

Bibliography of papers on nutrition published in the *Eastern Mediterranean Health Journal*

Anaemia in the Eastern Mediterranean Region

Verster A and van der Pols JC
East Mediterr Health J. 1995; 1(1):64–79

This study was done to assess the prevalence of iodine deficiency (ID) among primary schoolchildren in Cairo. A stratified random sampling technique covering the five geographic zones of Cairo was used. Data revealed that the goitre rate was 13.5%; being 10.8% among males and 16.2% among females. Prevalence among females was higher than that of males in all categories. Based on the data found by this study, it can be concluded that ID constitutes a mild public health problem among Cairo primary schoolchildren, and a salt iodization programme is highly recommended.

Assessment of the prevalence of iodine deficiency disorders among primary school children in Cairo

El Sayed NA, Ismail HM, Hussein MA and Kamel AA
East Mediterr Health J. 1995; 1(1):55–63

This study was done to assess the prevalence of iodine deficiency (ID) among primary schoolchildren in Cairo. A stratified random sampling technique covering the five geographic zones of Cairo was used. Data revealed that the goitre rate was 13.5%; being 10.8% among males and 16.2% among females. Prevalence among females was higher than that of males in all categories. Based on the data found by this study, it can be concluded that ID constitutes a mild public health problem among Cairo primary schoolchildren, and a salt iodization programme is highly recommended.

Low birth weight in the Taif Region, Saudi Arabia

Madani KA, Nasrat HA, Al-Nowaisser AA, Khashoggi RH and Abalkhail BA
East Mediterr Health J. 1995; 1(1):47–54

The present study is a prospective case-control study on low-birth-weight (LBW) infants born at the maternity hospital in Taif city in Saudi Arabia. The results showed a lower incidence (13.6%) of LBW than that reported from other developing countries. However, this incidence was almost double that reported from other cities in Saudi Arabia. Almost all forms of fetal morbidities among LBW infants and mortalities showed significant increase. Although the 2500 gram figure for identifying low birth weight is important for comparison across different cultures, the results of this study suggest that each population should also establish its own birth weight centile.

Pattern of growth and development of premature children at the age of two and three years in Alexandria, Egypt (Part II)

Khalil KA, El-Amrawy SM, Ibrahim AG, El-Zeiny NA and Greiw AE
East Mediterr Health J. 1995; 1(2):186–93

This is the second part of a paper on a study conducted in Alexandria on 68 premature children. Controls were full-term children, double the number of prematures, and matched by age and sex. The first part presented differences in growth and development in relation to prematurity. This part deals with risk factors for prematurity. The study revealed that low educational level of fathers and parental smoking were significant risk factors for prematurity. The mean age of both parents and mothers' gravidity were signifi-

cantly higher for prematures. Other risk factors were identified. Mothers with diabetes and chronic nephritis were more likely to have a premature child.

Pattern of growth and development of premature children at the age of two and three years in Alexandria, Egypt (Part I)

Khalil KA, El-Amrawy SM, Ibrahim AG, El-Zeiny NA and Greiw AE

East Mediterr Health J. 1995; 1(2):176–85

A case-control study was conducted in Alexandria on 68 premature children: 32 of them at the age of 2 and 36 at the age of three years. The aim was to depict the pattern of growth and development among them. Controls were full-term children, who were double the number of prematures and matched by age and sex. It was found that the growth pattern of full-term children aged two and three years was better than that of prematures. Moreover, prematures were significantly delayed in some developmental areas as language, fine motor-adaptive sectors and personal-social domains than their corresponding controls. The study suggests that the provision of quality medical care could eliminate the growth and developmental lag of premature children.

Nutritional outcome of appropriate feeding during and after acute diarrhoea in children

Madkour AA, Massoud MNZ, El-Azzouni OEF, Amer MA, Ragab MAF and El-Sawy EHA

East Mediterr Health J. 1995; 1(2):162–75

A sample of 120 children with acute diarrhoea was divided into two equal study groups. There was no difference between groups in pre-intervention and post-intervention findings during the acute phase of diarrhoea. Upon discharge, Group A patients were supplied weekly with sufficient milk formula and cereal together with adequate nutritional advice while Group B patients were supplied with food or nutritional advice only if requested by the mothers. Forty nine patients from each group were followed each week for four weeks. Group B infants showed a higher incidence of recurrent diarrhoeal attacks and

a significantly longer duration of recurrent diarrhoea than Group A infants. Moreover, Group A infants scored a significantly higher weight increment than Group B ones after four weeks of follow up.

Growth pattern of Saudi schoolboys in a high-altitude area of Saudi Arabia

Abolfotouh MA and Badawi IA

East Mediterr Health J. 1995; 1(2):205–9

The aim of the present study was to examine the growth of schoolboys in a high-altitude area of Saudi Arabia, and to investigate the appropriateness of using the US National Center for Health Statistics (NCHS) standards for the assessment of children's growth in such areas. The study concluded that the use of NCHS standards is not appropriate for the assessment of growth of schoolboys in Asir Region. Further studies are needed to determine whether the findings of this study are altitude-dependent or not.

An overview of emerging foodborne and waterborne diseases

Bartlett CLR

East Mediterr Health J. 1996; 2(1):51–60

Several foodborne and waterborne diseases have emerged in the past two decades as a consequence of changes in etiological agents, hosts and the environment. The burden of foodborne and waterborne disease is not uniformly distributed globally: because of the inequitable distribution of the world's resources some countries carry a disproportionately heavy burden of infectious disease, and what is considered a re-emergent pathogen in one location may be endemic in another.

Possible effects of iodized salt on the taste, colour and consistency of traditional pickles

Badran O, Qaraqash W and Gamah S

East Mediterr Health J. 1996; 2(2):219–23

A national survey was conducted in Jordan in 1991 to determine the prevalence of iodine deficiency disorders. A sample of 2679 children aged 8–10 years was screened and the results revealed that 37.7 % of the study sample were suffering from iodine deficiency

disorders. Iodization of salt is the preferred approach for supplementation. The present study was conducted to identify the effect of iodized salt on the colour, taste and consistency of traditionally prepared pickles. It was concluded that iodized salt has no effect on any of the sensory characteristics of traditionally prepared pickles.

