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Diet quality is associated with lower prevalence of menopausal symptoms: the ZOE PREDICT 3 study

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The role of diet in the prevention and management of menopausal symptoms is poorly understood[1,2]. Digital health platforms have the potential to optimise collection of population-level menopause symptom data particularly in a rapidly changing environment[2,3]. This study explored the prevalence of menopause symptoms utilising data collection capabilities of a mobile app in a large population of peri- and postmenopausal women and to investigate novel associations between diet quality and symptoms.

Baseline data on diet, 20 menopause symptoms (i.e. 3 vasomotor, 3 sexual, 4 psychological and 10 somatic) and other characteristics of 70,412 participants of the ZOE PREDICT 3 app-based study in UK (n = 27,932 peri- and n = 42,480 postmenopausal) were analysed (NCT04735835). Dietary assessment was performed through an app-based food frequency questionnaire (PREDICTFFQ)[4] and diet quality assessed using the Healthy Eating Index-2020 (HEI, score 0-100)[5].

The burden of menopausal symptomatology was high; with 99.8% and 92.7% of peri- and postmenopausal participants reporting 1 or more symptoms respectively and 66.0% and 41.2% of peri- and postmenopausal participants experiencing >12 symptoms, respectively ($P<0.001$). Mean ($\pm$ SD) symptom number was greater in the peri- versus postmenopausal group; 13.5 ± 3.8, vs. 10.5 ± 5.5 ($P<0.001$). HEI (mean $\pm$ SD) was slightly lower in the peri- versus postmenopausal group; 73.9 ± 9.7 vs. 76.6 ± 8.9 respectively ($P<0.001$). Logistic regression analyses showed that a 20 unit increase in HEI was associated with reduction of 6%-37% and 12%-43% in likelihood of symptom presence (dependent on the symptom) in peri- and postmenopausal participants, respectively ($P<0.05$). ORs remained significant in adjusted models (for age, BMI, use of hormone replacement therapy, total energy intake and home environment (urban, rural) showing reductions of 7%-19% and 6%-21%, respectively ($P<0.05$). Logistic regression analyses revealed that a similar increase in HEI (20 units) was associated with 17% and 19% reductions in the number of symptoms reported by peri- and postmenopausal women after multiple adjustments ($P<0.05$).

This large observational study confirms the high prevalence of menopausal symptoms among peri- and postmenopausal women and provides new evidence between adherence to healthy eating and reduced likelihood of menopausal symptoms, increasing the potential for symptom reduction by specific dietary approaches. Further studies should examine this relationship in longitudinal and dietary intervention settings.

References

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