
JRK'S ANTI- COFF- SCIENTIFICALLY PROVEN DIABETES NEUTRAL SIDDHA DRUG

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Abstract

This article deals with the hidden scientific aspects of the medicinal herbs in preventing glucose diffusion. Herbal formulation with glucose base are consider to be not ideal for diabetic patient but our study has clearly shown that certain herbs prevent glucose diffusion and hence such herbs are used in the formulation shall remain diabetic neutral. JRK's Anti-coff is proven to be a first diabetic neutral cough syrup from Siddha system of medicine. The scientific details are discussed in the paper.

Keywords: *Mucolytic, Diabetic Neutral, Cough syrup, Ocimum sanctum.*

Introduction

JRK's Anti- Coff is a proprietary Siddha drug formulated with several medicinal plants such as *Anisochilus carnosus*, *Leucasaspera*, *Ocimum sanctum*, *Solanum trilobatum*, *Acalypha indica*, and *Adhatodavasica*. The product is formulated with the legacy of proven medicinal benefits of the above plants as stated in the ancient Siddha literature to offer the benefit of blood purification and relief from cough [1].

Our earlier study has clearly demonstrated the efficacy of JRK's Anti-Coff to increase the phagocytic ability which would in turn results in the elimination of antigen/allergen/pathogen from the blood stream. The blood purification/detoxification effect is one of the important strategies for the treatment of upper respiratory tract infections (URTI) according to Indian System of Medicine (ISM) [2,3].

The herbs used in the formulation of JRK's Anti- Coff were studied subsequently for their anti-oxidant property and found that most of the herbs possess strong free radical scavenging activity. Further our earlier study on *Anisochilus carnosus* is proven to have muco- constrictive property while *Ocimum sanctum* and *Adhatodavasica* has shown mucolytic property. The clinical evidence shared by AYUSH experts across India has clearly revealed that JRK's Anti- Coff is very effective for the management of both infectious and allergic cough as well as for URTI.

Several ISM experts have further stated that JRK's Anti- Coff has not increased the blood glucose level of diabetic patients when they were treated with JRK's Anti- Coff. Interestingly JRK's Anti- Coff is presented in liquid glucose base.

In order to understand the science behind how JRK's Anti- Coff doesn't increase the blood glucose level, the present study was undertaken. The findings clearly show that certain herbs bind the glucose and thus prevent their dissolution. JRK's Anti-coff is the first diabetes neutral cough syrup cum blood purifier. Details are given in the article.

Materials and methods

Preparation of the extracts

The herbs such as *Anisochilus carnosus*, *Leucasaspera*, *Ocimum sanctum*, *Solanum trilobatum*, *Acalypha indica*, and *Adhatodavasicawere* collected and boiled individually in water for 30 minutes. The solute to solvent ratio was maintained as 1:10. The filtrate was used for the study.

Glucose diffusion inhibition

The potential of the above herbal extracts to inhibit glucose diffusion was investigated vis-à-vis concentration of the herbs [4]. In brief the experiment was done using dialysis tubing prepared with egg semi-permeable membrane. The membrane was made as a pouch and 5 mL of a solution of glucose and NaCl (0.15 M) was filled and then the pouch was sealed. Similarly several such pouches were made with different herbal extracts of varying concentrations such as 0.1, 0.2, 0.3 mg/ml. The dialysis tubing with different extract as well as the untreated control were immersed in 15ml of 0.15 M NaCl and were maintained in an orbital shaker at room temperature. A glucose concentration in the external solution was measured by treating the solution with Fehling's reagent and read spectrophotometrically.

