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Abstracts of Original Communications

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Catering for elderly hospital patients: a study of food choice in hip-fracture patients and the selection of suitable foods for supplementation. By M. LUMBERS¹, M.C. MURPHY², V. BOWERS², A. PANAYIDOU², M.W.J. OLDER³ and S.A. NEW^{2, 1} *Centre for Food and Health Care Management, School of Management Studies for the Service Sector and ²School of Biological Sciences, University of Surrey, Guildford GU2 5XH and ³Department of Orthopaedic Surgery, Royal Surrey County Hospital, Guildford, GU2 5X*

Elderly hospitalized patients have been shown to have low intakes of energy and most other nutrients. Recent studies have found that not only were patients unable to consume all that was provided at normal meal times, but also even if all the food chosen from the menu had been consumed, only 60% of the energy requirement would have been obtained; furthermore nutrient intakes would still have fallen short of the reference nutrient intake for protein, folate, Ca, Fe and Zn, (Lumbers *et al.* 1998). The implication of this is that energy intake can only be increased by more frequent food provision using snacks as well as the fortification of normal foods.

The meal selection patterns of twenty-four elderly hip-fracture patients (mean age 80 years) were investigated to determine preferred foods with the view to identifying appropriate foods for supplementation and to determine which meals were the most beneficial in their contribution to the overall nutrient intake. Food consumption data were collected on consecutive days; between three and five 24h recalls were used in conjunction with the completed menu card retained by the patient. Recorded data included the proportion of the meal eaten, the reasons for choosing food items and whether the meal had been enjoyed. Food selection patterns in hospital patients were compared with those of a group of twenty-nine elderly women (mean age 78.4 years) attending a local day centre.

The main food preferences identified in the hospital patients were soups, puddings and mashed potatoes. In both groups their main meal was lunch. The day centre group ate more snacks between meals due to their availability. The main factors influencing food choice in the hospital patients were the expected taste and the familiarity of the food. After a few days in hospital the need for 'variety' and 'having a change' became a more frequent reason for choice. 'Healthiness' was a more common influence on food choice among the day centre visitors followed by 'routine' and 'familiarity'.

Analysis of the nutritional intake gained from the meals of the hospital patients found that breakfast contributed the most to the percentage intakes of vitamin C (40%), Fe (38%) and thiamin (38%). Lunch provided the largest contribution to energy (37%) and protein (53%), confirming its importance as the main meal of the day. However, the mean intakes of the hospital patients failed to meet 50% of the estimated average requirement for energy. Significantly lower intakes of energy (3.9 vs 5.8 MJ $p<0.001$) and most nutrients including protein (38.5 vs 58.3g $p<0.001$), Fe (5.6 vs 8.6mg $p<0.01$), Se (28.4 vs 40.6 μg $p<0.01$) and Ca (507 vs 692mg $p<0.01$) were found in hospital patients. Patients rarely ate a full meal, an observation found in similar studies which have found that elderly hospital patients are unable to cope with large volumes of food (Olin *et al.* 1996). The findings of the present study indicate that the nutritional status of elderly hip-fracture patients could be improved by smaller meals, between-meal snacks, use of whole milk in drinks, porridge and cereals, and the fortification of popular food choices such as soups, puddings and mashed potatoes.

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Lumbers M, Murphy MC, Pither CAR, Creedon MH, Older MWJ & New SA (1998) *Proceedings of the Nutrition Society* 57, 56A.

Olin AO, Osterberg P, Hadell K, Armyr I, Jerstrom S & Ljungqvist O (1996) *Journal of Parenteral and Enteral Nutrition* 20, 93-98.