Re: There is no association between combined oral hormonal contraceptives and depression: a Swedish register-based cohort study

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January 28, 2022

Re: There is no association between combined oral hormonal contraceptives and depression: a Swedish register-based cohort study

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Dear Sirs,

We found the recent article from Lundin and colleagues produced a most diverse and engaging discussion based within the present day pandemic of mental health issues.

Notably, this Swedish population based study is at odds with its Nordic neighbour Denmark where the opposite effect of oral hormonal contraceptives upon depression was found [1]. As intimated by the authors, the confounders are endless, but what sprung to our minds was the difference in dietary habits between the two Nordic countries.

A retrospective analysis of Swedish and Danish dietary habits, using data from Food Balance Sheets over a period of 23 years, demonstrated a greater consumption of meats and fat, and a lower consumption of fish, fruit and berries, in Denmark as compared to Sweden. Additionally, the authors found that, whilst disparities in dietary habits exist in both countries, there was a propensity toward wider social difference in Denmark [2].

It has been demonstrated that the gut microbiome plays an important role in disease modulation, and diet is understood to have a significant influence on the microbiome composition [3]. The use of the same hormonal contraceptives as in the Swedish study, have been shown to produce a positive anti-inflammatory shift in the vaginal microbiome of users [4]. There is, however, a potential reduction in the gut microbiome diversity amongst some users of hormonal contraception (HC) [5]. This reduced diversity is known to be associated with decreased well-being scores and increased anxiety [6]. The action of the HC upon the gut microbiome may explain an apparent clinical psychiatric heterogeneity amongst the two aforementioned studies.

Therefore, might we consider diet as a particular, modifiable, contributory confounder for the findings of the study? If so, should we be counselling our patients to examine their dietary habits to avoid any potentially negative impact of the hormonal contraception upon their wellbeing?

We would be most interested to hear the view of the authors but congratulate the group upon their work and perseverance to publish.

Disclosure of interest

The authors declare that they have no conflict of interest

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