REGISTER OF SYSTEMATIC REVIEW

Title
Dietary patterns and depression risk: a systematic review and dose-response meta-analysis of prospective studies

Keywords
Depression – MDD – diet – food groups – meta-analysis – systematic review

Timescale
The review commenced the first of June 2016 and is expected to be completed the first of October 2016

Stage at time of submission [June 28th 2016]
Preliminary searches, piloting the selection procedure, screening, data extraction

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Funding
Marc Molendijk receives continued research support from Leiden University
Conflicts of interest
There are no financial conflicts of interest

Review questions
Is diet (defined as adherence to healthy vs unhealthy patterns and healthy vs unhealthy food groups) associated with depression incidence?

Searches
Embase, PUBMED, and Web of Science will be searched without any date restrictions. Papers written in English, Dutch, Spanish, German, or French will be included

Condition under study
The condition that will be studied is major depressive disorder as defined by the DSM or ICD. Self-report measures on depression symptom severity also will be included

Population
The population that will be studied is non-depressed at baseline. No further restrictions are posed with regard to the population

Exposure
Categorization of exposure variables: Healthy dietary pattern: Healthy dietary pattern; Mediterranean dietary pattern; whole food Healthy food items / groups: Dietary fibers; fish and sea fruit; fruit; legumes/pulses; nuts/seeds/soy; vegetables; whole grain Unhealthy dietary pattern: Western dietary pattern Unhealthy food items / groups: Junk/fast food; processed food; refined grain; snacks, soft drinks

Controls
Exposure is measured as continuous variables - hence relative differences will be studied as exposure variables

Type of studies included
We retain studies that report on the prospective associations between diet or the main food groups that define it and the onset of diagnosed depressive disorders and/or changes in depression symptom severity over time as assessed using validated instruments or the prescription of antidepressants. In order to be retained, studies have to be written in the English, French, German, Dutch, or Spanish. Our units of interests are cohorts and not articles. In case multiple articles report findings using data derived from the same cohort and using the same exposure variable, we exclude the article with the lowest number of person years of follow-up.

Primary outcome
Depression and depression symptom incidence as a function of dietary exposure

Data extraction
Study selection and data extraction will be performed independently by 2 of the researchers. Discrepancies will be resolved by means of discussion and consensus. Data that will be extracted include:
DEMographic: Mean age in years at follow-up, gender distribution at follow-up, country in which the study was performed, body mass index at baseline and follow-up
ClinIcal: Method of diagnostic assessment, type of depressive disorder, presence of chronic illnesses at baseline and follow-up, prevalence of depression at baseline, prevalence of depression
incidence during follow-up

**METHODOLOGIC:** Method of dietary assessment, validity of dietary assessment (yes versus no), duration of follow-up in number of moths, the covariates that were used in statistical analyses, differences in outcome in covariate adjusted and unadjusted models, whether time-varying covariates were used, the number of exposure categories, the number of outcome categories, whether results are reported were of primary or secondary interest, the analytical strategy that was used, the participation rate, the percentage of withdrawal during follow-up.

**OUTCOME DATA:** Raw numbers or effect-size estimates and the corresponding 95% confidence interval on the association between diet/dietary intake and depression onset (by predictor category, e.g., third- versus first tertile of dietary intake and second versus first tertile of dietary intake)

**Risk of methodological bias**
The retained papers will be assessed regarding their methodological quality / risk of bias using the method proposed by Lievense et al. (2014). Methodological quality / risk of bias will not determine inclusion but will be related, in meta-regression analyses, to outcome of studies.

**Data synthesis**
Study level outcomes will be aggregated by means of random effects meta-analysis performed in STATA.

**Subgroup analyses**
Subgroup analyses will be performed by: (I) type of exposure assessment and (II) type of outcome assessment

**Type and method of review**
Meta-analysis, Systematic review

**Dissemination plan**
Publication in a peer-reviewed Journal and oral presentations

**Current status**
Ongoing