Current nutritional status of mothers and children in Al Ain, United Arab Emirates

Dawson KP, Hughes P, Mpofu D and Patel M

East Mediterr Health J. 1996; 2(2):224–8

Forty-six mothers and children from the United Arab Emirates participated in a pilot study to determine possible micronutrient deficiencies in the country. Thirty-five per cent (35 %) of the children and 21 % of the mothers had low serum ferritin levels, while 30 % of the mothers had low serum 25-hydroxyvitamin D with 28 % of mothers having a low serum folate status. These deficiencies are widespread in the nationals of the United Arab Emirates. In view of the increasing importance of intrauterine and early infant nutrition, further investigation and a national study seem warranted.

Nutrition surveillance in the Sudan: a community-based approach

Ahmed AEM and Ahmed IAM

East Mediterr Health J. 1996; 2(2):229–35

In 1992, a pilot project for collecting information on the socioeconomic and nutritional status of children and their mothers as part of the early warning system was implemented in two villages in Kassala Province, Sudan. The objectives were to test the feasibility of local participation in socioeconomic and nutritional data collection, analysis and utilization; and to incorporate socioeconomic data into the food and nutrition information system, and examine its usefulness in early warning. The pilot project also included the introduction of new parameters such as adult anthropometry, i.e. body mass index of the mothers of the children seen, to monitor the nutritional status of

both children and their mothers at the same time. This led to very interesting results which played a major role in determining the type of intervention needed.

Progress towards elimination of IDD in the Islamic Republic of Iran A KAP survey of iodized salt consumption

Sheikholeslam R

East Mediterr Health J. 1996; 2(2):236–42

It has been recognized for a number of years that iodine deficiency disorders constitute a health problem in the Islamic Republic of Iran. A programme for the prevention of such disorders was established in 1989 and intensive efforts have been made to overcome obstacles hindering its implementation. This study investigates the difficulties encountered, common factors behind the prevalence of iodine deficiency, the progress made in combating it and the results of a nationwide campaign to raise awareness of the need to consume iodized salt. The final part of the study presents general conclusions and recommendations which may be of use to countries facing a similar problem in the field of health and nutrition.

Dietary management of surgical patients: effects on incisional wound healing

Elbanna HM, Tolba KG and Darwish OA

East Mediterr Health J. 1996; 2(2):243–54

A study of 38 patients was undertaken at the main University Hospital in Alexandria. The sample was divided into a control group and an experimental group. Findings show statistically significant differences between the two groups in the level of education, but no difference in blood picture, body mass index or nutritional status. There was a difference in the rate of wound healing in the two groups, and a relationship between the nutritional status and wound healing in the control group. Total hospital stays for the control group were longer than those for the experimental group. The nutritional status of surgical patients, as well as their food intake, should be evaluated at short intervals before and after surgery.

Underestimation of malnutrition among Pakistani infants weighed with clothes on

Faisal A and Ahmed T

East Mediterr Health J. 1996; 2(2):255–60

Many growth monitoring programmes at health facilities and in communities in Pakistan weigh children with their clothes on. The nutritional status of infants at the Rawalpindi General Hospital was estimated from weight without clothes on and showed that about 8% of malnourished children were being missed. This underestimation mostly affected children with grade II and grade III malnutrition. Generally, more boys have normal nutritional status than girls. Accordingly, weight with clothes on was found to underestimate the malnutrition status of girls more than that of boys. Children should be weighed without clothes on so as estimate their nutritional status and risk accurately.

Composition and nutritional value of traditional rural Iranian foods

Azar M and Aminpour A

East Mediterr Health J. 1996; 2(2):261–7

There are a limited number of studies available on the composition and nutritional value of traditional rural foods in the Islamic Republic of Iran. In this study, an attempt was made to collect information on these foods through a questionnaire by health workers in rural areas of northern, southern, eastern, western and central regions of the country. A total of 24 traditional rural foods and composite dishes were identified. *Eshkeneh-daneh* and *ab-baneh* contained high energy and protein contents among plant and mixed (plant and animal) foods, respectively. Their energy density and protein–energy ratio were very high. The calcium content was relatively high in *ab-baneh*, but the iron content rather low in both. Melon seed in *eshkeneh-daneh* and local nuts in *ab-baneh* were the main ingredients in these composite dishes.

Nutritional status survey of preschool children in Kuwait

Amine EK and Al-Awadi FA

East Mediterr Health J. 1996; 2(3):386–95

The nutritional status of 645 male and 635 female preschool children in Kuwait was assessed. Mothers were interviewed to collect data on socioeconomic variables. The length/height and body weight of the children were recorded and haemoglobin concentration was determined. The results show that 11.5% of the boys and 9.9% of the girls were stunted; the prevalence of wasting was fairly similar in both sexes (10.1%–10.9%). Obesity was more prevalent in girls (18.4%) than boys (16.1%). Anaemia was more prevalent in boys (32.9%) than girls (25.8%). Factors such as birth order, family income and mother's education and employment were found to affect the prevalence of undernutrition.

Maternal characteristics and infant and young child feeding in Benghazi

Balo NNM, Shembesh NM and Singh R

East Mediterr Health J. 1996; 2(3):432–9

Two hundred (200) mothers consecutively attending Al-Fateh Paediatric Hospital, Benghazi in 1992 were interviewed. The majority of women were under 30 years of age, had primary or no education, were housewives, had no experience of pregnancy wastage or child loss, used no contraception, had one to three living children, had information about breast-feeding from the mother-in-law, a relative or a neighbour, considered breast-feeding a natural way, nutritionally superior and hygienic, and practised mixed feeding. The reasons for introducing artificial feeding were maternal in 49.7% of cases, filial (related to the baby) in 36.5% and due to social pressure in 13.8%. Measures for successful breast-feeding are emphasized.

