Winning Hearts and Minds

March 2002
World Heart Federation
5, avenue du Mail,
CH-1205 Geneva
http://www.worldheart.org
http://www.worldheartday.com

Heart Disease is the major health challenge of the 21st century. Unless something is done, by 2020, 36 out of every 100 people will die of heart disease and stroke. The rate of increase will be greatest in low and middle income countries, those countries that can least afford it.

“Heart disease and stroke are not inevitable. They are largely preventable. Preventive measures will reduce the incidence of death and disability.”
Prof. Mario Maranhão, President, World Heart Federation

Sources: WHO World Health Report 2000, CVD infobase

CVD Mortality by Region

Sources: WHO World Health Report 2000 (estimates)

WORLDHEART FEDERATION

One out of every 3 deaths
17 million deaths worldwide 1999 estimated to reach 25 million in 2020
Six times the current number of deaths from HIV/Aids
80% of deaths are in low/middle income countries

Sources: WHO World Health Report 2000, CVD infobase

WORLDWIDE CVD FACTS

LIFESTYLE TRENDS & CVD

OBESITY

• 300 Million obese adults globally
• Obesity in high income countries
doubled in UK 1980-1999:8-21% women 6-19% men
US 30% overweight adults: 15% obese F>M
Also trend in low/middle income countries
Kuwait 44% women 32% men
Brazil 12% women 7% men
Pakistan (urban) 20% women 10% men


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**LIFESTYLE TRENDS & CVD**

**DIABETES**
- 150 Million Diabetics (90% type II)
- Incidence projected to double in 25 years
- Projected increase highest in India and China
- Increased incidence for younger age groups

Source: Diabetes and Cardiovascular Disease, IDF

**HYPERTENSION**
- 600 million with Hypertension at risk of heart attack, stroke, heart failure
  - 180 million high income countries
  - 420 million from low/middle income countries

Source: WHO World Health Report 2000, CVD infobase

**TOBACCO**
- World-wide sales/consumption increasing
- 2/3 young men in China smoke
- 40% men in India use Tobacco products
- ~50% women under age 30 in East Germany smoke (doubled in 5 years)

Source: Sir Archard Peter / Bundeszentrale für gesundheitliche Aufklärung

**PHYSICAL ACTIVITY**
- 60% of the World population insufficiently physically active, especially women
- Inactivity trend in urban areas of developed and developing countries, especially poor communities
- Physical activity helps control weight and prevent/reduce hypertension (affecting 20% of the adult global population)


**WOMEN**
- Women unaware of their CVD risk
- CVD affects women around the globe
- CVD deaths 8 times higher than breast/ovarian cancers
- India, China and Latin America account for 48% of deaths.

**ADDITIONAL RISK FACTORS**
- Mental stress, anxiety and depression, as well as, social factors.
- Depression is present up to 45% of cases of acute myocardial infarction (AMI).
- If unknown or untreated, depression favors a second MI (2½-4 times more), increasing the possibility of death up to 5 times more.
How the World Heart Federation can support prevention is the key. In the majority of low and middle income countries, preventive cardiology is still in a very early stage, so the World Heart Federation believes a successful prevention strategy links a population based approach with a high risk individual approach.

Major Members covering the world

Continents
- Asian-Pacific Society of Cardiology
- African Heart Network
- European Society of Cardiology
- Interamerican Heart Foundation
- Pan-African Society of Cardiology
- Interamerican Society of Cardiology

Large National Members
- American Heart Association
- British Heart Foundation
- Danish Heart Foundation
- French Heart Foundation
- Heart & Stroke Foundation Canada
- Italian Federation of Cardiology
- Japanese Circulation Society
- National Heart Foundation of Australia
- Netherlands Heart Foundation
- Netherlands Society of Cardiology
- German Cardiac Society
- German Heart Foundation

