

Traditional Sri Lankan Spices for Dyslipidemia

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DOI: 10.29322/IJSRP.10.05.2020.p101105

<http://dx.doi.org/10.29322/IJSRP.10.05.2020.p101105>

Abstract- Sri Lanka is a country where has efficacious food cultures related to their traditional life styles. In traditional food recipes native spices such as *Garcinia cambogia* or *Garcinia zeylanica* (Goraka or Malabar Tamarind), *Tamarindus indica* (Siyambala or Tamarind), *Piper nigrum* (Gammiris or Pepper), *Trigonella foenum-graecum* (Uluhal or fenugreek) and *Cinnamomum zeylanicum* (Kurundu or Cinnamon) are enriched. Recent advances in global perspectives on non-communicable diseases reconsidering traditional foods including spices for health prevention and promotion. Therefore, the current study aims to review ethnomedicinal value of aforementioned spices considering its biochemical effect on lipid profile including total cholesterol, triglycerides, low density lipoproteins and high density lipoproteins at cell biology and effect on biochemistry in cellular level. The study was designed as a literature review through primary and secondary literature sources which are available online with utmost attention to peer reviewed and indexed journal articles. Thirty articles were considered as references while reviewing fifty two related research studies. Biochemical modifications in cellular sites relevant to management of serum lipid values were identified in each of spices. Biochemical effect on lipogenesis and lipid metabolism in each variety were identified. The study suggests that the consumption of spices is beneficial in lipid level management.

Index Terms- Sri Lankan spices, lipid profile, traditional foods, cholesterol

I. INTRODUCTION

Hyperlipidemia is a key risk factor for cardiovascular diseases. According to the Katulanda et al, three in four Sri Lankan adults have some form of dyslipidemia due to some leading modifiable risk factors such as physical inactivity, obesity, hypertension, and diabetes etc. (Katulanda et al, 2018). A recent study has revealed that high plasma triglyceride concentrations, low HDL concentrations and elevation of small LDL cholesterol particle concentrations are characteristic of diabetes dyslipidemia because low HDL cholesterol followed by hypertriglyceridemia is the common onset lipid abnormality found in Sri Lankan patients with type 2 diabetes (Suganthan & Sivansuthan, 2016). Total 5% among Sri Lankan populations are affected by hypercholesteremic condition (Department of Census & Statistics, 2017). Therefore, diet modification for dyslipidemia patients is much beneficial. In current trends, global perceptiveness in recent

advances in traditional food cultures and life styles are mostly discussed. As a south Asian country, Sri Lanka carries rich bio diversity with expanded traditional food cultures correlate with native lifestyles. Traditional Sri Lankan cuisines are enriched with spices which make a tastiest outcome. Other than the taste, aforementioned recipes are having positive evidences on health promotion and prevention. Hence, prevalence from non-communicable diseases through proper consumption of traditional spices is much beneficial with ecofriendly consumption.

Ayurveda Pharmacopeia of Department of Ayurveda, Sri Lanka describes number of spices and spices contained medicinal recipes for the management of dyslipidemia (Medo roga) and obesity (Sthaulya). *Garcinia cambogia* or *Garcinia zeylanica* (Goraka or Malabar Tamarind), *Tamarindus indica* (Siyambala or Tamarind), *Piper nigrum* (Gammiris or Pepper), *Trigonella foenum-graecum* (Uluhal or fenugreek) and *Cinnamomum zeylanicum* (Kurundu or Cinnamon) are extensively used spices among traditional Sri Lankan cuisines because of the taste and ethno-medicinal value. Aforementioned spices are commonly available in Sri Lankan market because of cost effect and wide popularity among all ethnic groups of Sri Lanka.

Both of vegan and non-vegan cuisines are getting proper taste using spices, additionally medicinal value of spices elaborates prevention from both of communicable and non-communicable diseases. In communicable diseases, spices support in enhancement of the immunity and considerable antimicrobial effect as well in non-communicable diseases regulation of the physical metabolism is occurred with the support of aforementioned spices. Therefore, time tested, cost effective, widely available and health effective ingredients which are easily consumable much beneficial in routine practice for both of healthy and dyslipidemia affected individuals (Liyanage & Karunarathne, 2015).

A. General Objective

To study the effect of traditional Sri Lankan spices in dyslipidemia condition.

B. Specific Objectives

1. To study the biochemical effect of *Garcinia cambogia* and *Garcinia zeylanica* on lipid profile.
2. To study the biochemical effect of *Tamarindus indica* on lipid profile.
3. To study the biochemical effect of *Piper nigrum* on lipid profile.
4. To study the biochemical effect of *Trigonella foenum-graecum* on lipid profile