

P319

P319 -Dietary factors associated with obesity in acute kidney injury: a cross-sectional study

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Introduction:

People who have experienced an episode of acute kidney injury (AKI) are at increased risk of development or progression of chronic kidney disease (CKD). Obesity (body mass index (BMI) ≥ 30 kg/m²) is an independent risk factor for both AKI and CKD, though few studies have examined the combined impact of BMI and AKI on CKD outcomes. Currently no data exists on the dietary intake or eating patterns of patients experiencing an episode of AKI. This opportunistic cross-sectional study of baseline data in the Ob-AKI feasibility study, aimed to explore differences in dietary factors by BMI category after an episode of AKI.

Methods:

Adults aged 18-85 years with diagnosed AKI during admission to a multi-site teaching hospital in London, UK, were recruited from nephrology referrals, laboratory reports, and automated AKI staging alerts between June 2015–June 2016. Dietary factors and eating patterns were assessed using a diet history interview (involving participant recall of a typical day's intake in the preceding 3-months), the Eating Choices Index (ECI) and the Eating Behaviours Pattern Questionnaire (EBPQ). Dietary data were examined across BMI categories (<25kg/m²=normal; 25-29.9=overweight; ≥ 30 =obese) using Chi-square tests for categorical variables with between group differences for continuous data being analysed using one-way ANOVA (parametric data) or the Kruskal-Wallis test (non-parametric data). Spearman's correlation coefficient was used to examine the relationship between EBPQ group scores and BMI as a continuous variable.

Results:

97 participants (67% male; median age 64 years (IQR 54-74); median BMI 27.6 kg/m² (IQR 23.6-33.5)) were recruited. 40% were obese, 29% overweight and 31% in the normal weight category. Median frequency of 'away' food consumption (comprising takeaway, fast-food and meals consumed in restaurants), was significantly different across BMI categories ($H(2)=6.595$, $p=0.037$), and the post-analysis indicated this difference was between the overweight and obese categories ($p=0.001$). There was evidence of a significant association between meal skipping and BMI on the EBPQ ($r=0.276$, $p=0.011$). There was no association between BMI and other modifiable dietary factors assessed using the diet history interview (breakfast consumption; fruit and vegetable intake; caloric beverages; alcohol; or 'extra' foods (comprising energy dense, nutrient-poor foods)), or for eating patterns assessed using the EBPQ (low-fat eating; snacking on sweets; emotional eating; haphazard planning; and cultural/lifestyle behaviours). No significant association was found between BMI and diet quality as measured by the ECI. Only 1 in 5 participants consumed the recommended 5 serves of fruit and vegetables daily.

Conclusions:

This study has identified modifiable dietary factors in patients with obesity and AKI. Future intervention studies in this population may address strategies to reduce consumption of 'away' foods, increase fruit and vegetable intake and regulate meal patterns to determine the impact on outcomes including quality of life, cardiovascular disease risk, and development or progression of CKD.