Eating with Colour:An Audit Investigating the Effect of Coloured Plates on Nutritional Intake in Patients with Dementia

L Savage 1; G Adams 1; M Walne 2

1. Barnsley Hospital; 2. Dept of Elderly care

Barnsley Hospital NHS Foundation Trust

Background

Dementia is a syndrome characterised by chronic, progressive degeneration of the brain and can significantly alter eating behaviours. These include swallow, apraxia and visuospatial dysfunction which can impact on interest and recognition of food and reduced ability to self-feed.

Those with dementia are especially prone to frailty and malnutrition—around one-third are malnourished and nearly half are at risk[1].These issues contribute to delirium, functional decline, increased hospital use, and higher mortality.

A study by Dunne et al. in 2004 showed that high-contrast crockery boosted mean food intake by 25% in people with advanced Alzheimer's disease, demonstrating how visual cues can support nutrition in dementia care.[2]

Aim

To improve food intake in patients with dementia by 25% through the introduction of high-contrast coloured crockery on a Care of the Elderly ward.

References

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Methods

Food charts were used to assess food intake. Food charts were completed in conjunction with mealtimes and recorded as a percentage of meal eaten by nursing/healthcare staff on the ward.

- In Cycle 1, coloured plates were introduced on Ward A, with post-intervention data compared to baseline across both dementia and non-dementia groups.
- In Cycle 2, the same intervention was extended to Ward B. Results were compared with its own baseline data as well as Ward A, which continued to use coloured plates.

Results

Cycle 1

Patients with dementia on Ward A showed an absolute increase of 25% of meal eaten compared to pre-intervention. This equates to a relative increase of 42%. There was also a 8% increase in nutritional intake in non-dementia patients (relative increase 9%).

Cycle 2

Ward B demonstrated an increase of 4% of meal eaten; this is a relative increase of 16% when compared to pre-intervention intake . However these findings are potentially limited by small sample size and inconsistent food chart completion. Non-dementia patients on ward B showed a 19% actual food intake increase showed a 26% relative increase in intake post intervention. Ward A continued to showed a sustained improvement in food consumption.

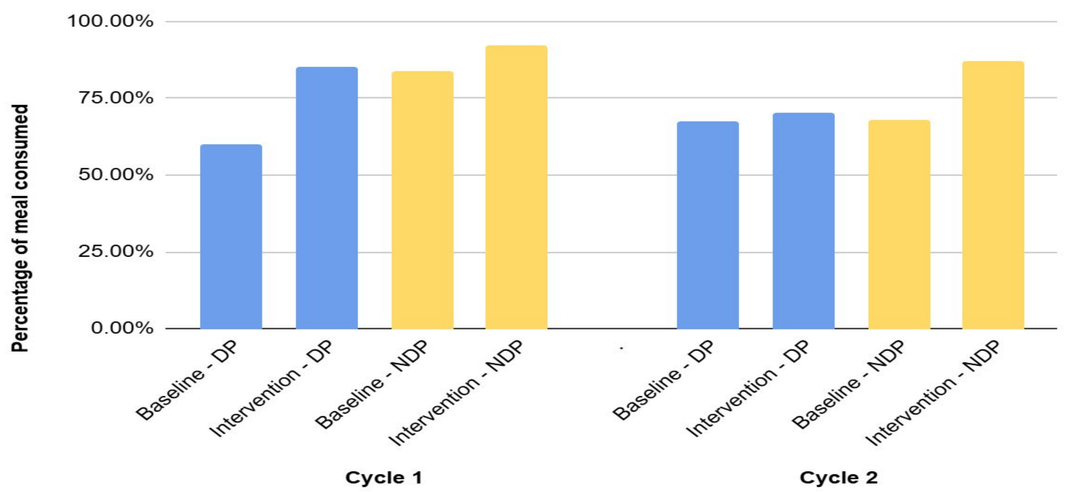


Fig 1. A bar chart showing changes in food consumption in dementia patients (DP - blue bars) and non-dementia patients (NDP - Yellow bars) pre and post intervention.

Conclusion

Coloured plates may enhance food recognition and intake among individuals with dementia; however, nutritional outcomes are influenced by multiple factors. This project demonstrated some improvement following implementation, though results varied across wards.

Unexpectedly, increased intake was also observed among patients without dementia after the introduction of high-contrast crockery. This may reflect population variability or indicate that high-contrast crockery benefits a wider group of older adults, potentially including those with visual impairment, delirium, or undiagnosed cognitive impairment.

Interpretation of these findings is limited by small sample sizes and inconsistent food chart documentation, which may have led to underestimation of actual intake.

The following factors could be considered as future potential intervention ideas to help improve nutritional intake in patients with dementia:

- Considering meal modifications (e.g. texture changes, finger foods)
- Enhanced dining environments with appropriate lighting, music, and communal settings
- Greater access to food and drink outside set meal time[3]