

Determinants of Food Choice, Dietary Intake

Comparison of inter-rater agreement when performing visual plate waste audits with standardized instructions vs. without standardized instructions

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Introduction: Plate waste audits are routinely conducted to assess menu performance. A previous Fraser Health (FH) study on plate waste audits completed by Food Service Supervisors (FSS) without standardized instruction found good to excellent rater agreement on food remaining on trays, but lower agreement on item presence. Audit instructions were developed as it was unknown whether training would result in stronger agreement.

Objectives: To compare inter-rater agreement of plate waste audit scores between pairs of FSS who have received instruction versus those who have not received instruction.

Methods: A pair of FSS from three FH hospitals used the validated visual quarter-waste method to independently evaluate amounts of an entree and soup remaining on trays, where two of three pairs received instruction. Inter-rater agreement on food remaining and item presence were compared using intraclass correlation coefficient (ICC) and Kappa statistic, respectively.

Results: With instruction, rater agreement was stronger for the amount of soup remaining and presence of both entree and soup. Agreement between raters was excellent for the amount of entree remaining for both groups. ICC with instruction for entree (n=186) and soup (n=164) were 0.98 (95%CI=0.97-0.98) and 0.99 (95%CI=0.98-0.99), respectively (p<0.0001). ICC without instruction for entree (n=140) and soup (n=115) were 0.95 (95%CI=0.93-0.97) and 0.87 (95%CI=0.81-0.91), respectively (p<0.0001). Kappa value with instruction was 0.83 for entree (n=193) and 0.91 for soup (n=193) (p<0.0001). Without instruction, Kappa was 0.76 for entree (n=160) and 0.58 for soup (n=159) (p<0.0001).

Conclusions: Results suggest standardized instruction is strongly recommended for plate waste audits. Fewer trays audited per rater or extra time to complete audits noted in the group with instruction could have been contributing factors and warrant further research.

Significance: Improving inter-rater agreement of the visual quarter-waste method using standardized instructions may increase accuracy of information used for subsequent menu planning decisions.