Iodine deficiency disorders among primary-school children in Kafr El-Sheikh, Egypt

El-Sayed NA, Gad ZM, Nofal LH, Ismail HM, El Sahn FF and Gad A

East Mediterr Health J. 1997; 3(1):29–37

The prevalence of iodine deficiency in primary-school children in Kafr El-Sheikh governorate was assessed. A total of 2250 primary-school children aged 8–10 years

were selected by a two-stage cluster sampling technique. The results revealed that the prevalence rate of goitre was 27.1% and it was significantly higher in females (29.2%) than males (25.1%). The median urinary iodine level was 6.7 µg/dl and 3.9 µg/dl for grade 1 and grade 2 goitre respectively. It was concluded that iodine deficiency is a public health problem of moderate severity in primary-school children in Kafr El-Sheikh governorate. This necessitates an intervention programme through salt iodization.

Breast-feeding and weaning patterns in Benghazi, Libyan Arab Jamahiriya

Shembesh NM, Balo NNM and Singh R
East Mediterr Health J. 1997; 3(2):251–7

An interview survey of 200 mothers attending the emergency service of Al-Fateh Paediatric Hospital, Benghazi, showed that prelacteal feed was given to 18.5% of babies and breast-feeding was ever initiated in 90.5%. After three months exclusive breast-feeding was continued in less than 30%, mixed feeding in 44%–71% and supplementary feeding (with and without breast-feeding) in 65%–97%. Locally consumed food like fruit juice, vegetables, cooked rice and cereals and boiled eggs in mashed form were used as supplementary foods. No association was revealed between the type of feeding and childhood episodes of any illness, including diarrhoea or acute respiratory infection. Measures for prolonged breast-feeding, substitute artificial feeding (when indicated) and supplementary feeding are suggested.

Recent trends in infant feeding patterns and weaning practices in Kuwait

Al-Awadi FA and Amine EK
East Mediterr Health J. 1997; 3(3):501–10

A multistage stratified sample of 782 mothers of infants under two years of age was taken to investigate infant feeding patterns and weaning practices. The rate of breast-feeding was 26.1% and that of bottle-feeding 41.9%. Breast-feeding was more common among late order children and those born to illiterate mothers. The mean duration of breast-feeding was 4.9 months and was longer among illiter-

ate mothers. Infants were weaned because of insufficient mother's milk, mother's desire and infant refusal of the breast. The results indicate that there has been a sharp decline in breast-feeding. The reasons for this are discussed and measures to reverse the trend are recommended.

Current status of breast-feeding in Alexandria governorate: a community-based study

Kamel NM, Ibrahim AG, Aref SR and Ziyoo FY
East Mediterr Health J. 1997; 3(3):511–8

This study was carried out to provide baseline data for various indicators measuring breast-feeding and bottle-feeding practices in Alexandria. In 1995, a total of 1080 children aged below 24 months, equally distributed among six age groups, were selected for a household 24-hour dietary survey. The findings indicated that only 42.2% of infants below 4 months were currently exclusively breast-fed, while 21.1% were predominantly breast-fed. Hence, the rate of breast-feeding was 63.3%. The prevalence rate of timely complementary feeding was 62.3%. Continued breast-feeding rate at 1 year was 64.4%, and at 2 years was 33.9%. The bottle-feeding rate (among infants less than 12 months) was 44.3%.

Dietary energy and protein requirements for Saudi Arabia: a methodological approach

Khan MA and Al-Kanhal MA
East Mediterr Health J. 1998; 4(1):68–75

Based on the available scientific information on human requirements, recommended dietary allowances of energy and protein for different age and sex groups of Saudis were estimated. The per capita requirements of energy and protein (NPU 0.8) at national level were calculated to be 2100 kcal per day and 53 g per day respectively. For men of reference body size 65 kg, the average recommended allowances are 2800 kcal per day and 65 g of protein per day. For women of reference body weight 56 kg, these are 2100 kcal per day and 56 g of protein per day. Additional recommended daily allowances for pregnant and lactating women are given. Pro-

tein–energy ratio percentage was calculated as 6%–12%. RDAs and reported energy and protein intakes are compared.

Feeding patterns in the first two years of life in Basra, Iraq

Benyamen YS and Hassan MK
East Mediterr Health J. 1998; 4(3):448–51

The feeding patterns of 694 children ranging from 12 to 24 months of age were studied. Approximately 91% were exclusively breastfed at 1 week of age with a further 4% receiving supplementary foods at this stage. At 1 year of age, 52% were receiving breast milk as the only source of milk and 13% were receiving infant formula in addition to breast milk. Inadequate breast milk was the most common reason reported by mothers for discontinuing breast-feeding. Of children receiving formula, 42.9% were receiving diluted formula. 70.9% of mothers introduced solid foods at 4 to 6 months of age while 5.8% did not introduce solid foods until after the age of 8 months.

Self-efficacy for dietary behaviour concerning heart disease among Alexandria school pupils

Mounir GM, Fatohy IM and Mahdy NH
East Mediterr Health J. 1998; 4(3):452–69

A study of 1134 preparatory-school pupils was conducted to measure children's self-efficacy for selecting healthy food for the heart, to examine the relationship between self-efficacy and self-reported usual food consumption and to estimate test-retest reliability. Results revealed an acceptable estimate of internal consistency of dietary self-efficacy (Cronbach alpha = 0.76). Over half the students exhibited a moderate level of self-efficacy and 42% a high level. Test-retest reliability of the scale was good ($r = 0.65$, Cronbach alpha = 0.79). Usual food choice was the first best predictor of dietary self-efficacy ($r = 0.44$), followed by sex (boys had higher self-efficacy than girls) and then knowledge ($r = 0.37$). The three factors contributed to explain 25% of the variance.

Food consumption pattern in the Islamic Republic of Iran and its relation to coronary heart disease

Kimiagar SM, Ghaffarpour M, Houshiar-Rad A, Hormozdyari H and Zellipour L
East Mediterr Health J. 1998; 4(3):539–47

A study was conducted to determine and evaluate the Iranian food consumption pattern in relation to coronary heart disease and dietetic risk factors. Nationwide data collected in our recent surveys were analysed. The findings reveal plant foods to be the basis of the Iranian diet. Of the total energy intake, 66% and 22% came from carbohydrates and fats respectively. The share of fat from different food groups was: meat and eggs 22%, dairy products 10%, fats and oils 58%. The percentage of saturated, monounsaturated and polyunsaturated fatty acids was 11.3%, 6.8% and 2.1% of the total energy intake respectively. Although the general food pattern of the population falls within the accepted ranges, the trend in the past 30 years reveals a twofold increase in fat intake.

