

- Title** Nutritional Therapy as a Complement for Diabetes and Hypertension
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- Reference** Health Technology Assessment Report MOH/P/PAK/258.12 (TR), online: http://www.moh.gov.my/hta/Nutritional_Therapy_report.pdf

Aim

1. To undertake a systematic review on the effectiveness or efficacy of using nutritional supplementation in prescribed doses as a complement in the treatment of pre-diabetes, diabetes, pre-hypertension and hypertension.
2. To assess the safety and cost effectiveness of nutritional supplementation in prescribed doses as a complement in the treatment of pre-diabetes, diabetes, pre-hypertension and hypertension.

Conclusions and results

There was limited good level of evidence to show that nutraceuticals as a complement for pre-diabetes, diabetes, pre-hypertension and hypertension is safe and effective. There was no evidence to show the cost-effectiveness of nutraceuticals as a complement for pre-diabetes, diabetes, pre-hypertension and hypertension.

Based on the review, nutraceuticals such as fish oil, bitter melon, high dose vitamin C, and Combination of vitamin C & E, high doses of vitamin B (folic acid, B6, B12), cinnamon and Vit E cannot be recommended as a complement therapy for diabetes until further scientific evidence is obtained to establish their effectiveness and safety. More research with larger, high quality randomised clinical trials are warranted to provide more scientific evidence on the long term safety and effectiveness of nutraceuticals such as fenugreek, chromium, Vitamin E, thiamine, Acetyl-L-carnitine and Alpha lipoic acid before these can be recommended as a complementary therapy for diabetes in Malaysia.

Recommendations

Based on the above review Vitamins C (1000 mg) and E (400 IU) supplementation in this dose combination may be associated with an increased risk of premature rupture of the membranes (PROM) and preterm premature rupture of the membranes (PPROM). Therefore, this combination is **not recommended for pregnant hypertensive** patients. Since the study trials were small, therefore, more research with larger, high quality randomised clinical trials are recommended to provide more conclusive scientific

evidence before Oral L-arginine, garlic preparations and magnesium supplementation can be established as nutraceuticals to be used as a complement therapy for hypertension.

Methods

Major electronic databases such as Medline, Embase, Pubmed, EBM reviews, HTA databases, Cochrane Central Register of Controlled Trials and Cochrane Database of Systematic Review were searched up to November 2012. Studies were reviewed separately according to the research questions. Retrieved records were screened for relevance. The search was limited to publication year from 2000-2012. Additional articles were identified by reviewing the bibliographies of retrieved articles and hand searching of journals. Potentially relevant papers were retrieved and independently checked against predefined criteria for inclusion by two reviewers. Included reviews and primary papers were critically appraised using the Critical Appraisal Skills Programme (CASP) and evidence was graded based on guidelines from U.S./Canadian Preventive Services Task Force and data were extracted and narratively presented.

Further research/reviews required

Further clinical research is warranted to provide further evidence on the effectiveness for the use of nutraceuticals in the treatment of pre-diabetes, diabetes, pre-hypertension and hypertension.

Written by

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