

SHORT TERM SCIENTIFIC MISSION (STSM) – SCIENTIFIC REPORT

The STSM applicant submits this report for approval to the STSM coordinator

Action number: FA1403

STSM title: Contribute to review paper which will collate and discuss results from all meta-analysis, reviews and other activities of WG and further development of the protocol of proposed POSITIVE study.

STSM start and end date: 16/Aug/2018 to 22/Aug/2018

Grantee name: Eileen Gibney

PURPOSE OF THE STSM

(max.500 words)

The purpose of this STSM was to spend time with Dr Ana Rodriguez Mateos, as WG Leader and co-Leaders to discuss the following:

- Status of ongoing work within WG2 of the COST action
- Remaining work to be completed, including final review paper and combined analyses of published meta- analysis.
- Development of COST POSITIVE Study

Over the period of the STSM we aimed to progress a plan and outline for remaining papers and further discuss potential future work activities.

DESCRIPTION OF WORK CARRIED OUT DURING THE STSMS

Ongoing meta-analyses

- The following meta-analyses are ongoing and will need to be completed in time for Lisbon meeting if at all possible. Some discussion on their current status and what was needed to complete them.

Authors of those still working on them were contacted to determine which would be possible to include the future papers – discussed in further sections.

Bioactive	Cardiometabolic function	Individual(s)	Status	Date of completion
Flavonol	All possible	Paula & Emilie	Published	Feb 2017
Flavonol meta-analysis	Blood lipids, BMI, WC	Antonio & Mayte	Published	June 2017
	Blood pressure and FMD	Paula, Laurent, Mireia, Christine, Ana	Analysis complete – paper ongoing	
	Glucose, Insulin, HOMA-IR, Hb1A1c	Emilie & Susanna, Sandra...to update	Analysis ongoing	Dec 2017
	Platelets	Saujke, Sandra, Emile, Ana,....	Data extracted (? Systematic review)	
Polyphenols	Exercise	Antonia & Christophoros		
Anthocyanin & Ellagitannins	All possible	Antonio	Published	Jan 2018
Phytosterols	All possible	Irina, Laura & Sofia (WG1)	Data extraction	
Hydroxycinnamic acids	All possible	Pedro	Analysis ongoing	June 2018

Future papers.

Examining the work to date, the scope of the results to date, the following two papers were identified. The scope of the papers, authors, contribution etc was discussed and the following outlines proposed.

Paper 1 – General review:

Identification of factors influencing the cardiometabolic response to plant bioactives: a review of COST Action POSITIVE
<p>Draft by 7th September</p> <p>Factors influencing response</p> <ul style="list-style-type: none"> • Introduction (Christine) <ul style="list-style-type: none"> ○ Variability ○ Extent of variability ○ Introduce factors we think effect variability • Findings from meta-analysis (ARM and Manja) <ul style="list-style-type: none"> ○ Summary of key findings of published meta-analysis - highlight factors influencing response of subgroup analysis. ○ Examine food sources, Magnitude of effect etc. etc. ○ Bioavailability and metabolism - microbiome (influence of gut microbiome on metabolism of bioactives) ○ Comment on variability • Influence of cell and molecular targets on variability (mechanisms of action) DRAGAN <ul style="list-style-type: none"> ○ Cell / Animal / Human ○ In-silico ○ How the findings of the work influence above would influence future study design Actually measuring variability – the POSITIVE study (EILEEN) ○ Data fusion - Statistical approaches to examine inter-individual variability (EILEEN) ○ Meta-analysis ○ Data collection <ul style="list-style-type: none"> ▪ How to collect ▪ What to collect ▪ WG - How to report inter-individual variability in papers. • Link to public health / food industry • What do these findings mean for clinicians, nutritionists, food industry?

Paper 2 - Analysing variance in published meta-analysis

<p>Identification of factors influencing cardiometabolic response to plant bioactives : analysing variance in stratified meta-analysis</p> <p>OR Extent of variability of biological response to consumption of bioactives – an analysis of POSITIVE meta-analyses</p> <ul style="list-style-type: none"> • Combine the findings of each meta-analyses and examine extent of variability of the bioactive and factor(s) on cardio metabolic outcomes. • I^2 and Q tests at total population and subgroups to examine impact of subgroup analysis on variability (ask authors of meta-analysis) - categorize variance according to I^2 value, and compare significances across subgroups (Q) • Present mean and bias-corrected bootstrapped 95% confidence intervals (as Kroeker 2010) • Calculate CV for variability for each outcome by each bioactive to determine range of variation. • Include ADME if possible • May focus only on Flavanols? •
<p>Target Journals:</p> <p>Authors: Eileen Sandra Manja Ana Dragan Christine Emilie Arno</p>

Following discussion on such papers times was spent examining strategies for analysis, which will be summarised and shared with authors in Sept 2018.

Discussion on the proposed POSITIVE study, including feedback from other WG2 members showed that there was quite some disparity on the scope, approach and methodology of the potential study. Potential funding sources were investigated and whilst there may be some local/national funding opportunities available no pan European funding sources were identified. It was agreed that Eileen would summarise the main principles of the study for circulation and that individual researchers could seek funding in their own jurisdictions, and a) work to the guidelines for reporting inter-individual variability addressed in the ThinkTank and b) follow if possible the guidelines, to be developed, on study design, and finally c) collaborate if possible, even on a non-financial basis with colleagues from POSITIVE.

FUTURE COLLABORATIONS

(max.500 words)

Development of papers as outlined above.