Infant-feeding practices in Al-Ain, United Arab Emirates

Osman NA and El-Sabban FF
East Mediterr Health J. 1999; 5(1):103–10

A survey was conducted to study the practices of infant-feeding and the influencing factors in Al-Ain, United Arab Emirates. It involved 375 mothers of different nationalities and backgrounds and 300 healthy infants. The mothers were interviewed at four primary health care clinics in Al-Ain. Results showed that 46% of infants were breastfed for 4–6 months. The mother's nationality and her educational status were significant influences on the mother's decision to exclusively breast-feed the infant, for how long and when to introduce supplementary food. Fresh cow and goat milk were the most common supplements. Inclusion of baby formula as a supplement generally occurred early, perhaps because of advertising and the affluence in Al-Ain.

Long-term administration of vitamin A and the process of spermatogenesis

Sadek IA and Abdul-Mohsen MH
East Mediterr Health J. 1999; 5(1):123–9

The effect of retinoids on spermatogenesis in adult male gerbils (*Gerbillus cheesemani*) was studied using light and electron microscopy. Treatment with either 13-cis-retinoic acid or retinol acetate was given for 6 weeks and their effects were compared with controls. It was found that 13-cis-retinoic acid induced almost complete cessation of spermatogenesis and produced alterations in the cytoplasm of Leydig cells. No differences were seen in the testis of animals treated with retinol acetate compared with controls using light microscopy but it appeared to produce noticeable ultrastructural changes in Leydig cells. The changes observed were reversed 12 weeks after stopping treatment. Caution should be exercised regarding the use of dietary retinoids in the prevention of cancer.

Iron status of Libyan infants with urinary tract infection

El-Foghy Z, Sagher F and Al-Agili S
East Mediterr Health J. 1999; 5(2):344–9

Serum iron, serum total iron binding capacity and transferrin saturation levels were measured in 45 infants, of whom 19 had urinary tract infections confirmed by positive suprapubic aspiration. The control group comprised 26 healthy infants with negative results. Mean serum iron and transferrin saturation values were significantly lower in infants with urinary tract infection compared with the control group ($P < 0.01$ and $P < 0.001$ respectively), especially if the cultured organism was *Escherichia coli* ($P < 0.01$, $P < 0.02$). Total iron binding capacity was within the normal range. We conclude that iron deficiency is not a major factor in the etiopathogenesis of urinary tract infection in Libyan infants.

Eating disorders: a transcultural perspective

Shuriquie N
East Mediterr Health J. 1999; 5(2):354–60

It is plausible that eating disorders have a sociocultural cause. They are classically perceived as western culture-bound syndromes associated with culture-driven factors, such as unrealistic expectations of slenderness and attractiveness, changes in the role of

women, and social standards and attitudes towards obesity. The drive to be thin is not universal. In many non-Western countries plumpness has traditionally been considered attractive and associated with fertility and caring. While many non-Western societies show a positive relationship between increased body weight and higher social class, the opposite relationship is found in Western societies. This paper examines differences in cultural perceptions of body weight and its effect on eating disorders.

Maternal smoking and breastfeeding

Najdawi F and Faouri M
East Mediterr Health J. 1999; 5(3):450–6

A 2-month study was undertaken to investigate the effects of maternal smoking on breastfeeding. A total of 500 mothers were interviewed twice postpartum and information about maternal smoking and sociodemographic factors was collected. After adjustment for maternal smoking and other confounders, results suggested that smoking had a direct effect on breastfeeding. The prevalence of breastfeeding reduced significantly among smokers but there was no significant reduction among non-smokers. Education and social class were related positively to continued breastfeeding but negatively to smoking. Because breastfeeding decreased with smoking, smoking should be discouraged, particularly in developing countries where breastfeeding constitutes an essential child survival measure.

Prevalence of xerophthalmia among children in Beheira governorate, Egypt

Curtale F, Tammam H, Hammoud ES and Aloi A
East Mediterr Health J. 1999; 5(5):984–91

A survey was conducted on a sample representative of the entire Beheira governorate to identify high-risk areas of vitamin A deficiency (VAD) and assess xerophthalmia prevalence. The study also tested the reliability of a household cluster survey for assessing xerophthalmia prevalence. A trained ophthalmologist examined 10 664 children. The results showed that VAD was present in

the region, but did not appear to be a public health problem. Ocular signs of VAD were more prevalent among older children, suggesting an improvement in socioeconomic conditions and health care over the past few years. The household cluster survey appeared to be a reliable method for assessing xerophthalmia prevalence in the region.

Community-based nutritional intervention for reducing malnutrition among children under 5 years of age in the Islamic Republic of Iran

Malekafzali H, Abdollahi Z, Mafi A and Naghavi M

East Mediterr Health J. 2000; 6(2/3):238–45

A project was conducted in a rural area in September 1994 with the aim of decreasing the incidence of protein-energy malnutrition among children under 5 years, by nutritional intervention through the primary health care system. An initial situation analysis revealed the region's resources and causes of malnutrition. Practical instruction on feeding methods, deworming, environmental sanitation, the promotion of home-grown vegetables and reinforcement of the growth monitoring programme were chosen as the routes for intervention. All indices were reassessed in the region after 1 year. Results showed that nutritional awareness had grown among mothers, and that the incidence of malnutrition had dropped from 6.5% to 1.8%, as measured against the weight-for-height index.

