



Role of Udvartana, a diurnal Ayurveda practice in the prevention and management of diabetes mellitus

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Diabetes is among the most common lifestyle disorders of the modern era. The current approach towards its prevention and management is largely based on diet and lifestyle modifications. As increased body weight and serum lipids have been implicated in the risk factors of diabetes, measures to reduce them have a significant role to play. Udvartana described as a diurnal practice for health maintenance in Ayurveda plays an important role in the prevention and management of diabetes. Clinical studies have shown that Udvartana helps in reducing body weight as well as serum lipids. A review of the role of Udvartana in the prevention and management of diabetes is attempted here.

Keywords: Diabetes; Udvartana; Body weight; Serum lipids.

Background

The number of people with diabetes has risen from 108 million in 1980 to 422 million in 2014. The global prevalence of diabetes among adults over 18 years of age has risen from 4.7% in 1980 to 8.5% in 2014. Diabetes is a major cause of blindness, kidney failure, heart attacks, stroke and lower limb amputation. In 2016, an estimated 1.6 million deaths were directly caused by diabetes. WHO estimates that diabetes was the seventh leading cause of death in 2016. Healthy diet, regular physical activity, maintaining a normal body weight and avoiding tobacco use are ways to prevent or delay the onset of type 2 diabetes. Simple lifestyle measures have been shown to be effective in preventing or delaying the onset of type 2 diabetes. (1)

Udvartana is a diurnal practice recommended by ayurveda for the maintenance of health. It is a type of massage of the whole body with the powder

of herbal and/or other materials. This practice is also used as a therapeutic measure to treat a few disorders in ayurveda. It is mostly used to treat a variety of lifestyle disorders like diabetes, obesity and certain skin disorders. Thus, udvartan can be a potential measure to address various lifestyle disorders like diabetes.

Methods

Diabetes mellitus is a group of metabolic disorders characterized by raised blood sugar due to defects in insulin secretion, action or both.(2) The major driving factors of the global type 2 diabetes epidemic include overweight and obesity, sedentary lifestyle and increased consumption of unhealthy diets containing high levels of red meat and processed meat, refined grains and sugar-

sweetened beverages.(3) In pre-diabetes, weight loss has been shown to delay the onset or decrease the risk of type 2 diabetes, while in established type 2 diabetes weight loss has been shown to improve glycaemic control. Observational studies support the reduction in cardiovascular risk factors following weight loss in patients with diabetes.(4) Hence weight management plays an important role in the prevention of diabetes. There are several measures to reduce the weight of the body out of which following a low calorie diet and regular physical activity are popular and widely practiced ones. However many individuals find it difficult to adhere to these for long and hence noncompliance is common . People around the world have been seeking complementary and alternative medicines to tackle diabetes. It is estimated that complementary and alternative medicine (CAM) is used by 80% of the world population for primary health care.(5)

Udvardana which is described in ancient ayurveda texts has been said to produce loss of fat, maintain integrity of tissues and preserve the health of skin. It helps decrease kaphadosha and medodhatu which according to ayurveda are increased in diabetes.(6) Clinical evidence suggests multiple catabolic benefits of udvardana on body fat. In a study, significant decrease in physical parameters such as body weight, body mass index, waist circumference, hip circumference, waist hip ratio and skin fold thickness was observed due to udvardana. Significant reduction in psychological parameters such as score of stress inventory scale was observed. Significant improvement in quality of sleep in study group was found (7). These findings suggest udvardana reduces the body fat as well as the stress.

Clinical evidence suggests that udvardana helps in reducing tissue fat as well as serum lipids. Udvardana has been found to reduce the central obesity significantly. Significant reduction in serum lipids along with increase in HDL cholesterol has been evidenced by udvardana.(8) Thus udvardana has a compound influence on body fat as well serum lipids. This gives the dual advantage of preventing diabetes as well as its vascular complications. The exact mechanism of action of udvardana is not understood. Ayurveda texts explain that Udvardana improves the metabolic activities in the tissues. The effect of udvardana could be due to its action on the enzymes regulating lipid breakdown. The powders of herbs commonly used for udvardana may stimulate the lipolytic enzymes. Also, the action of brisk rubbing of powder over the skin may produce a mechanical effect on the receptors of the skin. Even though it is a non-invasive procedure it exerts its systemic action as evidenced by its effect on lowering the serum lipids. This shows udvardana may stimulate lipid catabolism throughout the body .

Ayurveda texts mention that udvardana relieves obstructions in the micro channels of the body(9). This explanation points towards the effect of udvardana in improving the microcirculation as many practitioners of ayurveda use udvardana to treat vascular disorders. Skin disorders are frequently encountered in diabetes with cutaneous infections, xerosis and inflammatory skin diseases being the commonest.(10) In ayurveda texts Udvardana has been claimed to exert a positive influence on the health of the skin. However, studies to show its effect on skin are not available.

Discussion

Diabetes is a disease which needs a holistic approach for its prevention and management. Simple lifestyle modifications like udvardana can play a crucial role in this regard. Udvardana offers multiple health benefits which suit the demands of prevention and management diabetes. Preliminary studies carried out on udvardana so far suggest the potential role udvardana can play in reducing the excess body weight and serum lipids which have been identified as risk factors of diabetes. Other possible benefits of udvardana like its effect on vascular system and skin are also complimentary in the care of diabetes. However, studies involving large groups of people with diabetes and those with risk of diabetes should be carried out to evaluate the role of udvardana in the prevention and management of diabetes. Also, as many substances are used for udvardana the effect of individual substances

should also be evaluated. However, as it involves the usage of different substances for rubbing over



the skin, an adverse reaction in skin is reported in some individuals. Also, caution should be exercised while using udvartana in people with broken skin.

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