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Research Article

A PILOT STUDY TO EVALUATE THE EFFICACY OF “KOTALAHIMBUTUĀDI CHŪRNA” (A TRADITIONAL HERBAL POWDER PREPARATION) ON MADHUMEHA

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ABSTRACT

Madhumeha, more commonly known as Diabetes Mellitus is one of the most common non communicable diseases can be seen in today's society. Nowadays *Madhumeha* has become a considerable problem among people as a result of stress, lack or no exercises and the boredom. In traditional medicine in Sri Lanka suggests number of formulas for this disease. The selected formula “*Kotalahimbutuādi chūrna*” is given to many patients who suffer from *Madhumeha* by a traditional physician, Uva province, Sri Lanka. Therefore the main purpose of this pilot study was to evaluate the efficacy of a traditional herbal preparation “*Kotalahimbutuādi chūrna*”. The main ingredients of this preparation are Kotlahimbutu (Roots of *Salacia reticulata*), Nelli (Pericarp of *Phyllanthus embelica*), Rasakinda (Stems of *Tinospora cordifolia*), Uluhāl (Seeds of *Trigonella foenum*), Walkottamalli (Whole plant of *Scorparia dulcis*). For this study, 23 patients were randomly selected either sex between the age 30 to 60 years who were suffering from type II Diabetes Mellitus from the diabetic clinic, Ballekatuwa Central Dispensary, Uva Province, Sri Lanka. The prepared herbal powder was given to those patients orally 5 grams twice a day with luke warm water for 21 consecutive days and the fasting blood sugar levels were determined before and after the treatments. The results showed considerable deterioration of blood sugar levels ($P < 0.05$) after the treatment. Therefore this traditional preparation of “*Kotalahimbutuādi Chūrna*” can be advised to *Madhumeha* patients and more studies of this preparation has to be under taken.

Keywords: *Madhumeha*, Diabetes Mellitus, *Kotalahimbutuādi chūrna*, Traditional Medicine.

INTRODUCTION

A silent killer, Diabetes Mellitus has become one of the most common non communicable diseases and has been categorized under the top ten leading causes for deaths in the world today. The international diabetes federation has estimated that 285 million people worldwide suffering from Diabetes Mellitus and by the end of year 2013¹, nearly 5.1 million will die due to diabetes related complications². As this is a considerable amount regarding the disease, it should be treated with a proper treatment plan and the causes related to the disease onset should be neglected thoroughly. Specially, the disease could be arisen as a result of stress, lack or no exercises (sedentary life style patterns which are followed by today's society) and the food habits. The disease *Madhumeha* mentioned in Ayurveda, can be correlated with Diabetes Mellitus in modern medicine in which, the patient is having sweetness in his urine and whose odour is similar to that of

honey³. Due to etiological factors, *Kapha*, *Pitta*, *Mamsa* and *Medas* are aggravated excessively and all of them obstruct the path of *Vāta* which carries *ojas* to *basti*. This results in onset of *Madhumeha*⁴.

Many traditional physicians in Sri Lanka have been reported, treating successfully for the disease *Madhumeha*. The selected formula “*Kotalahimbutuādi Chūrna*” is a traditional herbal preparation among a number of formulas prescribed for *Madhumeha* by Sri Lankan traditional physicians.

Objective

The objective of this pilot study was to evaluate the efficacy of “*Kotalahimbutuādi Chūrna*” (A traditional herbal powder preparation) on *Madhumeha*.

METHODOLOGY

Selection of the drug

The formula was selected from a traditional physician, Uva province, Sri Lanka which was given to many patients who

suffer from *Madhumeha*. The selected drug consists of 5 ingredients which are the roots of Kotalahimbutu (*Salacia reticulata*), Pericarp of Nelli (*Phyllanthus emblica*), Stems of Rasakinda (*Tinospora cordifolia*), seeds of Uluhāl (*Trigonella foenum*) and whole plant of Wal kottamalli (*Scorparia dulcis*).

Preparation of the drug

All the raw materials were collected, except the seeds of *Trigonella foenum*. Washed the raw materials thoroughly and dried all the ingredients under the shade separately. After that they were powdered separately and mixed each of the powders in equal proportions to get the end product.

