

was important to distinguish anaphylactic from anaphylactoid reactions and to monitor the patient closely during treatment.

Physicians treating older people need to be aware of conditions that may mimic stroke. Rare syndromes with vastly different clinical courses requiring different treatments can occur in elderly people, highlighting the need for clinical vigilance.

*Helen Hyun-Jin Do, MD  
Ramana Kaipu, MD  
Paul G. O'Mahony, MD  
Department of Geriatric Medicine  
University of Sydney  
New South Wales, Australia*

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## REFERENCES

1. Fisher M. An unusual variant of acute idiopathic polyneuritis (syndrome of ophthalmoplegia, ataxia and areflexia). *N Engl J Med* 1956;255:57–65.
2. Mori M, Kuwabara S, Fukutake T et al. Clinical features and prognosis of Miller Fisher syndrome. *Neurology* 2001;56:1104–1106.
3. Bussan J. Miller Fisher syndrome in an elderly man. *Age Ageing* 2001;30:268–269.
4. Lo YL. Clinical and immunological spectrum of the Miller Fisher syndrome. *Muscle Nerve* 2007;36:615–627.
5. Berlit P, Rakicky J. The Miller Fisher syndrome. Review of the literature. *J Clin Neuroophthalmol* 1992;12:57–63.
6. Chiba A, Kusunoki S, Shimizu T et al. Serum IgG antibody to ganglioside GQ1b is a possible marker of Miller Fisher syndrome. *Ann Neurol* 1992;31:677–679.
7. Yuki N, Taki T, Takahashi M et al. Molecular mimicry between GQ1b ganglioside and lipopolysaccharides of *Campylobacter jejuni* isolated from patients with Fisher's syndrome. *Ann Neurol* 1994;36:791–793.
8. Mori M, Kuwabara S, Fukutake T et al. Intravenous immunoglobulin therapy for Miller Fisher syndrome. *Neurology* 2007;68:1144–1146.

## IMITATION CAN REDUCE MALNUTRITION IN RESIDENTS IN ASSISTED LIVING FACILITIES

*To the Editor:* Malnourishment in seniors is a serious problem, because it increases the risk of cognitive deterioration and even of death.<sup>1</sup> One in four residents in assisted living facilities is malnourished, when malnourishment is defined in terms of a body mass index (BMI) less than 18.5 (<24 for people aged  $\geq 85$ ), an unintentional loss of more than 6 kg, or 3 days of hardly any food intake.<sup>2</sup> This complex problem has many contributing factors but in developed countries, the fact that seniors experience a loss of eating need and pleasure at least partly causes it.<sup>3</sup> A solution that was proposed and tested is to stimulate seniors to eat by means of imitation.

People automatically and nonconsciously imitate each other.<sup>4</sup> Earlier studies found that subjects automatically im-

itate drinking and smoking behavior seen on television (unpublished data).<sup>5</sup> Senior citizens might even be more prone to mimicry than younger adults, because research shows a declining ability to inhibit responses to auditory and visual stimuli in old age.<sup>6</sup> Whether the effect of watching a television fragment (showing eating behavior or not) would affect the amount of food consumed was investigated. The hypothesis was that the amount of food intake would increase while watching eating behavior on television.