Prevalence of overweight and obesity in diabetic and non-diabetic Saudis

El-Hazmi MAF and Warsy AS

East Mediterr Health J. 2000; 6(2/3):276–82

A total of 14 660 individuals were included in the study. A fasting blood sample and 2-hour post-glucose load blood sample from each participant were analysed for blood sugar. Participants were classified as diabetic or non-diabetic and as either obese (BMI >30 kg/m²), overweight (BMI 25–29.9 kg/m²) or normal (BMI < 25 kg/m²). The prevalence of obesity was calculated in the total sample and separately for diabetic and non-diabetic

males and females. The results showed obesity and overweight in 13.05% and 27.23% of males and 20.26% and 25.20% of females respectively. The prevalence of both obesity and overweight were significantly higher among diabetics than non-diabetics. In each province, diabetics had a significantly higher prevalence of obesity than non-diabetics. Several interprovincial variations were seen. Public education on obesity and overweight and ways to decrease them are recommended in Saudi Arabia.

[The relation between protein-energy malnutrition and gingival status in children] [Article in Arabic]

Dashash MA

East Mediterr Health J. 2000; 6(2/3):507–10

[The purpose of this study was to investigate the relation between protein-energy malnutrition and gingivitis in children in Damascus and its suburbs. For this purpose we used a random sample of 840 male and female children aged 6-12 years. Their gums were examined. The bleeding indexes were recorded for both primary and permanent teeth. Anthropometric measures were taken: Weight for age, Height for age and Weight for Height. We found that gingivitis increased among low weight children (44%) compared to normal children (31%). It was more severe in low-height children in comparison to others. These findings necessitate the promotion of preventive care in order to insure gingival hygiene, particularly by following a balanced diet.]

Anaemia among young male workers in Alexandria, Egypt

Curtale F, Abdel-Fattah M, El-Shazly M, Shamy MY and El-Sahn F

East Mediterr Health J. 2000; 6(5/6):1005–16

In a cross-sectional survey, we investigated exposure to and the presence of factors associated with anaemia, such as socioeconomic conditions, dietary habits, intestinal parasitic infections and lead among 355 young male workers (7–19 years of age) employed in private workshops. Of the total study sample, 44.5% (158 participants) were found to be anaemic. The major risk factors for anaemia

were multiple parasitic infection, high intensity of parasitic (*Ascaris lumbricoides*) infection and drinking tea soon after a meal. A significantly lower prevalence of anaemia was noted after Ramadan; it appeared to be the main factor associated with the presence or absence of anaemia and warrants further attention.

Anaemia among Egyptian adolescents: prevalence and determinants

El-Sahn F, Sallam S, Mandil A and Galal O
East Mediterr Health J. 2000; 6(5/6):1017–25

We aimed to estimate the nationwide prevalence of anaemia among adolescents in Egypt and to study possible risk factors. A cross-sectional approach was used. Blood samples were collected from 1980 adolescents for haemoglobin estimation. The overall prevalence of anaemia was 46.6%, most of which was mild or moderate, with severe cases in less than 1.0% of the sample. Gender difference was almost nonexistent. A significant inverse relationship was observed between the level of anaemia and age (especially among boys), socioeconomic level and educational level. Anaemia was more prevalent in rural areas and in Upper (southern) Egypt. Anaemia is a major public health problem among Egyptian adolescents and wide-scale public health education is warranted.

Nutritional status of Yemeni schoolchildren in Al-Mahweet Governorate

Raja'a YA, Sulaiman SM, Elkarib SA and Mubarak JS
East Mediterr Health J. 2001; 7(1/2):204–10

The nutritional status of 948 children selected randomly from Al-Mahweet Governorate schools was investigated. Age range was 5–18 years with a mean of 10.6 ± 2.8 years. Among the children, 3.4% had depleted iron and 43.4% had below average skin-fold thickness. Approximately half of the children were either stunted or chronically underweight and 1 child in 20 was underfed. Depleted fat stores affected two-fifths of the children and approximately one-fifth were anaemic. Urban residents scored significantly higher on

nutritional parameters than rural children. Serum ferritin levels were significantly greater among males than females whereas mean height-for-age, weight-for-age and skin-fold thickness were lower.

National study on the prevalence of iodine deficiency disorders among schoolchildren 8–12 years of age in Bahrain

Moosa K, Abdul Wahab AW, Al-Sayyad J and Baig BZ
East Mediterr Health J. 2001; 7(4/5):609–16

A cross-sectional survey of primary-school children in Bahrain was conducted to estimate the prevalence of goitre and iodine deficiency according to age, sex and area of residence. During January–May 1999, 1600 children were randomly chosen from all government schools. Children were examined for goitre and of those, 50% were randomly selected for urinary iodine level assessment. Only 26 children (1.7%) had goitre. Although median urinary iodine was above 100 microg/L, 121 of 749 children (16.2%) had low urinary iodine levels. Although iodine deficiency does not pose a significant public health problem in Bahrain, education about the nutritional value of iodized salts in the prevention of this disorder could increase public awareness.

Iron status and socioeconomic determinants of the quantity and quality of dietary iron in a group of rural Iranian women

Djazayery A, Keshavarz A, Ansari F and Mahmoudi M
East Mediterr Health J. 2001; 7(4/5):652–7

Iron intake and status were investigated in 471 mothers (age range: 16–53 years) from rural areas in Khorramabad, Islamic Republic of Iran. Although average total iron intake was acceptable, only 6.4% of women derived at least 4% of their total intake from animal iron. Average energy and protein intakes were inadequate. Low iron status was seen in 8.2%–28.7%, depending on the parameter used, with 28.3% experiencing iron-deficiency anaemia. Significantly higher animal iron intakes were found in literate or employed

women, or those of family size fewer than six people. Increasing employment opportunities, income levels and literacy rates for women will result in better iron intake and status and should receive particular attention in national planning.

Incidence and determinants of low birth weight in Syrian government hospitals

Wannous S and Arous S

East Mediterr Health J. 2001; 7(6):966–74

The incidence and determinants of low birth weight were studied in a stratified sample of 10 585 deliveries at 18 Syrian government hospitals. For each low-birth-weight baby born, two normal-birth-weight babies were recruited as a comparison group. A questionnaire was given to mothers and clinical examinations were performed on the neonates. The incidence of low birth weight was 6.6%. It varied according to geographic region and hospital. The study confirmed that low birth weight could be the result of prematurity. Factors amenable to intervention, such as birth interval, maternal nutrition, maternal weight and smoking, appeared to have a role in low birth weight.

