Ancient South Asian Treatments for *Diabetes mellitus*

Sarah Khan MS, MPH, Phd Candidate

City University of New York, New York Botanical Garden, New York, NY

Introduction

▪By 2025, diabetes prevalence in India, China, and the USA will increase by 195%, 134%, 58% respectively from 1995. This means 57.2, 37.6, and 21.9 million people in each country.

▪Ayurvedic and Chinese antidiabetic plants when administered according to traditional practices will decrease symptoms associated with *Diabetes mellitus*.

▪I have researched and documented three classical Ayurvedic and three non-classical formulations to treat *Diabetes mellitus* in South Asia.

Ayurveda is an ancient healing tradition developed in the South Asian subcontinent. Classical Sanskrit texts describe "prameha" (an overproduction of urine) that includes over 20 subtypes that are divided into three categories: kaphaja, pittaja, or vataja prameha.

"Madhumeha", a subtype of vataja, is a condition where one passes a large quantity of sweet urine. Over the centuries Ayurveda and individual practitioners developed numerous formulations to treat madhumeha.

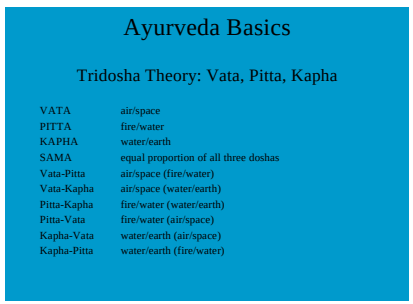

Fig. 2. Based on Maya Tiwari's A Life of Balance

Materials and methods

Under the guidance of two Ayurvedic physicians, I conducted clinical research at Gujarat Ayurved University & Shri Gulabkunverba Ayurvedic Society from December 2001-February 2002 in Jamnagar, Gujarat.

▪13 prospective case studies

▪10 retrospective case studies

- ▪comparative ethnobotany
- ▪clinical data on prescribed Ayurvedic, allopathic medicines, blood glucose levels
- ▪clinical nutritional data-a 24-hour food recall.

Results

Based on the case studies, I compiled a detailed list of all Ayurvedic medicines prescribed. The Ayurvedic physicians regularly prescribed three classical Ayurvedic formulations: Chandraprabhavati, Dhatri haridra, and Tejapatra pushkarmul.

❖Chandraprabhavati, caused a decrease in blood glucose levels in 6/7 cases in a small retrospective study.

In addition the physicians regularly prescribed three non-classical, local plant/plant formulations: Diabetes vati, Mamejwa, Saptarangadi.

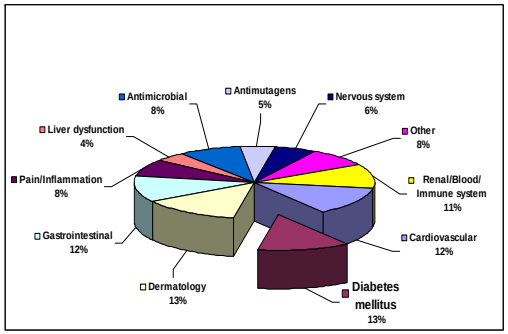

Fig. 1. Based on 166 Ayurvedic Medicinal Plants, 13% showed an antidiabetic effect [Khan and Balick, 2001].

Aconitum heterophyllum	Ativisha
Acorus calamus	Vaca
Baliospermum montanum	Danti
Bambusa arundinacea	Vansalochana
Berberis aristata	Daru haridra
Cedrus deodar	Devadaru
Cicer arietinum	Chanaka
Cinnamomum camphora	Karpura
Cinnamomum tamal	Tamalapatra/Tejapatra
Cinnamomum zeylanicum	Tvak
Commiphora mukul	Guggulu
Coriandrum sativum	Dhanyak
Curcuma longa	Haridra
Cyperus rotundus	Musta
Elettaria cardemomum	Ela
Embelia ribes	Vidanga
Emblica officinalis	Amlaki
Hemidesmus indicus	Sariva
Ipomoea turpenthum	Trivrit
Piper chaba	Cavya
Piper longum and root	Pippali/Pippali moola
*Piper nigrum*and root	Marichi/Marichi moola
Plumbago zeylanica	Citrak
Scindapsus officinalis	Gaja pippali
Shilajatu	Shilajatu
Swertia chirata	Kiratatikta/Bhunimba
Terminalia belerica	Bibhitaka
Terminalia chebula	Haritaki
Tinospora cordifolia	Guduci
Zingiber officinale	Sunthi

Table I. Chandraprabhavati (plant ingredients based on Athavale's, Prameha and Madumeha and Sarangadhara Samita)

Conclusions

•Six plant/plant formulations identified

–Three classical Ayurvedic formulations identified

- •Chandrapraphavati showed blood glucose lowering effect in a small sample when administered according to classical Ayurvedic theory

–Three local plant/plant formulations identified

Future Research

•Conduct a larger clinical study at SPARC (Aug-Sept 2003)

–Assess classical Ayurvedic plant/plant formulations (1-3)

–Blood glucose levels, 24-hour food recall

–Develop and implement a parallel questionnaire to evaluate patients from an Ayurvedic perspective

–Laboratory test on blood glucose lowering effect of formulations

•Compare to TCM, Nanjing Botanical Garden (May-Sept 2004)

Literature

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King, H. et al. 1998. Global Burden of Diabetes, 1995-2025: Prevalence, numerical estimates and projections. Diabetes Care 21(9), Sept., 1414-1431.

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(Please see handout of medical references).

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For further information

Sarah Khan's email: skkhan@pipeline.com

Refer to: http://www.nybg.org/bsci/res/resproj.html for a PDF of "Therapeutics Plants of Ayurveda" by Khan, S. and Balick, M. 2001

Gujarat Ayurved University, Jamnagar, Gujarat (www.ayurveduniversity.com/uni.htm)

Foundation for the Revitilisation of Local Health Traditions, Bangalore, Karnataka (www.frlht-india.org)

Bhavan's Swami Prakashananda Ayurveda Research Center, Bombay, Maharashtra (www.bhavans.info/otherdepartments.html)