

Lift that lid, unscrew that cap, pull that straw: the challenges of hospital food and beverage packaging for the older user.

Alison Bell^a, Karen Walton^b, Linda Tapsell^c, Alaster Yoxall^d

^a*School of Health & Society, University of Wollongong, NSW, AUSTRALIA;* ^b*School of Medicine, University of Wollongong, NSW, AUSTRALIA;* ^c*School of Medicine, University of Wollongong, NSW, AUSTRALIA;* ^d*Lab4Living, Sheffield Hallam University, Yorkshire, UK.*

1. Abstract

Food and beverage packaging has been found to contribute to malnutrition amongst the older hospital patient. This paper examines the interaction of the older user and regular hospital food and beverage packaging and the role of strength and dexterity in relation to pack opening within a hospital context. Findings demonstrate that the most difficult packs to open require higher levels of dexterity than strength. Manufacturers need to incorporate both universal and transgenerational design principles to maximise pack 'openability' for the older user.

2. Summary

Packaged food and beverages are ubiquitous in food and drink provision in all aspects of our life today, including our hospitals. Many people are frustrated by packaging and have issues opening it. (Yoxall et al, 2011). A study by Bell et al. (2013) identified that hospitalised older people have particular 'openability' issues with the products served to them in NSW public hospitals. Garling (2008) reported that 48% of inpatients in NSW were over the age of 65 years, while for the same time, they represented 14% of the total population. This over-representation of older people in hospital will increase rapidly as our ageing population rises. Malnutrition amongst the elderly has been termed 'starvation in the midst of plenty' and in fact costs the UK 10% of the health budget (BAPEN, 2006), twice the cost of obesity related disease.

This paper outlines a series of 3 studies undertaken with well people aged 65 years and over in NSW Australia examining their interaction with routine hospital food and beverage items. The studies address the user characteristics of strength, dexterity and nutritional status as well as the user within a hospital environment and food service delivery system.

Methodology used included convenience samples of well older people invited to attend the University of Wollongong Nursing Simulation Laboratory which replicated a hospital environment. Food products were sourced from a nearby Public Hospital. Both quantitative (strength, dexterity, time and number of attempts to open the pack; nutritional status and intake) and qualitative (ratings of 'openability') data were collected.

Findings include identification of the most 'problematic' items – tetra packs, cheese portions, boxed cereals, fruit cups and water bottles, as well as the significant aspects of hand function (strength, dexterity) associated with efficient pack opening. Most packs required greater dexterity than strength and some packs could not be opened at all (for example, 39% of subjects could not open the cheese portion in study 1).

The overarching message from this series of 3 studies is the need for manufacturers to design products incorporating the principles of both universal (Follette et al, 1998; Farage et al, 2012) and transgenerational (Pirkel, 1991) design in order to cater for the global rapidly ageing population and improve pack 'openability'.

Packaging has an important role to play in food provision and if well designed, assist older people remain independent and well nourished.

References

Australian Institute of Health and Welfare (2007 updated 2012). Older Australia at a glance (4th Edition) (full publication).

Canberra, Australian Institute of Health and Welfare.

Bell, A. F., K. A. Walton, J. S. Chevis, K. Davies, C. Manson, A. Wypych, A. Yoxall, J. Kirkby and N. Alexander (2013). "Accessing packaged food and beverages in hospital. Exploring experiences of patients and staff." Appetite **60**(1):231-8.

British Association of Parenteral and Enteral Nutrition, B. (2006). Malnutrition among Older People in the Community: Policy Recommendations for Change. London, BAPEN, the European Nutrition for Health Alliance, International Longevity Centre, Associate Parliamentary Food and Health Forum.

Farage, M. A. P., Miller, K. W. P., et al. (2012). "Design Principles to Accommodate Older Adults." Global Journal of Health Science **4**(2): 2-25.

Follette Story, M., J. L. Mueller and R. L. Mace (1998). The Universal Design File. Designing for People of All Ages and Abilities. NC State University, The Center for Universal Design.

Garling, P. (2008). Final Report Special Commission of Enquiry Acute Care Services in NSW Public Hospitals. Sydney, NSW Government.

PirkI, J. J. (1991). "Transgenerational Design: A DESIGN STRATEGY Whose Time Has Arrived." Design Management Journal (Former Series) **2**(4): 55-60.

Rowson, J., Yoxall, A. (2011). "Hold, grasp, clutch or grab: Consumer grip choices during food container opening." Applied Ergonomics **42**(5): 627-633.

Yoxall, A. (2011). Proceedings of the 1st European Conference on Design 4 Health 2011 Sheffield, 13-15th July 2011. 1st European Conference on Design 4 Health, Sheffield Hallam University, Sheffield, UK., Sheffield Hallam University.