Nutritional status of Libyan children in 2000 compared with 1979

Hameida J and Billot L

East Mediterr Health J. 2002; 8(2/3):261–71

This cross-sectional study examined the growth and nutritional status of Libyan pre-school children and the socioeconomic status of their parents in 2000 and compared the results with those of a similar study conducted in 1979. The investigation involved 1614 healthy children of both sexes under 5 years of age in two regions of the Libyan Arab Jamahiriya. Simple random sampling and cluster sampling techniques were used to enlist participants. Body weight, height, and head and arm circumference of the children were recorded and mothers were interviewed about their child's health and the socioeconomic status of the family. Significant improvements in nutritional status since 1979 were found that could be attributable to factors such as socioeconomic development, longer breastfeeding,

greater availability of high energy foods, supplementation with semi-solid or solid foods and heavy government subsidy of basic foods.

Nutritional stunting in Egypt: which nutrient is responsible?

Ibrahim SA, Abdel-Maksoud A and Nassar MF

East Mediterr Health J. 2002; 8(2/3):272–80

We looked at the relationship between linear growth retardation and deficiencies of certain nutrients in Egyptian children. A group of 107 stunted children aged between 10 and 18 years were subjected to history-taking, physical examination and laboratory investigations. Selected cases were referred to radiology for assessment of bone age. Thirty-nine children were enrolled as controls. Serum haemoglobin, alpha-tocopherol, retinol and magnesium levels were significantly decreased in stunted children compared with the controls. Serum zinc levels were also lower in the stunted group but not significantly so. We conclude that several nutrient deficiencies occur simultaneously in stunted children and all of them may be responsible for stunting.

Evaluation of erythropoiesis in protein energy malnutrition

El-Nawawy A, Barakat S, Elwalily T, Abdel-Moneim Deghady A and Hussein M

East Mediterr Health J. 2002; 8(2/3):281–9

This study evaluated erythropoiesis in 50 infants hospitalized with protein energy malnutrition and in 50 control infants. The red cell count, mean corpuscular haemoglobin and reticulocyte index were significantly lower, while the white blood cell count, median corpuscular fragility and red cell distribution width were significantly higher on admission than in controls. Total serum protein, albumin, fasting blood glucose, and serum folate were significantly lower on admission than in controls. Serum ferritin was significantly higher and total iron-binding capacity was significantly lower on discharge compared to controls. The serum erythropoietin was significantly higher on admission and dis-

charge than in controls. The anaemia of protein energy malnutrition is due to mixed deficiencies resulting in ineffective erythropoiesis despite an increased level of erythropoietin.

Impact of nutritional rehabilitation on enzymatic antioxidant levels in protein energy malnutrition

Shaaban SY, Nassar MF, Ibrahim SA and Mahmoud SE

East Mediterr Health J. 2002; 8(2/3):290–7

To assess the role of enzymatic antioxidants in the pathogenesis of protein energy malnutrition (PEM) and the effect of nutritional rehabilitation, we studied 30 infants with PEM (mean age 10.63 +/- 4.39 months: 10 marasmic; 8 with kwashiorkor; 12 with marasmic kwashiorkor) and 15 controls. All underwent clinical examination and laboratory investigations, including superoxide dismutase (SOD) and glutathione peroxidase (GPx) estimation before and after nutrition rehabilitation. SOD and GPx were significantly lower in all malnourished infants compared to controls, and significantly increased after nutritional rehabilitation. These significant correlations suggest that antioxidants could be introduced during PEM nutritional rehabilitation to decrease morbidity and mortality.

Suitability of soluble transferrin receptor for the clinical diagnosis of different types of anaemia in children

Ragab L, Ibrahim HA, Eid AS, Kotb T and Konsowa MF

East Mediterr Health J. 2002; 8(2/3):298–307

We evaluated the ability of serum transferrin receptor (sTFR) to identify different types of anaemia in children. Thus 150 Egyptian children suffering from anaemia (iron deficiency anaemia, anaemia of chronic disease and beta-thalassaemia) were enrolled, together with 50 controls. There was a significant increase in the mean levels of sTFR in the groups with iron deficiency anaemia and thalassaemia, and a significant decrease in mean sTFR levels in the group with anaemia of chronic disease. Serum ferritin levels were significantly higher in all patient groups ex-

cept the group with iron deficiency anaemia. There were also significant correlations between the sTFR and sTFR/log ferritin ratio (sTFR-F index) and different indices of iron status and of erythropoiesis. The sTFR-F index could be used as a diagnostic or screening tool for iron deficiency anaemia, anaemia of chronic disease and thalassaemia.

Growth of preschool children in the Libyan Arab Jamahiriya: regional and sociodemographic differences

Hameida J, Billot L and Deschamps JP

East Mediterr Health J. 2002; 8(4/5):458–69

This cross-sectional study was performed in two regions of the Libyan Arab Jamahiriya. The aim was to study the growth and nutritional status of children under 5 years of age and the effect of socioeconomic factors on child development. Anthropometric indices (weight-for-age, height-for-age and weight-for-height) differed in the two regions. The prevalence of stunting was significantly higher among children from mainly rural Al Jabel Al Garby (6.1%) than those from urban Tripoli (2.5%). The z-scores that correlated strongly with under-nutrition included: mother's education, child's age and sex, and region. Stunting was significantly related to age and region and to maternal education level and family size. Wasting was highly correlated with maternal education

Overweight and obesity among Saudi Arabian children and adolescents between 1994 and 2000

Abalkhail B

East Mediterr Health J. 2002; 8(4/5):470–9

Overweight and obesity trends were investigated for schoolchildren and adolescents in Jeddah using data from 1994 and 2000. Individuals aged 10-20 years were selected using multistage stratified random sampling and direct measurements were made of body weight and height. Percentiles were calculated for body mass index (BMI), body weight and height for specific age and sex strata. For both sexes, BMI increased between 1994 and 2000 at the 50th percentile but higher still at

the 85th and 95th percentiles. The increase in body weight and BMI were marked for all age groups; however boys showed the largest increase aged 10–16 years, whereas girls showed the lowest at 14–16 years. Public health intervention is crucial to prevent or reduce overweight and obesity among youth.