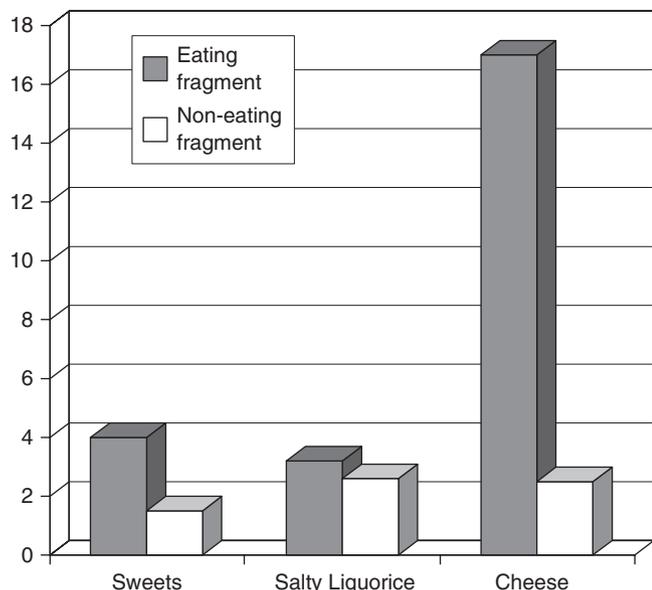
Forty-two senior citizens (aged  $82.1 \pm 7.4$ , range 66–94; 26 women) volunteered to participate. Participants were recruited in assisted living facilities. They were told that the experiment entailed watching a movie fragment and answering some questions about their opinion of current television.

The researcher randomly assigned participants to one of two conditions. In the first condition, participants watched a fragment from the popular Dutch television program “Life & Cooking” portraying the preparation and eating of a healthy dinner by a group of friends in a living-room atmosphere. The fragment in the control condition was also from “Life & Cooking” but did not contain any food items. While watching the 7-minute fragment on a laptop screen, different types of food were available to the participants (sweets, salty liquorice, and cheese). The experimenter indicated that the participants were free to take the food, and food intake was unobtrusively measured. Debriefing confirmed that none of the participants guessed the real aim of the study and that the fragments were equally liked. The energy intake as measured in kilocalories was taken as the dependent variable.

A two (imitation: eating fragment vs control fragment) by two (gender: male vs female) by three (type of food: sweets vs salty liquorice vs cheese) analysis of variance with repeated measures on food type and age as a covariate revealed the predicted main effect of imitation ( $F(1, 37) = 8.72, P = .01$ ); the eating-exposed group's mean score ( $24.4 \pm 31.9$  kcal) was higher than the control group's ( $6.4 \pm 11.6$  kcal) (Figure 1). There was a main effect of sex ( $F(1, 37) = 4.22, P = .05$ ), with men eating more ( $24.7 \pm 34.4$  kcal) than women ( $9.7 \pm 16.1$  kcal). The imitation-by-sex interaction was not significant ( $F(1, 37) = 2.96, P = .09$ ). Furthermore, no significant main effect was found for age ( $F(1, 37) = .65, P = .43$ ). The imitation-by-food type interaction was statistically significant ( $F(2, 36) = 3.44, P = .04$ ).

When analyzed separately, cheese consumption differed significantly between conditions ( $F(1, 40) = 5.02, P = .03$ ), whereas the effects of the other two were not significant when tested separately. Thus, the results confirm the hypothesis: Seniors eat more (healthy) food when they are exposed to eating on television.

The most valuable part of this research was its new approach to an existing problem. Previous studies on this topic have mainly focused on providing seniors with additional food products,<sup>7</sup> which have resulted in a marginal effect. This study takes a different approach and focuses on improving the quantity of food consumption, where problems with malnutrition often start. Because the results are promising and the technique is easily applicable in assisted living facilities, nursing homes, and hospitals, showing seniors an appropriate TV program or



**Figure 1.** Amount of kilocalories in sweets, salty liquorice, and cheese eaten during the movie fragment for participants across conditions.

movie in the presence of (healthy) food a few times a week may be enough to solve a serious problem in a cheap, elegant, and unobtrusive way.

*Lotte Hendriks, MSc  
Marijt J. Witteman, MSc  
Loes J. G. Frietman, MSc  
Rick B. van Baaren, PhD  
Gerben J. Westerhof, PhD  
Rutger Engels, PhD  
Ap Dijksterhuis, PhD  
Behavioural Science Institute, Radboud University  
Nijmegen  
Nijmegen, the Netherlands*

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## REFERENCES

1. Stasse-Wolthuis M. Physiological anorexia: Undernutrition in elderly is still not well recognized. *Voedingsmagazine: tijdschrift voor artsen en diëtisten* 2004;17: 16-18.
2. Meijers J, Janssen M, Schols J et al. Ondervoeding. In: Halfens R, Janssen M, Meijers J et al., eds. *Landelijke Prevalentiemeting Zorgproblemen*. Maastricht, the Netherlands: Maastricht University, 2006, pp 79-102.