Associate Members
- Association of Black Cardiologists
- Canadian Cardiovascular Society
- Czech Cardiac Society
- Eastern Mediterranea Network of Cardiology
- Eastern Mediterranean Network of Hypertension in Blacks
- International Chinese Heart Health Network
- International Federation of Cardiology
- International Society for Heart Research
- International Society of Cardiovascular Ultrasound
- International Society of Holter & Non-Invasive Electrocardiology
- International Society for Heart Failure Research
- Italian Society of Pediatric Cardiology
- Latin Society of Pediatric Cardiology
- Latin American Society of Hypertension in Blacks
- Society of Chest Pain Centers
- Societies of Cardiology & Heart Foundations

Member Countries
- Algeria
- Argentina
- Australia
- Austria
- Bangladesh
- Barbados
- Bangladesh
- Barbados
- Benin
- Bolivia
- Belgium
- Bulgaria
- Burundi
- Cameroon
- Canada
- Cape Verde
- Chile
- China
- Colombia
- Cuba
- Czech Republic
- Denmark
- Dominican Republic
- Ecuador
- Egypt
- El Salvador
- England
- Equatorial Guinea
- France
- French Guiana
- Germany
- Greece
- Grenada
- Guatemala
- Guatemala
- Guyana
- Haiti
- Honduras
- Hungary
- Iceland
- Indonesia
- Israel

3 Pillars of Activity
- Advocate
- Support Science
- Educate & Train

World Heart Day
- World Heart Day for Global CVD Prevention
COFFEE AND PREJUDICE

• "COFFEE IS PURE CAFFEINE"

• "CAFFEINE IS HARMFUL TO HEALTH"

• "CHILDREN SHOULD AVOID COFFEE"
COFFEE IS NOT ONLY CAFFEINE (1-2 %)

• OTHER COMPONENTS:
  ➤ CHLOROGENIC ACIDS (6-9 %)
  ➤ MINERALS (3-5 %)
  ➤ AMINO ACIDES (2-3 %)
  ➤ LIPIDES (10-20 %)
  ➤ NIAVIN (0,5-1 %)
  ➤ SUGAR (30-50 %)

POSITIVE ASPECTS OF CAFFEIN

BRAIN
Caffeine is safe if used with moderation: up to 500 mg as a daily drink (1 mg/mL).
Half Liter of Coffee = 4 larger cups of 125 mL (like any soft drink. Typo COLA 2 L)

CAFFEINE INCREASE ATTENTION, CONCENTRATION AND THE MEMORY

08:00 hs 10:00 hs 13:00 hs 15:00 hs

CHLOROGENIC ACIDS STUDIED IN DETAIL

- LUIS TRUGO, Ph.D. (UK) – Coordinator of the Program of Science Food.
- Full Professor of the Instituto de Química da UFRJ.
- TRUGO, L., HIGH PERFORMANCE LIQUID CHROMATOGRAPHY IN COFFEE ANALYSIS, PH.D. THESIS, 1984. UNIVERSITY OF READING, ENGLAND.

CHLOROGENIC ACIDS IN THE COFFEE (7-9%)

- CQA • ÁCIDO CAPEOLQUÍNICO
- FQA • ÁCIDO FERULOQUÍNICO
- gCQA • ÁCIDO DIFERULOQUÍNICO
- CaCQA • ÁCIDO COUMAROILQUÍNICO
- CFCQA • ÁCIDO CAFEFERULOQUÍNICO

Derivatives of ACG have strong effect opioid antagonist.


RELATIONSHIP BETWEEN COFFEE, TOBACCO SMOKING AND ALCOHOL CONSUMPTION

- LIMA, D.R. & cols. How to give up smoking by drinking coffee. CHEST (USA), 1990,97(1): 204.
An hypothesis is now being tested related to the moderate daily coffee consumption with or no milk in the morning and mid-afternoon as a prophylactic blocking of opioid receptors of the limbic system, due the high containing of chlorogenic acids derivatives in coffee, reducing the wishes of self-gratification, which may lead to depression and consumption of alcohol.

