importance of breastfeeding, RDAs, household food measurements and portion sizes, a food exchange list for energy and protein, information on nutrient rich foods (iron, calcium, vitamins A and C), cholesterol and saturated fatty acids in foods, as well as the nutrient value of some common Egyptian foods.
FBDG promotion focused on food groups, food diversification, daily meal models for different economic groups; and advice on iron intake and hygiene. UNICEF gave support for 52,000 copies issued in 1995, 1996 and 2000, and distributed mainly to mother and child health, primary health care (Ministry of Health and Population), other ministries (education, social affairs, agriculture, and supply) and nongovernmental organizations.

Based on recent national surveys, the current food and nutrition status indicates a double burden: under-nutrition (underweight, wasting and stunting among children, micronutrient deficiency of iodine, iron, vitamin A and calcium), as well as overweight and obesity (53.2% and 75% among adult males and females, respectively); osteoporosis (14.9% and 12.6% among adult males and females, respectively); hypertension (national figure among adults is 26% with 60% of detected cases unaware of hypertension, and among the elderly, 57-71 years, 55% and 71% for males and females, respectively); and diabetes mellitus (prevalence 9.3% and up to 20% in higher socioeconomic classes in urban areas).

Dietary intake data per capita per day: energy, 2519 Kcal, protein 89.2 g, fat 71g; energy pattern: 61% cholesterol, 25% fat, 14% protein. Dietary adequacy: more than half the households consumed more than 100% of the RDA energy; excess energy intake among mothers was 65%, coupled with inadequate energy intake among 26% of children. Inadequate dietary iron, vitamin A, and calcium intakes were found among 60%, 50%, and 30% of households, respectively. Smoking is high among adult males (48%), females (10%), and adolescents (5.5%).

Current nutrition intervention programmes are supplementation (vitamin A capsules, children and postpartum mothers; iron/folic acid tablets, during pregnancy, and secondary school girls in Upper Egypt), food fortification (national iodized salt, and iron-fortified school biscuits).

The development and implementation of FBDG should be reviewed on a periodic basis, based on experiences of agencies that use the document. There is a need to seek support for proper implementation and monitoring of FBDG, and to develop, update and disseminate food composition data. More emphasis should be placed on milk and dairy products among the three food groups, to address osteoporosis and low dietary calcium intake. There should be integration of messages on other policies related to health (smoking, physical activity).
4.3 Islamic Republic of Iran

Dr Nasser Kalantari, National Food Industry and Nutrition Institute

The first attempt of Iranian nutritionists to develop and express dietary guidelines and food groups was in the first Iranian Congress of Nutrition (1990). In this congress the nutritionists came up with the following dietary recommendations:

- Select foods on the basis of balance and variety.
- Include fruit, vegetables, milk, yogurt, and fat-free cheese in your daily food plan.
- Avoid intakes of fried foods and foods with higher fat content especially hydrogenated fats.
- Consume poultry and fish more than beef and lamb.
- Breastfeed your infants, and introduce appropriate weaning food after 4-6 months of age.
- Avoid consuming too much sugar.
- Avoid consuming too many salty foods. Use iodized salt instead of common salt.
- After 30 years of age be aware of your weight, and avoid overweight and obesity.

In 1996, at the fourth Iranian Congress on Nutrition, the food groups and the dietary recommendations of 1990 were discussed in a consultative workshop on food groups and dietary guidelines. Seven food groups were recommended instead of the original four. Fruit and vegetables were separated, and fat and sugar were divided into two separate groups. Regular physical activity, at least three times a week for 30 to 40 minutes, was added as a recommendation. In these new dietary recommendations, the emphasis was on consuming more fibre.

The most recent attempt at defining FBDG took place in 2003. The Ministry of Health and Medical Education, Ministry of Education, the Iranian Nutrition Society and experts from the National Nutrition and Food Technology Research Institute began to prepare the first draft of the food groups based on provincial food consumption data of 1990-1994.
Points raised in the discussion

- Correlation studies on nutrient intake and disease patterns are not required before developing FBDG, as relations are well proved by international scientific studies.

- Dissemination of FBDG through mass media and school curricula is imperative.

- FBDG are useless unless they are communicated to the public.

- The media should be involved at an early stage as an essential partner in disseminating FBDG.

4.4 Jordan
Dr Khader El Masri, University of Jordan

Jordan is a young community, with two thirds of the population below 25 years of age, and a median population age of 20 years. Population growth rate is 3%. Household sizes are large (average six persons) and the urban population comprises 79%. Self-sufficiency in food supply is low in general, especially for staple foods. The family food basket is comprised of mostly imported foods, which are expensive, especially for households around and under the poverty line.

