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## Women's dietary changes before and during pregnancy: a systematic review update.

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Dietary intake before and during pregnancy has significant health outcomes for both mother and baby<sup>(1)</sup>. Before developing effective interventions to improve dietary intake during pregnancy, it is important to understand what dietary changes pregnant women make without intervention. This study aims to provide an update from the Hillier and Olander, 2017<sup>(2)</sup> systematic review, examining women's dietary changes before and during pregnancy and to identify characteristics of the women making these changes.

A systematic search strategy was employed using EBSCO database, from May 2016 to October 2023 to capture those published after the 2017 systematic review<sup>(2)</sup>. Search terms included those relating to preconception, pregnancy, diet and food intake. All papers were quality assessed using the Scottish Intercollegiate Guidelines Network methodology checklist for cohort studies. The search revealed 726 articles, narrowed to full-text review of 36 studies. In total, 11 research articles were included in the review. The findings were narratively summarised in line with the aims of the review.

The included studies continued to show marked heterogeneity, which impacts on the findings. Two studies that reported energy and macronutrient intake data, both describe a significant increase in energy intake (100-600 kJ) during pregnancy potentially explained through an increase in carbohydrate intake (%TEI). Of the studies who reported changes in food group analysis (n = 10), a majority report an increase in fruit and vegetable intake with a reduction in fish, processed meat, fried food and caffeine consumption during pregnancy. Adherence to healthy eating index and diet diversity scores were reported in 6 studies and indicated minimal improvement between preconception and pregnancy scores. The characteristics of the women participating in these studies continues to suggest that increased age and education status remain associated with healthier dietary changes; with physical activity and screentime also to be considered however these factors were not assessed in all studies included.

The included articles show varied results in dietary intake during pregnancy as compared to before, this outcome was similar to the 11 studies included in the 2017 review<sup>(2)</sup>. The updated review demonstrates a development in data analysis strategy, including healthy eating index rather than limiting to specific changes in individual energy and macronutrients. Future research is needed on related changes women and their partners make to their eating behaviour before, during and after pregnancy, not solely what they eat at different time points<sup>(3)</sup>. These changes include frequency and quantity, time and place of eating, eating circumstance, eating preparation<sup>(3)</sup>. Above and beyond this, most determinants identified were on individual level<sup>(3)</sup>, and more focus on environmental and policy factors are important.

### References

1. Baker *et al.* (2013) *Nature* **504**, 209–211.
2. Hillier SE & Olander EK (2017) *Midwifery* **49**, 19–31.
3. Moura AF & Aschemann-Witzel J (2020) *Appetite* **150**, 104658.