COFFEE HAS PREVENTIVE EFFECTS IN DEPRESSION, ALCOHOLISM AND SMOKING


NALTREXONE (FDA, 1996)

- OPIOIDS ANTAGONISTS WERE APPROVED BY THE FDA FOR THE TREATMENT OF ALCOHOLISM:


COFFEE

- Water / Milk
- 1. Minerals (1-3 %)
- 2. Caffein (1 – 2 %)
- 3. Niacin (0,5 a 1%)
- 4. Chlorogenic /quinides (2-4 %)
- 5. Volatiles (flavour and smell)
DEPRESSION AS A RISK FACTOR FOR CARDIOVASCULAR DISEASES


Depression and CardioVascular Diseases (DCV)
Depression is an independent risk factor for cardiovascular diseases (DCV)
Analysis of "U.S. National Health and Nutrition Examination Survey (NHANES)" showed that patients with depression has 2.5 to 4 times greater of risk of coronary artery diseases like myocardial infarction and 5 times greater risk of sudden death.
Depression is a bad marker for cardiovascular prognosis and survival.

COFFEE HEART STUDY (1998)
WORLD HEART FEDERATION

- MARIO MARANHÃO
- AND
- DARY ROBERTO LIMA
HYPOTHESIS TO BE TESTED:
MAY COFFEE PREVENT DEPRESSION & MI??? (epidemiologic research)

MAJOR PROBLEM OF HUMANITY (YOUNG AND ADULT)

DEPRESSION (20 %)
Consequences:
Suicide (15 %)
alcoholism (15 %)
Drug addiction >>> 1/3 HIV
CVD: myocardial infarct
ALCOHOLISM: THE MODERN PEST

- 15% of the US population are alcohol dependents
- 90% of the adult world population drinks alcohol
- 10% of men and 5% of women are alcohol dependents
- Economic burden of US$ 130 billion annually
- In Brazil US$ 20 billion annually
- The control of alcoholism is done with drugs with opioids antagonists like naltrexone (Revia)

HYPOCRATES (460-370 BC)

Rest and healthy diet
Is better to prevent than to cure

PRIMARY AND SECONDARY PREVENTION
ACC, 1996 – Bethesda, 27th Conf.

PRIMARY
Low level of saturated fats in food and high consumption of fruits, vegetables and fibers (coffee???)
Moderated exercise (30 minutes daily)
No smoking, moderate alcohol consumption

SECONDARY
High Blood Pressure
High HDL-Cholesterol, Low LDL-Cholesterol
Weight Control (Overweight and Obesity)
Diabetes
Depression, Anxiety and Stress & Social Factors

OPIOID SYSTEM AND PLEASURE ("Reward")

Limbic System / reward circuit

Drugs X Medicine
bupropiona (smoking) naltrexone (alcoholism)
1. CGA have antioxidant activity
2. QUINIDES have opioid antagonist activity
3. QUINIDES block adenosine re-uptake

Ref.: Martin, Peter : ASIC & WORLD COFFEE CONFERENCE, 2001

PROJETO COFFEE & HEALTH

1. INSTITUTE FOR COFFEE STUDIES at VUMC, Nashville, TN, USA (BASIC RESEARCH)
2. COFFEE HEART STUDY (HEART INSTITUTE OF SP (INCOR)/ ZERBINI FOUNDATION/ WHF)
   - Epidemiological and Clinical Studies
   - (University of São Paulo (USP), University of Campinas (UNICAMP), and others
   - EMBRAPA – CNPQ – FAPESP – ICO - COSIC – PRODUCERS COUNTRIES AND MANUFACTORS

COFFEE & HEALTH: A GLOBAL VISION

1. Primary and Secondary prevention of CVD, Depression, Alcoholism and Drugs Addiction
2. INCREASE THE INTERNAL AND EXTERNAL CONSUMPTION OF COFFEE (CAFÉ X ÁLCOOL)

1. PRODUCERS AND CONSUMERS
2. MEALS AT SCHOOL AGE (young)
3. COFFEE & HEART (adults)
4. PHYTOTHERAPY AND PHARMA DRUGS (patients)
5. SOFT DRINKS (CHILDREN)