A low and insecure national food security status prevails in Jordan because of disadvantageous ratios of self-sufficiency, negative trade balance, gaps in staple food supplies, high price index and poverty rate.

Higher mean food values were consumed in the urban region, where households depend on cash market food supply. In rural regions, households depend more on the agricultural food supply system. In general, households in Jordan consume more plant foods such as cereals, legumes and vegetables, than foods of animal origin. This is due to elevated food prices, and high prevalence of poverty combined with a slow increase in incomes. Increases in the consumption of oils and animal fats, sugar and salt have been witnessed.

A national study in 1993 registered that 2% of children (0-5 years of age) were acutely malnourished (wasted), 16% suffered from chronic malnutrition (stunting) and less than 1% from marasmus and pre-kwashiorkor. A statistically significant higher incidence of malnutrition problems was observed among children of non-educated mothers with low socioeconomic levels and minimum paediatric care. A national study in 1997 registered 1% of children (0-5 years of age) as wasted and
17% as stunted (< -2 z-scores of ht/age and wt/ht). The prevalence of low birth weight was 10% among infants in 1998-2002. On the other hand, obesity rates were high, with 64.2% of women registered as obese or overweight (BMI ≥ 25.0). Anaemia is a major public health problem which affects about 32% of Jordanian women of reproductive age. Iron deficiency affects 41% and iron deficiency anaemia (IDA) 23% of all women. In children (0-5 years of age), the respective prevalence rates are 20% for anaemia, 26% for iron deficiency and 10% for iron deficiency anaemia.

### Points raised in the discussion

- Countries in the Region are heterogeneous.
- One FBDG will not be sufficient for the whole Region.
- Each country may need to develop its own FBDG.

## 4.5 Kuwait

*Ms Suad Al-Hooti, Kuwait Institute for Scientific Research*

Nutrition related chronic diseases, such as cardiovascular disease, high blood pressure, cancer, diabetes and obesity are becoming serious public health problems in Kuwait. Anaemia prevails among preschool children (< 5 years of age) at 20.9%, and among children 6-10 years; while for the adult population of > 20 years of age, it increases to 27.9% among females but is only 3.9% among males. The incidence of insulin-dependent diabetes mellitus among Kuwaiti children (age 0-14) has increased from 3.96 per 100 000 during 1980-1981 to 15.4 per 100 000 during 1992-1993. Obesity is one of the predisposing factors for chronic disease, which is clearly reflected in the increase of the incidence of morbidity and mortality of cardiovascular disease and diabetes in Kuwait and the consequent continuous increase in medical care costs. There is no government plan of action that is geared towards their prevention.

In order to facilitate proper planning of preventive programmes a national survey to assess the nutritional status of the Kuwaiti population is required. This should provide cross-sectional baseline and reference information for future monitoring of the changes in dietary intake, dietary habits, and risk factors. The survey should analyse the correlation between lifestyle characteristics and the prevalence of diseases.

To date there is no clear policy, action plan, or guidelines to address the continuous increase of health problems. The food and nutrition sector in Kuwait is facing a number of limitations, including unavailability
of a higher governing body to coordinate the functions of the various sectors; lack of policies, strategies, guidelines and action plans; absence of formal university level training (which limits the available expertise); limited nutrition communication and mass media awareness programme; lack of a database and information system to accumulate baseline information needed for setting guidelines and policies.

4.6 Lebanon

Professor Nahla Houalla, American University of Beirut

The last nationwide survey was conducted in 1997 and only included nutritional anthropometric measurements for obesity. Since then, studies have been restricted to selected population groups (i.e. of low socioeconomic status) or geographic regions (i.e. Beirut). Therefore, it is important to emphasize that some of the available data do not represent the nutritional and health situation of the entire Lebanese population.

Nonetheless, recent dietary surveys were conducted in 2001 in Beirut by means of a quantitative food frequency questionnaire (QFFQ), and in 2004 on adults attending health centres across all six governorates in Lebanon by means of a 24-hour dietary recall. The total mean consumption of food per person was estimated to be 3030 g/day providing 2523 Kcal/day. Fat contributed 38.9% to the average daily energy intake, protein 13.4% and carbohydrates 47.2%. Cereals provided 35% of daily energy intake and bread was the most highly consumed item in this food group. Meat and poultry products provided 8.8% of daily energy intake, with consumption of butchery products especially beef being the highest, followed by poultry. A low consumption of fruit and vegetables was noted, and 73.6% of the subjects consumed less than the recommended two servings of fish per week. Dairy products provided 10.9% of daily energy intake and milk was the least consumed dairy product.

