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Use of herbs and its products to control the diabetes mellitus

Jaspreet Kaur

Swami Keshwanand Rajasthan Agricultural University, India

Diabetes mellitus is a chronic metabolic disorder of impaired carbohydrates, fat and protein metabolism also called 'Madhumeha' which literally means excessive urine with sweet taste like honey. Limiting of diabetes mellitus without any side effects is a challenge still to the medical system. In recent years, herbs have become a subject of interest because of their beneficial effects on human health. There is large number of drugs made of herbal origin which were advised for treatment of Madhumeha. Some plants preparations used as antidiabetic medications show significant effect on lowering the blood sugar levels with minimal side effects and also improve general debility along with providing much needed antioxidant property in diabetes. Several plant extracts have been examined for their antidiabetic properties to recognize alternative treatment strategies that pose less of a hazard for diabetics. Such medicinal plants with antidiabetic and related beneficial effects in Madhumeha are as *Aegle marmelos*, *Andrographis paniculata*, *Azadirachta indica*, *Boerhaavia diffusa*, *Cassia grandis*, *Cinnamomum tamala*, *Cynodon dactylon*, *Dalbergia sissoo*, *Ferula asafoetida*, *Ficus bengalensis*, *Ficus glomerata*, *Ficus hispida*, *Hemidemus indicus*, *Mimosa pudica*, *Madhuca longifolia*, *Nigella sativa*, *Ocimum sanctum*, *Oroxylum indicum*, *Piper longum*, *Pongamia pinnata*, *Trigonella foenum-graceum* and *Zingiber officinale* contain antioxidants and have hypoglycemic and hypolipidemic activity in diabetes in different experiments. It is becoming clear that this natural resource is a helpful ally in inclusive treatment of diabetes.

jaspreetmaan9319@gmail.com

Useful method of the evaluation of basal energy expenditure in anorexia nervosa patients

Kimiko Kawano^{1,2}, Michiyo Kaneko³, Toshio Ishikawa¹, Tadashi Furuhashi², Masayuki Goto² and Takehiko Kaneko²¹National Center for Global Health and Medicine, Japan²Wayo Women's University, Japan³Kobe Women's University, Japan

Background & Aim: Anorexia nervosa (AN) is a kind of mental disorder which is mortal in the serious case mainly seen among young adults. Anorexia nervosa is classified into anorexia nervosa restricting type (ANr) and binge eating/purging type (ANbp). Patients need to have counseling by registered dietitians for nutrient intake. The assessment of their food intake is based on basal energy expenditure (BEE). In this study, we tried to obtain the value of BEE calculated by equation which is most accurate to estimate BEE in AN patients.

Method: Exhalation analyses were conducted by the apparatus (CHESTAK, C-8800, Chest M. I. Inc., Japan) in the patients of AN, ANr (n=13) and ANbp (n=10). The values of BEE evaluated by exhalation analysis were compared with the values calculated by Harris-Benedict equation and also compared with the values calculated by equation indicated in Dietary Reference Intakes 2010 in Japan (DRI), kcal/kg/day×body weight. Two-tailed student's t-test, followed by the F-test checking variance was performed and p<0.05 was considered significantly different.

Results: In ANr (n=13), the values of BEE measured by exhalation analysis was 737±210 kcal/day, the values calculated by Harris-Benedict equation was 1.177±132 kcal/day (p<0.05). In ANbp (n=10), 815±136 kcal/day and 1.088±30 kcal/day (p<0.05), respectively. On the other hand, the value of BEE calculated by the equation in DRI was 794±167 kcal/day in ANr and 735±62 kcal/day in ANbp and there was no significant difference to the values measured by exhalation analysis.

Conclusion: The values of BEE in AN patients can be estimated by those calculated by the equation in DRI, which will be more useful and reliable to support AN patients in counseling on nutrient intakes.

kkawano@hosp.ncgm.go.jp