

Warning: Packaging can damage your health. Exploring the usability of hospital food and beverage packaging

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As part of the 'inclusive design' agenda, researchers have shown significant interest on food use and access by older consumers (Duizer et al. 2009). Researchers have further made significant attempts to understand the strength of users needed to access packaging (Voorbij and Steenbekkers, (2002), Langley et al., (2005), Kuo et al., (2009) and Yoxall et al., (2010)). To date this work has concentrated on food access by independent older adults living in the community where inability to access food has been seen as a major 'frustration'. However, food and beverage packaging has been identified as a contributing factor to malnutrition among the elderly and disabled in hospitals (Walton et al, 2006) making access and use of packaging a significant health issue.

The focus of this research was to describe the types of food and beverage packaging used in New South Wales hospitals in Australia and hence determine the 'problematic' packaging from the users' perspective and to understand in more detail how these problems were manifested and the issues surrounding nutrition.

Participants (140 elderly inpatients and 64 staff members) were recruited from four local public hospitals. Staff members were also tested as to contrast and compare with the older patients. Data were collected using interviews, questionnaires, observations and grip strength testing. Several food and beverage packages were found difficult to open by at least 40% of patients. These included milk and juices (52%), cereal (49%), condiments (46%), tetra-packs (40%) and water bottles (40%). The difficulties were attributed to 'fiddly' packaging, hand strength and vision; however, only tetra-packs demonstrated a relationship between time taken to open and hand strength, suggesting other aspects of hand function may be more important than strength when opening food and beverage packages.

Therefore a separate study of over 100 people was undertaken to understand 'fiddly' packaging and establish the effect of dexterity of pack accessibility and how this could best be examined. Hence a test methodology was devised using standard pegboards to examine the worst performing packs outlined from the previous research. This new methodology and recommendations for packaging use in hospitals are presented in the paper.



Figure 1: participant under test

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