Result

The *Anisochilus carnosus* and *Ocimum sanctum* showed very high sugar diffusion inhibition property when compared to other herbs used in JRK's Anti-Coff. Both *Anisochilus carnosus* and *Ocimum sanctum* at 0.3 mg/ml inhibited 69.43 and 51.35% inhibition of the diffusion of glucose, respectively (Table- 1)

Extracts	Concentration/mg/ml	OD value	% glucose diffusion inhibition
Control (untreated)		0.592	100
<i>Anisochilus carnosus</i>	0.1	0.349	41.05
	0.2	0.241	59.29
	0.3	0.181	69.43
<i>Leucasaspera,</i>	0.1	0.494	16.55
	0.2	0.482	18.58
	0.3	0.484	18.24
<i>Ocimum sanctum</i>	0.1	0.328	44.59
	0.2	0.311	47.47
	0.3	0.288	51.35
<i>Solanum trilobatum</i>	0.1	0.496	16.22
	0.2	0.494	16.55
	0.3	0.521	11.99
<i>Acalypha indica</i>	0.1	0.501	15.37
	0.2	0.511	13.68
	0.3	0.499	15.71
<i>Adhatodavasicawere</i>	0.1	0.498	15.88
	0.2	0.501	15.37
	0.3	0.511	13.68

Discussion

Several medicinal plants are proven to have strong anti-diabetic effect. Similarly plants having effect against both alpha amylase and alpha glucosidase enzymes are also well established[5,6]. However plants having effect in reducing/retarding glucose diffusion is less known from the context of when the herbal drugs are prepared with glucose as medium like JRK's Anti- Coff.

Besides the benefits such as blood purification and relief from cough, JRK's Anti- Coffis also reported to have no effect in increasing blood glucose level in diabetic patients. It is always assumed that any herbal drug prepared with sugar medium may not be suitable for diabetic patients as the base of such drugs may increase blood glucose level. But surprisingly such situation has not been reported in diabetic patients when they were treated with JRK's Anti-Coff.

Our study has established that several herbal extracts such as *Anisochilus carnosus* and *Ocimum sanctum* have significantly prevented the diffusion of glucose. We presume that the above herbs may be absorbing the glucose and thereby preventing the glucose diffusion. This is the first time we have established that the medicinal plants such as *Anisochilus carnosus* and *Ocimum sanctum* having the above benefit besides many other medicinal property as mentioned in the scriptures of Siddha & Ayurveda. The real mechanism involved in these plants to absorb glucose and retain within and not allowing the diffusion is yet to be established however our study has undoubtedly established the above property of *Anisochilus carnosus* and *Ocimum sanctum*.

The above new mechanism of action of *Anisochilus carnosus* and *Ocimum sanctum* in the treatment of diabetes mellitus cannot be ruled out. It has been reported in the ancient scriptures of Ayurveda and Siddha that several herbal chooranado reduce blood glucose level [7]. The possibility of those herbs having sugar diffusion inhibition cannot be ruled out. Interestingly our earlier study has clearly shown that *Anisochilus carnosus* has muco-constriction activity while *Ocimum sanctum* exhibited mucolytic property.

Our study clearly suggests that the total herbal preparation may be much more superior than single active component based drugs as in the case of allopathy. The single active component based drugs in all likelihood may have a targeted activity but to have a broad spectrum therapeutic benefits, poly herbal, whole plant based preparation is necessary. This further revalidates the scientific credence and superior therapeutic benefits of drugs of Siddha and Ayurveda systems of medicine.

We presume that JRK's Anti- Coffis the first product to have a broad spectrum therapeutic benefits such as blood purification by boosting phagocyte mediated antigen/pathogen clearance, anti-oxidant effect (scavenge free radicals) mucolytic and muco constriction activity along with glucose diffusion inhibition. Whether any of the medicinal plants used in the formulation of JRK's Anti- Coff having alpha amylase and alpha glucosidase inhibition is not known but such possibility cannot be excluded. Based on the proven broad spectrum therapeutic benefits of JRK's Anti- Coff along with glucose diffusion inhibition clearly suggests that JRK's Anti- Coff is diabetes neutral, blood purifier cum cough syrup safe for diabetes patients.

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