3. Savina C, Donini LM, Canella C. Anorexia of Aging. In: Swain PI, ed. *New developments in eating disorders research*. Hauppauge, NY: Nova Science Publishers, 2006, pp 135-147.
4. Chartrand T, Bargh J. The chameleon effect: The perception-behavior link and social interaction. *J Pers Soc Psychol* 1999;76:893-910.
5. Engels R, Hermans R, Hollenstein T et al. Alcoholism. The effects of alcohol in teenage movies and commercials on alcohol use in young men. Unpublished 2007.
6. Connelly S, Hasher L. Aging and the inhibition of spatial location. *J Exp Psychol Hum Percept Perform* 1993;19:1238-1250.
7. Milne AC, Potter J, Avenell A. Protein and energy supplementation in elderly people at risk from malnutrition. *Cochrane Database Syst Rev* 2005;2: CD003288.

## HIGH PREVALENCE AND EARLY COMPLICATION OF SYMPTOMATIC VERTEBRAL FRACTURE IN ELDERLY PEOPLE TREATED WITH HIGH-DOSE GLUCOCORTICOIDS

*To the Editor:* Glucocorticoids (GCs) are one of the drugs that cause secondary osteoporosis. In past decades, GC-induced osteoporosis has drawn considerable attention, because synthetic GC has been widely used not only in young and middle-aged patients, but also in elderly patients.<sup>1-4</sup> The incidence of symptomatic vertebral fracture implicated in the long-term use of high-dose GC in elderly patients was investigated, analyzing a cohort at Shimoshizu National Hospital in Japan between 1986 and 2006.

A total of 2,631 patients who had been mostly referred for treatment of autoimmune diseases involving multiple organs, were registered in the Chiba-Shimoshizu Rheumatic Cohort at Shimoshizu National Hospital (Yotsukaido, Japan). Those (aged  $\geq 65$ ) newly treated with high-dose GCs were entered into this study. They were treated with an initial dose of 20 mg prednisolone (PSL) equivalent per day for at least 6 months. GC dose-increase was defined as the re-introduction of more than 20 mg of GC per day because of greater disease activity. Symptomatic vertebral fracture was defined as vertebral deformity that was confirmed according to thoracolumbar X-ray in patients with backache. The ethics committee of Shimoshizu National Hospital approved this study.

One hundred twelve patients (initial mean age  $\pm$  standard deviation  $71.7 \pm 5.6$ ) were followed; 59.8% were women, 21.4% used alcohol, and 22.3% smoked initially. The initial GC dose was a high  $33.1 \pm 11.3$  mg/d on average, and the mean daily GC dose was  $18.1 \pm 10.9$  mg/d. One-quarter (25.9%) required dose increases, and 8.0% required GC pulse therapy. Cumulative GC dose was estimated to be  $13.5 \pm 11.1$  g. Fifty-one patients (45.5%) had at least one symptomatic vertebral fracture, indicating that its incidence was high. The mean period until fracture was  $20.0 \pm 25.4$  months, and the number of symptomatic fractures within 12 months was 33 (29.5% in the total group, 64.7% in the fracture group). The nonsymptomatic vertebral fracture ratio with Kaplan-Meier curve progressively decreased over 1 year, being 69.6% at 12 months, 58.1% at 36 months, 51.5% at 60 months, and 48.5% at 96 months. The risk factors of symptomatic vertebral fracture were evaluated using Cox regression models, as shown in Table 1. The risk for symptomatic vertebral fracture was independently higher in female patients, with GC dose increases, and with every 10 mg/d of the initial GC dose (PSL equivalent). However, symptomatic vertebral fracture risk