Prevalence of wasting and stunting observed over the years has decreased by 50% and by 25%, respectively. Iron deficiency anaemia (IDA) remains a public health problem. Measured as haemoglobin (Hb) level <12 g/dl, anaemia was prevalent in 16.6% of the total sample of women. Of the total sample, 27.5% were iron deficient (defined as ferritin < 15μg/l) of which 7.9% had IDA. Folate and vitamin B12 deficiencies in the studied sample of reproductive age women were 24.8% and 39%, respectively. The prevalence of overweight and obesity data shows that 53.0% are overweight and 17.0% are obese; 22.8% of children (age 6-11 years) and 20.8% of adolescents (12-19 years) were overweight, and 7.7% and 5.5% were obese.

There is an urgent need for a nationwide dietary survey that will be representative of the dietary intake of the Lebanese population. The
survey should cover noncommunicable disease risk factors, prevalence of physical activity, iron deficiency anaemia, and vitamin and mineral deficiencies among the elderly. Based on available data, albeit incomplete, a process to establish FBDG should be started. In Lebanon, human resources to implement a sound food and nutrition agenda are available in media, schools and universities but leadership is needed to outline the agenda and push it forward.

4.7 Pakistan
Professor Perveen Liaqat, Allama Iqbal Open University

Pakistan is self-sufficient in food production as far as major crops are concerned (i.e. wheat, rice, sugar-cane and maize). However, a slight fluctuation has been observed in crop production, which is mainly due to disasters. The immediate needs of additional food are met through imports. Beside crop production, Pakistan has livestock production, which accounts for 49.1% of the economic value of the agricultural sector, and about 11.4% of the GDP. On average, daily intake of wheat is 322 grams by mothers and 165 grams by children at national level. Consumption of wheat flour is about 14% higher among rural mothers (338 g/day) as compared to mothers in urban areas (297 g/day). Rice is the next commonly consumed cereal, which adds up to 6% of national average cereal consumption. Consumption of rice is higher in urban (22.5 g/day) than in rural areas (18.3 g/day). Wheat is still the major commodity consumed by children in both rural (174 g/person per day) and urban areas (156 g). Most of the protein needs are met from milk and milk products in both urban and rural areas, (national nutrition survey 2001-02).

The major nutritional problems in Pakistan include low birth rate (22.1%) due to poor maternal nutrition, while almost the entire population is at risk of either under-nutrition or over-nutrition. A prevalence of stunting (40%), wasting (14%), and underweight (37.4%) among children under 5 has been observed in the national nutrition survey 2001-2002. Around 12.5% pregnant and 16.1% lactating mothers have been found to be undernourished (BMI <18.5). Biochemical results report that 23.7% mothers had moderate and 1.8% had severe iron deficiency anaemia. This was 33.0% and 2.6% respectively in children. Vitamin A deficiency is prevalent both in children and their mothers, 1.2% and 7.8% respectively. Visible goitre is present in 12.2 % of mothers, palpable goitre in 8.9%, and 41% of others are zinc deficient. Overweight and obesity are problems manifested in urban areas. One out of seven older adults is either overweight or obese, 12.6% of the population was found to have elevated cholesterol levels. 21.5% of urban population was reported to have high blood pressure. Diabetes was more prevalent in urban females (18%) than in males (15%).
Malnutrition is directly and indirectly responsible for 30% of all infant and child deaths in Pakistan. Over the past 20 years, there has been no significant change in the prevalence of malnutrition among the targeted population despite the launch of many nutrition intervention programmes. Currently, nine different nutrition programs at national level are being pursued by ministries and divisions, without clear rules and responsibilities across federal, provincial public and private stakeholders, or any sharing of vital information. There is no strategic national nutrition plan or framework.

There has been growth in food availability, and increases in calorie intake per capita and in budget allocation for food. A recent district level study indicates that 62% of districts are food deficient in terms of food availability. Food insecurity in rural Pakistan is 80%, ranging from minor to extreme insecurity levels. Disparity in access to food is also caused by income inequality.

Several development policy measurements can influence poverty and malnutrition. The ability of households to obtain food can be influenced by a host of policies aimed at providing the poor with access to food, such as distribution of food at subsidized rates, control of market prices, and availability of food. Similarly, nutrition education can influence the nutritional status without working through the income-food nutrition nexus.

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<td>■ Countries use different cut off points for determining obesity, which prevents inter-country comparison and inclusion in the WHO database.</td>
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<td>■ Standardization of cut off points is needed.</td>
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<td>■ For childhood obesity, the international standard cut off point will be determined in 2005.</td>
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