Antioxidant micronutrients in children with thalassaemia in Egypt

Nasr MR, Ali S, Shaker M and Elgabry E
East Mediterr Health J. 2002; 8(4/5):490–5

Repeated blood transfusions in patients with thalassaemia subject them to peroxidative tissue injury by secondary iron overload. To study the relationship between iron overload and antioxidant micronutrient status among children with thalassaemia, we measured serum levels of vitamins A and E, zinc, selenium, and copper in 64 children with beta-thalassaemia major and 63 age- and sex-matched controls. All of these elements were significantly lower in the thalassaemic children compared with controls. There was a highly significant inverse correlation between serum ferritin and serum retinol levels, and significant inverse correlations between serum iron and retinol and between serum iron and selenium. Serum ferritin showed a significant positive correlation with duration of chelation and transfusion treatments. Ways are needed to counteract this oxidative damage and its deleterious effect on the prognosis of thalassaemia.

Xerophthalmia among hospitalized Iraqi children

Al-Kubaisy W, Al-Rubaiy MG and Nassief HA
East Mediterr Health J. 2002; 8(4/5):496–502

To determine the impact of sanctions on the nutritional status of Iraqi children aged < 6 years, a random sample of 700 patients (age range: 0–6 years) from the Saddam Paediatric Hospital, Diyala Province, Iraq were examined ophthalmologically for evidence of xerophthalmia. Data on the history of infection, feeding and night blindness were also collected. The prevalence of xerophthalmia was 29%, mostly among children aged 1–3 years. Xerophthalmia was significantly inversely as-

sociated with breastfeeding and highly associated with common childhood infections such as measles, diarrhoea and respiratory tract infection. Xerophthalmia is a common problem among sick Iraqi children. Efforts to identify, evaluate and monitor vitamin A deficiency and to advocate and plan its eradication should be implemented.

Primary prevention of acute coronary events through the adoption of a Mediterranean-style diet

Panagiotakos DB, Pitsavos C, Chrysohoou C, Stefanadis C and Toutouzas P
East Mediterr Health J. 2002; 8(4/5):593–602

We evaluated the role of a Mediterranean-style diet in preventing acute coronary syndromes (ACS). Data from CARDIO2000, a multi-centre retrospective case-control study investigating the association between ACS and demographic, nutritional, lifestyle and medical risk factors were used. We studied 661 patients hospitalized for a first ACS event and 661 matched controls without clinical suspicion of cardiovascular disease. The Mediterranean diet significantly reduced (by 16%) the risk of developing ACS. The association remained significant in the presence of hypertension, hypercholesterolaemia, sedentary lifestyle, diabetes mellitus or a combination of two of these cardiovascular risk factors. Our findings illustrate the importance of the Mediterranean diet in the primary prevention of acute coronary events.

[Food intake, and anthropometrical and biological parameters in adult Tunisians during fasting at Ramadan] [Article in French]

Beltaifa L, Bouguerra R, Ben Slama C, Jabrane H, El-Khadhi A, Ben Rayana MC and Doghri T
East Mediterr Health J. 2002; 8(4/5):603–11

[We evaluated the effects of fasting during Ramadan on nutritional intake and plasma lipoproteins in 20 healthy adults of normal weight. A 5-day food questionnaire was completed for every participant. Clinical investigations, anthropometrical measurements and laboratory analysis were also undertaken.

Body weight, blood pressure and blood glucose were not influenced by fasting but there were non-significant modifications in the plasma lipid fractions. The total cholesterol remained unchanged. Total daily energy intake was comparable before, during and after Ramadan despite the decrease in meal frequency during fasting. Thus fasting in Ramadan did not affect dietary intake, clinical, anthropometrical and most biological parameters.]

Mid upper arm and calf circumferences as indicators of nutritional status in women of reproductive age

Khadivzadeh T

East Mediterr Health J. 2002; 8(4/5):612–8

Mid upper arm circumference (MUAC) is recognized as an effective means of screening for poor nutritional status in adults. The efficacy of calf circumference (CC) as a screening tool, however, is not well reported. We studied 2000 healthy women (age range: 15–49 years) in Mashed, Islamic Republic of Iran, to assess anthropometric measurements at reproductive age and the usefulness of MUAC and CC for estimating body mass index (BMI) and screening of women at nutritional risk. We found a strong correlation between MUAC and CC with weight and BMI, suggesting that MUAC and CC can be used to estimate BMI and detect nutritional disorders.

Prevalence of iodine deficiency disorders in the United Arab Emirates measured by raised TSH levels

Al-Hosani H, Osman H, Abdel Wareth L, Saade1 D and Salah M

East Mediterr Health J. 2003; 9(1/2):123–30

The United Arab Emirates National Screening Programme for Congenital Hypothyroidism was established in January 1998. The programme measures neonatal thyroid-stimulating hormone (TSH) levels of blood samples collected on filter paper on day 5 by heel prick. The prevalence of raised TSH levels (>5 mU/mL whole blood) during 1998 and 1999 was used to evaluate the degree of iodine-deficiency disorders (IDD) in the population in different regions. The ratio of TSH

profile in the present study and goitre rate in schools in a 1994 study were discrepant, although there was good correlation between the ratio of TSH profile and urinary iodine. The prevalence of raised TSH levels was < 3% in the Emirates overall, which is normal, and IDD varied from mild to normal problems in different regions.

Determination of cadmium, lead, copper and zinc in Yemeni khat by anodic stripping voltammetry

Matloob MH

East Mediterr Health J. 2003; 9(1/2):28–36.

Trace element concentrations in khat were investigated as they can disturb trace element levels in the body. Cadmium (Cd), lead (Pb), copper (Cu) and zinc (Zn) levels in khat and 6 leafy vegetables commonly consumed in the Republic of Yemen were determined by differential pulse anodic stripping voltammetry after wet digestion of the organic matter. Khat had significantly higher concentrations of Cu and Zn than did the leafy vegetables, but similar amounts of Cd and Pb. The average daily intake of khat consumers of Cd, Pb, Cu and Zn from khat only was estimated to be 2.0–10.2 microg/day, 23.6–118.0 microg/day, 530–2654 microg/day and 662–3311 microg/day respectively. Although high, these values were within Food and Agriculture Organization/World Health Organization tolerance limits.

