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We have demonstrated a high rate of post-prandial gastrointestinal disorders (27%) in 1 005 building workers. These are more frequent in warmed-up mess tin users than in thermos flask (bottle) users ($p < 0.001$). The microbiological quality of meals is however more satisfying in warmed-up mess tins ($p < 0.01$). We therefore looked for dietary factors to explain this difference.

A 24 h dietary recall was produced from 30 randomly chosen workers (15 mess-tin users and 15 bottle users). The daily caloric nutrient intake was 3 408 ± 1113 kcal/d (38% of lipids, 17% of proteins, 45% of carbohydrates). The midday meal accounted for 1 069 ± 358 kcal (29% of lipids, 22% of proteins, 49% of carbohydrates). The daily alcohol intake was of 218 ± 221 kcal/d (32 g/d), which was 6% of the total caloric intake. It was 92 ± 138 kcal of the midday meal (8% of total caloric intake). There was no difference between the mess-tin group and the bottle group concerning calories, lipids, proteins, carbohydrates, or alcoholic intake (in absolute value or percent of calories), neither during the day nor at the midday meal. The recall revealed a significant difference ($p < 0.05$) concerning fats which were added (to the sauce) at the midday meal. These were twice as high in mess-tin users than in bottle users. Moreover, there was a significant correlation ($p < 0.05$) between the added fats and the alcohol consumption at noon.

Although there was no difference between the 2 groups concerning nutrient intakes, there was a greater amount of added fats to the meal of the warmed-up-mess-tin users, and a correlation existed between the added fats and alcohol consumption. This may explain, in part, the greater rate of post-prandial gastrointestinal disorders in this group of building trade workers.

Dietary habits in 102 young underprivileged women. S Beun, JM Lecerf, D Isorez, C Fressin, G Zylberberg *(Institut Pasteur de Lille, service de nutrition et centre d'examen de santé, 1, rue du Professeur-Calmette, 59019 Lille cedex, France)*

More and more people are living precariously from the social and professional points of view. They are confronted with economic difficulties which negatively affect their dietary habits. This fact and other behaviour can increase morbidity. It seems important to have a better knowledge concerning these dietary habits, in order to carry out a nutrition education programme.

A food frequency questionnaire about actual consumption for most foods was filled in between March and November 1993 during a check-up in the Centre d'examens de santé de l'Institut Pasteur de Lille of 102 women aged 16–25 years (79% of French descent, 21% North African), admitted during a period of social and professional training in Nord-Pas-de-Calais.

An analysis of the responses revealed that 21.5% have a body mass index > 25; 55.4% are smokers; 25% never have breakfast; 51.9% do not eat breakfast more than 4 times a week; 38.3% do not eat a noon meal more than once a week; 33.3% do not eat an evening meal more than once a week; 88.2% pick at food between meals; 27.5% have already been on a diet; 54.5% take sweet drinks several times a day; 27% never eat soup; 36.6% never eat fish; 46% eat cooked vegetables/raw vegetables/fruits less than once a day; 39% eat cheese/dairy products less than once a day; 57.4% eat fried potatoes more than twice a week and 17.9% potatoe chips. Only 30.7% eat bread more than twice a day and 51.5% do not eat legumes. Of those who have already

been on a diet, 82.1% eat vegetables less than once a day. Of those who smoke, 62.5% eat fruit less than once a day. All the women who have a body mass index > 25 eat vegetables less than once a day and 45.5% do not have breakfast. Among those who do not have breakfast, 83.8% eat vegetables less than once a day. The group of women from North Africa was too small for statistical analysis.

In conclusion, the dietary habits of these underprivileged women are characterized by disturbances of their dietary rhythms and dietary balance. Bad eating habits are more common among those who smoke, have already followed a diet or are overweight.

Effects of nutrition education on magnesium intake during pregnancy. JM Lecerf [1], C Pavy [2], M Delcroix [2] *([1] Institut Pasteur de Lille, service de nutrition, 1, rue du Professeur-Calmette, 59019 Lille cedex; [2] Hôpital Saint-Philibert, 59160 Lomme, France)*

Magnesium deficiency during pregnancy can be induced by an inadequate intake and can have some maternal or fetal outcomes. It was decided to assess the magnesium intake of pregnant women and to increase this amount through nutrition education.

A group of 30 randomly selected pregnant French women in their second trimester of pregnancy were given a dietary inquiry on a week-day and on a week-end-day (24 h recall) and a food frequency questionnaire about magnesium-rich foods, in order to evaluate their initial magnesium intakes. Advice and information were given simultaneously about magnesium in the diet. Three weeks later a new dietary intake questionnaire was given on 2 d. A third and second food frequency record were given 3 weeks later at 6 weeks.

The mean magnesium intake was initially (Q1) 280 ± 93 mg/d (recommended dietary allowances 480 mg/d). Three weeks after having received the nutritional advice the mean magnesium intake (Q2) was 325 ± 88 mg/d and at 6 weeks (Q3) it was 317 ± 102 mg/d. The difference was significant between Q1 and Q2 ($p < 0.01$) and Q1 and Q3 ($p < 0.05$) but there was no difference between Q2 and Q3. Simultaneously the caloric intake did not increase significantly, the carbohydrate intake increased and the lipid intake decreased. At 3 weeks, 21 women increased their magnesium consumption and 20 at 6 weeks. Among those who increased their magnesium consumption, the mean intake increased from 256 ± 79 mg/d to 340 ± 92 mg/d and then to 361 ± 105 mg/d. The food frequency record for the whole group of women revealed that 21 increased their intake of cooked vegetables, 15 raw vegetables and 19 bread. A greater number ate legumes, wholemeal bread, and fewer boiled foods.

In conclusion, the magnesium intake of the investigated pregnant women was insufficient and increased significantly after they received a nutrition education. It remained, however, lower than recommended dietary allowances.

DIET AND DIGESTION

Characterization of dietary fat emulsification in the digestive tract of healthy human subjects. M Armand [1], P Borel [1], C Dubois [1], M Senft [1], J Peyrot [2], J Salducci [2], H Lafont [1], D Lairon [1] *([1] Unité 130-INSERM, 18, avenue Mozart, 13009 Marseille; [2] CHU Nord, service d'hépato-gastro-entérologie, 13015 Marseille, France)*

Fat emulsification plays a key role in dietary fat digestion by creating a lipid–water interface and thus allowing an interaction between soluble lipases and insoluble fat.