

Systematic review for inhibiting effect of indigestible dextrin on the postprandial serum triglyceride level

ABSTRACT

Objective

There have been many research papers documented inhibiting effect of indigestible dextrin on the postprandial serum triglyceride level. However, since there has been no systematic review on that effect of the material found in our search, we decided to implement our systematic review, prospectively setting up research question (RQ) and PICO as follows.

RQ: Does indigestible dextrin reduce the postprandial serum triglyceride level?

Patient (P): Healthy individual or person who has a tendency* of the higher postprandial serum triglyceride level

Intervention (I): Ingestion intake of indigestive dextrin (Regardless of food form)

Comparison (C): Placebo (Regardless of its composition)

Outcome (O): Inhibition of the postprandial serum triglyceride level

*Tendency of the higher postprandial serum triglyceride level: Subjects who have a fasting serum triglyceride level between 150-190mg/dl evaluated by inclusion criteria of FOSHU

Methods

We set out retrieval conditions and exclusion criteria based upon the above PICO, and performed a search of research papers in two kinds of database, 'J-DreamIII' and 'Web of Science'. (The last search date was 25/9/2015)

We extracted corresponding information to PICO from selected papers in the search, after filtering with exclusion criteria to sort them out in two

categories, adopted or rejected.

For those selected papers, we evaluated their research quality, for further evaluation of ie) indirectness after screening of high quality paper. And for those high quality papers, we took a holistic approach to evaluation of all evidences provided in each.

Result

We have consequently acquired a total of 14 research papers worthy of qualitative assessment, through a process of evaluation of research quality in accordance with the exclusion criteria for preliminary selection of 85 papers.

As a result of the qualitative assessment, we have judged the consistency of outcomes of all those positively evaluated 14 papers. And amongst of those, we have also judged 12 papers are qualified as the highest research quality (that is, with the lowest bias risk in other words) in consequence. On the other hand, we also had to admit undeniable possibility of publication bias yet, due to insufficient use of UMIN-CTR in the research field in general.

Conclusion

Since the all 14 papers that went through the qualitative assessment reported ingestion of indigestible dextrin with meals containing lipids, we have concluded that indigestible dextrin is scientifically proven to be effective in inhibiting the postprandial serum triglyceride level, particularly when it is taken with meal containing lipids.

In addition, all the above selected papers except 3 which don't have scores of the postprandial serum triglyceride level, are confirmed to somewhat include samples with tendency of the higher postprandial serum triglyceride level. Since we've got positive results in evaluation of evidences regarding healthy individual alone in each of them, we have judged that the theory has its scientific basis on healthy individual, also.