

**EVALUATION OF THE EFFICACY OF
SAFOOF-E-HULBA IN THE TREATMENT OF
ZIABETHUS SHUKRI**



**THESIS SUBMITTED FOR THE DEGREE OF
MASTER OF PHILOSOPHY (UNANI)**

INSTITUTE OF INDIGENOUS MEDICINE, UNIVERSITY OF COLOMBO

S. FOWZIYA THASSIM

SUPERVISOR

**DR. M.I. WILLIAM
D.I.M.S. (CEYLON)
H.P.A. (SRI LANKA)
SENIOR LECTURER
DEPARTMENT OF MUALEJATH
INSTITUTE OF INDIGENOUS MEDICINE
UNIVERSITY OF COLOMBO**

**DEPARTMENT OF MUALEJATH
INSTITUTE OF INDIGENOUS MEDICINE
UNIVERSITY OF COLOMBO
RAJAGIRIYA.
COLOMBO
SRI LANKA**

YEAR: 1997

ENROLMENT NO: 94/28

CHAPTER 5

DISCUSSION AND CONCLUSION

In this study, the therapeutic effects of safoof-e-hulba on noninsulin dependent diabetes mellitus were evaluated. The results indicate some therapeutic effect in the control of the disease since a lowering of blood glucose and urine sugar and alleviation of symptoms of the disease to some extent were observed.

At the end of the first 12 weeks of the treatment as ward patient, the blood sugar level and glycosuria returned to normal in 13 (31.7%) patients. In 18(43.9%) patients, blood sugar levels and glycosuria had a considerable percentage (50%) of reduction although it did not return to normal. The colour of urine was green with yellow precipitate and did not come to normal. The rest (10, 24.4%) of them did not show any change in blood sugar and the urine sugar levels.

The varying effects shown in the different groups of people may have been due to the physiological status of each

individual such as different in mizaj, akhlath, constitution of the individual and varying metabolic rates. Under such conditions, a dose of the drug administered to each individual may not have been sufficient in comparison to their physiological status. Also, it could be that the mizaj of the drug and that of the patient were not compatible.

When both trial drug and diabetic diet were administered together a significant reduction in both blood glucose level and glycosuria were observed.

Complete withdrawal of the drug and only the diabetic diet administered during the whole of 13th week showed that both the blood glucose level and the glycosuria had returned almost to the same level as that before commencement of treatment. From this, one could infer that only diabetic diet is not sufficient for the control of hyperglycaemia and glycosuria in NIDDM patients.

All the failures were above 50 years of age although the age of patients of the sample was above 40 years. The average age of the failures was 55.1 (sd=4.41) while that of those who

succeeded was 46.46 (sd=6.01). The difference in age in this regard was significant and the therapy was found to be more effective at lower age groups. The effect of therapy did not vary with sex although the majority was females.

The patients with less chronicity of the disease succeeded in recovering than the others. Out of the 21 patients with 2 to 3 years duration, no one failed in response to the therapy. But out of those who had a chronicity between 4 to 5, only 2 (15.4%) succeeded in achieving complete recovery. This effect was found to be significant. This shows that the drug was more effective in patients who have developed diabetes recently. In short duration diabetic patients, only a small proportion of beta cells of the pancreas would have been affected leading to a better beta cell function than the others. Hence, the research drug may have had a better stimulating effect on these cells. On the other hand, in chronic cases, a large proportion of beta cells would have been affected. Hence the stimulation of the research drug on these cells was not significant.

Hereditary was a predisposing factor in 29 (70.7%) patients. Epidemiological studies also seem to show that this disorder involves a major hereditary component. This gives importance to the genetic factor. Studies with twins and sibship have shown that genetic factors are more important in the development of noninsulin dependent diabetes (Ref. 52).

This study showed that the disease was more prone in those who were in sedentary habit (73.2%). It was observed that all the patients are nonvegetarians. Most of them were of sedentary habits and residence of urban areas. It could be said that these classes of people are mostly dependent on refined and rich foods than fibre content foods. Such food have less roughage and are easily digested and absorbed thereby increasing the blood sugar level rapidly. Increase in blood sugar level results in insulin resistance. In addition due to lack of physical activity in sedentary people, peripheral tissue utilization of sugar is also less. This again is a cause for hyperglycaemia. It has been found from research (Ref. 115) that whole *hulba* and *hulba* seed extract and its gum isolates are rich sources of fibre in the form of

galactomannan which resembles guar gum in chemical structure and viscosity (Ref. 115). Hence, it could be that the trial drug supplemented the requirement of fibre contents in these patients thereby preventing hyperglycaemia and insulin resistance.