Mode of Selections

Randomly selected 23 patients, suffering from Type II Diabetes Mellitus (FBS above 115 mg/dl, whose fasting blood sugar levels are not controlled by western treatments), between the ages of 30 to 60 years, both male and female patients, from the Diabetic clinic at Ballekatuwa Central Dispensary, Uva Province, Sri Lanka. Excluded the patients with hypertension, ischemic heart diseases, renal disorders and other systemic diseases. Signs, symptoms and fasting blood sugar levels were recorded before and after the treatment using a standard proforma and the instructions relating to food and habits which should be avoided were given to the selected patients. The prepared herbal powder was given to those patients orally 5 grams twice a day with luke warm water for 21 consecutive days. Statistical analysis was done using Mann - Whitney U Test.

RESULTS

There were 05 dropouts at the end of three weeks. The fasting blood sugar levels of others (before and after treatments) are mentioned below in table 1.

Table 1: Fasting blood sugar levels of 18 patients, before and after treatments

	Gender	Before (mg/dl)	After (mg/dl)
Patient 1	Male	251	204
Patient 2	Male	242	192
Patient 3	Female	137	123
Patient 4	Female	120	100
Patient 5	Female	212	222
Patient 6	Male	230	194
Patient 7	Female	168	143
Patient 8	Male	188	196
Patient 9	Male	201	199
Patient 10	Female	222	109
Patient 11	Female	246	213
Patient 12	Male	256	223
Patient 13	Female	115	98
Patient 14	Female	238	225
Patient 15	Female	254	233
Patient 16	Male	187	156
Patient 17	Male	166	144
Patient 18	Female	213	178

The properties of the ingredients of “*Kotalahimbutuādi Chūrna*” are mentioned below in table 2.

Table 2: The properties of the ingredients of “*Kotalahimbutuādi Chūrna*”

Ingredient	Rasa	Guna	Virya	Vipaka
Kotalahimbutu (<i>Salacia reticulata</i>) ⁵	Katu Tikta	Ruksha Thikshna	Shita	Katu
Nelli (<i>Phyllanthus emblica</i>) ⁶	Madhura Amla Katu Tikta Kashaya	Laghu Ruksha	Shita	Madhura
Rasakinda (<i>Tinospora cordifolia</i>) ⁷	Tikata Kashaya	Guru Snighdha	Ushna	Madhura
Uluhal (<i>Trigonella foenum</i>) ⁸	Katu	Laghu Snighdha	Ushna	Katu
Wal Kottamalli (<i>Scorparia dulcis</i>) ⁹	Tikta Kashaya Madhura	Laghu	Shita	Katu

DISCUSSION

The overall analyzed results showed a statistically significant deterioration of fasting blood sugar levels and the P Value was less than 0.05, while fasting blood sugar levels of two patients were increased during the study.

When considering the properties of *Madhumeha* the ingredients of the drug, most of the ingredients consist of *Katu – Tikta - Kashaya Rasa, Laghu – Ruksha - Thikshna Guna, Katu Vipaka and the actions of Pramehaghna, Kapha – Medas shamana*. Those properties consist of the abilities of *shamana* /reducing *Kapha & Medas* which play a major role in *samprapti* of *Madhumeha*. Due to those non aggressive *Kapha and Medas*, the passage of *Vāta dosha* are also clear and it will not be obstructed by *Kapha and Medas* as mentioned in Charaka samhita and also the ingredients of *Tinospora cordifolia* and *Trigonella foenum* consist of the properties of *Ushna virya* and the ingredients of *Phyllanthus emblica* and *Tinospora cordifolia* consist of the properties of *katu vipāka*. They also help to reduce *Vāta dosha* which is the major *dosha* involved in arising *Madhumeha*. Therefore the drug is supposed to be used to control the disease *Madhumeha*.

CONCLUSION

It can be concluded that the drug “*Kotalahimbutuādi Chūrna*” is a very effective traditional preparation for controlling fasting blood sugar levels or the disease *Madhumeha* and more studies of this traditional preparation is to be accomplished.

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