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Evaluating the impact of educational resources on household food waste generation

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Abstract

Food waste is a major global problem resulting in financial, environmental and social consequences, with household food waste contributing to 70% of all food waste in the UK [1, 2]. Although long-term personalised interventions have been recommended to target it, these are generally impractical when dealing with differing complex demands and dynamics of everyday lives [3]. This study aimed to develop a range of short, clear and succinct educational resources combining a variety of motivational, informative and practical tools and assessing their effect on changes in attitudes, abilities and behaviour towards reducing household food waste.

Thirty four participants from the Oxfordshire and Buckinghamshire area were recruited to complete a food waste diary for three days including two week days and a weekend day. Following this, they were provided with daily educational (electronic) resources to reduce food waste, for 10 days before completing a second food waste diary for three days. Participants completed a questionnaire evaluating the usefulness of the intervention using educational resources. Total amount and nutritional value of the wasted foods were calculated using Nutritics software. A Wilcoxon signed rank test was used to detect differences between the food waste records before and after the educational intervention as well as the difference in environmental awareness pre- and post-intervention.

Results from the second food waste diary showed that average daily household food waste significantly reduced from 1406 ± 1201 g to 763 ± 611 g (Z=2.847, p=0.004). The energy content of the food wasted pre-intervention was 1831 ± 1752 kcal compared to 958 ± 840 kcal post intervention (Z=2.932, p=0.003). The greatest reduction in food waste was achieved by the 45-54 year age category (-73%), households with children (-50%), those who shopped daily (-67%) and those who ate 4-7 meals outside (-70%). Participants' awareness of environmental impact of food waste significantly increased (Z=-2.707, p=0.007) alongside improvements in self-reported attitudes, abilities and behaviour towards household food waste. The educational resource on 'storing foods properly' was rated by the participants as most useful.

The study has demonstrated the use of electronic educational resources designed to target knowledge, attitudes and motivation alongside practical solutions to result in a reduction in household food waste generation. Future research should focus on the subject of the resources that were most useful and assess the long-term success of these types of interventions.

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