Another research paper says the following:

The effect of hulba seeds and guar gum on the impairment of diffusion of glucose out of dialysis bag was studied by R.D.Sharma. From this, he concluded that in the presence of hulba there is a definite impairment in glucose diffusion from intestine. From these references, it appears that hulba reduces blood glucose level by decreasing glucose absorption from the intestine. Slowly absorbed carbohydrates have been shown to reduce insulin requirement (Ref.116) and hence hulba seeds by slow absorption of carbohydrate from intestine may lower chronic insulin requirement.

The specific symptoms of diabetes, namely, drymouth, polyphagia, polydipsia, polyuria which were present in all

cases was seen to have alleviated completely in 31 (75.6%) of cases after 12 weeks of treatment. The symptoms of nocturia and frequency of micturition were reduced in 10 (24%) of cases. A significant improvement in symptom of fatigue was observed in all cases within 12 weeks of treatment. No significant change was noted in loss of weight in any one of the patients. It could be presumed that the trial drug had an effect on stimulation of insulin secretion or on rectifying any defect in insulin molecules. Thereby, action of the insulin in these patients has improved to a certain extent and has decreased proteolysis. Hence, no change in weight.

It has been found from a research carried out by Gupta et al. (1994) that this drug works as an antilipidaemic. In noninsulin dependent type of diabetes mellitus, lipid metabolism plays a significant role. Therefore, it is possible for these patients to be more prone to hyperlipidaemia thereby leading to complications such as macrovascular disease. So, further studies could be carried out to see if this has any effect in controlling:

1. the development of diabetic complications
2. excessive lypolysis.

The blood pressure and albuminuria were checked through out the research period. They were normal in all cases. These factors could be taken into consideration when determining the effect of this drug in preventing complications of diabetes.

The three patients who suffered from pruritis vulvae and 13 who had nocturnal leg pain recovered completely from the symptoms, after 12 weeks of treatment. There was relief in only 18 out of the 28 patients who had peripheral numbness. No adverse effect was indicated either in short or long term treatment.

One commendable factor observed in the study was that all patients who were subjected to this therapy always commented that the drug gave them a feeling of well-being and stamina. This may be due to the fact that most of the materia medica books have described *hulba* as a *dawa-e-giza*. Further, iron and protein are said to be two of its constituents and has been prescribed in anaemic condition and the milk which was given as the vehicle of the drug also provides nourishment. This may be the cause for the sense of well-being and the

relief in symptoms of peripheral numbness and the nocturnal leg pain.

Accordingly, it was evident from this study, the higher percentage of response was shown in those who had khun and saudavi mizaj. The thar mizaj of the milk which was given as a vehicle also would have helped in counteracting the effects of garmi and khushki either in these patients or in the drug.

It could be concluded that the research drug has the hypoglycaemic effect and it provided the symptomatic relief to the patients at various levels. The symptoms included dry mouth, polyphagia, polydipsia, polyuria, frequent micturition, tiredness, nocturnal leg pain etc. Specially, it has to be mentioned that all patients were feeling well.

The drug could be given safely in cases of noninsulin dependent diabetes mellitus patients who are having less chronicity of the disease while in chronic cases, the response was less satisfactory. This drug could be recommended as an

oral hypoglycaemic drug for noninsulin dependent diabetics specially for those who belongs to khuni and saudavi mizaj.

Further study

Although, side effects were not observed during the research period, chronic use may result in unwanted side effects. Moreover, it has been shown that in addition to therapeutic agents, crude herbal preparations may contain other active substances which can cause fulminant veno occlusive diseases (Ref. 30) or cirrhosis of the liver (Ref. 19). Some plant extracts have general hepatotoxic and nephrotoxic activities (Ref.61). Therefore, further research need to be carried out in evaluating the potential deleterious side effects of safoof-e-hulba along with its therapeutic effects.

Further research could be conducted to see the mechanism of its action with relation to the factors such as:

- * extra pancreatic action
 - the glucose uptake by tissue
 - the tissue respiration

the glycogen synthesis in the liver and
muscles tissue

the triglyceride synthesis in adipose
tissue and gluconeogenesis

* intra pancreatic action

insufficient and delayed insulin secretion
in comparison with needs

Also, the role played by milk when given with hulba could be
undertaken for further research.