[Food intake during and outside Ramadan]

[Article in French]

Gharbi M, Akrouf M and Zouari B

East Mediterr Health J. 2003; 9(1/2):131–40.

[We explored the effect of fasting in the month of Ramadan on the dietary pattern of a group of 130 healthy adults. During Ramadan, there was an increase in total energy intake, as a result of protein and lipid intake but not carbohydrate intake compared to the diet throughout the rest of the year, in both students and parents. The meal eaten after sunset was an important contributor to calories (65%), lipids (74%), proteins (71%) and carbohydrates (56%). These findings show the eating behaviour during Ramadan may contribute to

improved nutritional status of people at risk of nutritional deficiency.]

Effect of natural starters used for sourdough bread in Morocco on phytate biodegradation

Chaoui A, Faid M and Belhcen R
East Mediterr Health J. 2003; 9(1/2):141–7.

Phytase activity was studied in natural sourdough bread starters to determine physico-chemical characteristics (phytic acid hydrolysis, dough rising capacity and pH) in the flour and during sourdough fermentation. Fermentation microorganisms (yeasts and lactic acid bacteria) were also characterized. Results showed a decrease of phytic acid in sourdoughs started with traditional starters, and wide variation in phytase activity. Microorganism counts were high at the end of fermentation, indicating higher fermenting activity of the starters. Yeast populations showed wide variation and lactic acid bacteria had high counts in the fermentation. Phytase activity was demonstrated in starter cultures made of lactic acid bacteria and yeast isolates, the most interesting of which were *Saccharomyces cerevisiae* combined with *Lactobacillus plantarum* and *Leuconostoc mesenteroides*.

Breastfeeding indicators in Dakahlia Governorate

El-Gilany A-H
East Mediterr Health J. 2003; 9(5/6):961–73

This study was carried out in Dakahlia Governorate to assess current breastfeeding practices using the standardized breastfeeding indicators developed by the World Health Organization and to highlight the impact of some socioeconomic and maternal factors on these indicators. An interview was carried out with mothers of 1200 infants and children < 24 months during a poliomyelitis immunization campaign in urban and rural areas. The findings indicate that 84.6% of infants aged 0–4 months are fully breastfed, with 42.5% and 42.1% of them exclusively and predominantly breastfed respectively. Rural infants are more likely to be exclusively breastfed, to continue breastfeeding for 1 year and to initiate breastfeeding early. Non-working mothers are

more likely to breastfeed exclusively and more likely to continue breastfeeding for 1 year.

Influence of mothers' characteristics on their perceptions and use of the growth chart

Al-Nahedh N and Bamgboye EA
East Mediterr Health J. 2003; 9(5/6):974–80

Although growth charts are recommended for monitoring children, recent reports indicate poor use by mothers. We investigated maternal knowledge and perceptions of growth charts and identified characteristics affecting use. At outpatient paediatric clinics of a Riyadh hospital, 305 mothers with children under age 5 were interviewed by questionnaire during May–June 2001. Overall awareness of growth charts was 35.8% and ever-use was 8.6%. Education, parity and number of living children were significantly associated with knowledge. Among mothers who ever used growth charts (8.7%), only 10% reported doctors recommended changes in health care because of them. Overall, 71% wanted to monitor their child's growth, but 20% did not know how. Increased health education in all health care delivery systems is needed.

[Cortisol rhythm during Ramadan] [Article in French]

Ben Salem L, B'chir S, Bchir F, Bouguerra R and Ben Slama C
East Mediterr Health J. 2003; 9(5/6):1093–8

[We studied the nyctohemeral cortisol secretion rhythm and the cortisol response to 1-24 corticotropin during Ramadan in 11 healthy, male volunteers aged 20–35 years. Their response to 250 mg 1-24 corticotropin was investigated 2 weeks before Ramadan by testing daily at 08:00 and 20:00 hours. After 16–22 days of fasting, their cortisol levels were measured at 08:00 hours and their response to 1-24 corticotropin at 20:00 hours. Before Ramadan, the baseline cortisol level was significantly higher at 08:00 hours than at 20:00 hours and the cortisol response to 1-24 corticotropin was also higher at 08:00 hours but this difference was not significant. During

Ramadan, the cortisol level at 08:00 hours was lower than at the same time before Ramadan; the level at 20:00 hours was slightly higher than at the same time before Ramadan. There was no significant difference between the cortisol response to 1-24 corticotropin at 20:00 hours during Ramadan and the responses before Ramadan at 20:00 hours and 08:00 hours.

[Metabolic effects of Ramadan fasting on type 2 diabetes] [Article in French]

Bouguerra R, Belkadhi A, Jabrane J, Hamzaoui J, Maâtki C, Ben Rayana MC and Ben Slama C
East Mediterr Health J. 2003; 9(5/6):1099–1113

[We assessed the effects of Ramadan fasting on metabolic control, particularly change of

HDLcholesterol in 25 type 2 diabetic patients treated with diet or oral agents, with good metabolic control. Clinical and biochemical parameters and food intake were evaluated 3 weeks before Ramadan, in the fourth week of Ramadan and 3 weeks after Ramadan. There were no changes in body weight and blood pressure nor any metabolic complications. The mean plasma fasting glucose, serum fructosamin and haemoglobin A1c did not change. We found a negative relation between cholesterol intake during Ramadan and the change of HDLcholesterol. When cholesterol intake was lower than 400 mg/day, plasma HDL-cholesterol increased by 13% at the end of Ramadan and by 23% 3 weeks after Ramadan.]

Note from the Editor

We would like to inform our readers that as of Volume 11 the *Guidelines for Authors*, which are published at the back of each issue of the journal in English and Arabic, will also be published in French as of Vol. 11.

We wish to remind our potential authors of the importance of applying the editorial requirements of the EMHJ when preparing their manuscripts for submission for publication. We regret that we are unable to accept papers that do not conform to the editorial requirements.