

Herbal Medicine for Market Potential in Malaysia: An Overview

Dr Shafii Khamis
Bahagian Teknologi Perubatan

Introduction

- Medicinal plants known world-wide as a rich source of therapeutic agents
- Being used as herbal remedies for thousand of years in ancient civilization such Mesopotamia, Egypt, China, India and South America
- India has its Ayurvedic herbal therapy, the chinese has its centuries-old system of herbal medicine, Indonesia its jamu, and Malaysia its traditional Malay herbal medicine
- Unlike modern drugs, a herbal remedy possess a range of therapeutic claims that can treat several ailments such as fever, antihypertensive, diabetes, diarrhoea and even cancer

Herbal Global Scenario

- Universal trend – 'Return to Nature'
- Mainly due to growing recognition that herbal products are safe, effective, non-toxic and have lesser side effects
- Others include easily available, affordability, and cultural acceptability

Herbal Global Scenario

- Recently, WHO estimated that more than 80% of the world population rely on herbal medicine for some part of their healthcare
- In Germany, 600-700 plant-based medicine are available and being prescribed by almost 70% of their medical physician

What is herbal medicine?

- Some definitions:
 - Herb: any plants used for flavoring, food, medicine or perfume
 - Herbal Medicine: refers to using plants seeds, leaves, roots, or flowers for medicinal purposes



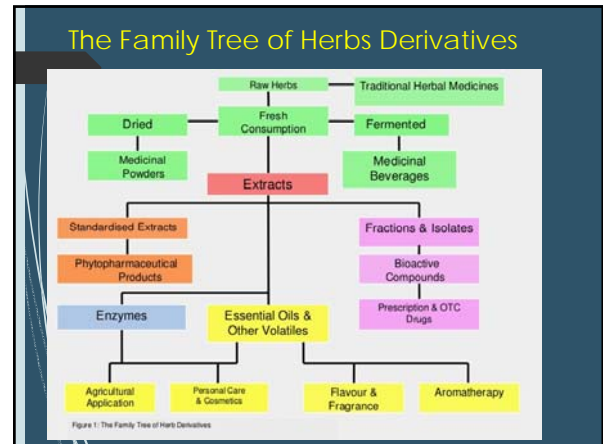
Methods of administration

- Capsules
- Fresh vs. dry
- Teas, infusions, decoctions
- Tinctures, glycerites
- Infused oils
- Essential oils
- Sprays
- Tablets
- Standardized extracts
- Simple or formula



Types of herbal products

Type	Definition
Nutritional Supplement	Vitamins which are defined as complex chemical substances that are needed for the functioning of the body, but that generally cannot be produced by the body and must therefore be obtained from food or nutraceuticals
Nutraceutical	Is a product isolated or purified from foods and generally sold in medicinal forms not usually associated with food for the purpose of physiological benefits or to provide protection against illness
Dietary Supplement	Includes preparations of vitamins, minerals, amino acids and mixtures of these ingredients as well as herbs and other botanicals
Herbal Medicines	Includes herbs and traditional medicine, which means any product employed in the practice of indigenous medicine, whereby the drugs used consist of one or more naturally occurring substances of a plant, animal, or mineral or part thereof, or in extracted form or non-extracted form, or any homeopathic medicine.
Indigenous Medicine	Is a system of treatment and prevention of diseases involving the traditional use of naturally occurring substances.
Homeopathic Medicine	Any drug in a pharmaceutical dosage form that is used in the homeopathic therapeutic system in which diseases are treated by the use of minute amounts of such substances which is capable of producing in healthy persons symptoms similar to those of the disease being treated.



- ### Herbal Global Trade
- The global market for herbal remedies is currently about US\$83 billion
 - Herbal dietary supplements – US\$11 billion
 - Herbal functional foods – US\$14 billion
 - Herbal beauty products – US\$14 billion
 - The global herbal pharmaceutical industry (including plant-derived drugs and registered herbal medicine) – US\$44 billion

- ### Global Herbal Market
- According to World Bank Report, Global market value for herbal industry is projected to triple to 2 trillion dollars by 2020, and to USD 5 trillion by 2050 with the herbal medicine market expected to grow by 10 to 20 percent.
 - The shift in healthcare towards natural products with therapeutic values provides vast opportunities for Malaysia to become significant global player, given our rich biodiversity and government support.
 - Malaysia stands to gain from the strong growth in natural herbal products.
 - Given these potentials, Malaysia must strive to gain a foothold in the global market

- ### Global Herbal Market
- The largest global markets for medicinal and aromatic plants are China, France, Germany, Italy, Japan, Spain, the UK and the USA.
 - Comparing to China and other Asean countries, Malaysia medicinal and herbal plants industry is still lagging behind

- ### Malaysian Herbal Industry Economy
- The Malaysian herbal industry economy (under the RMK-10) is a strategic investment opportunity, both from economic as well as a social stand-point.
- Demand for healthcare services is increasing rapidly (due to population growth, ageing population & changing lifestyle)
 - Herbal industry has contributed towards the production of diverse products, ranging from health, foods, cosmetics and personnel care products
 - Greater requirement of natural ingredients compared to artificial chemical bases will boost the demand for alternative bases derived from medicinal plants

Malaysia Biodiversity

- Malaysia is the fourth largest biodiversity country in the world
- Our rich tropical rainforest are home to some 100 species of ferns, 185,000 species of fauna, and 12,500 species of flowering plants
- About 2,000 of these plant species have potential pharmaceutical value
- Many more remained unexploited

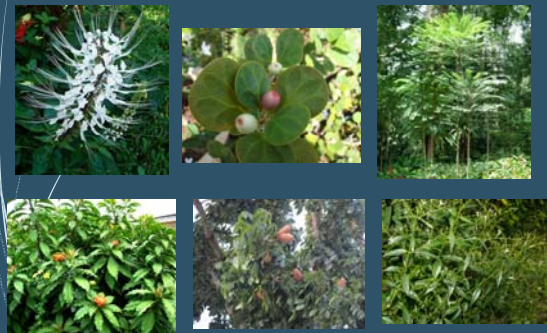
Herbal Industry in Malaysia

- The herbal industry in Malaysia is estimated to grow at a rate of 15% per annum, with the market value rising from RM7 billion in 2010, RM15 billion in 2014 and to some RM29 billion in 2020
- Malaysian domestic market value for medicinal plant is estimated to be RM4.55 billion
- Malaysian herbal medicine must possess the highest standard of manufacturing to be able to compete in terms of quality, safety, efficacy, pricing, and branding of products

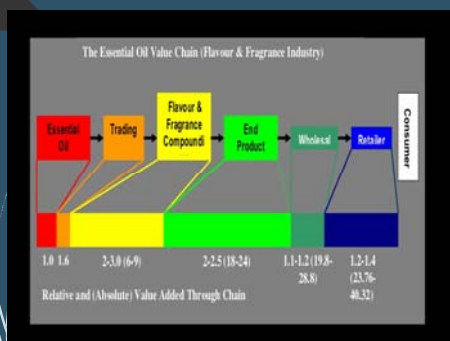
Types of Medicinal herbs and market value

Types of herbs	Value (RM)
Flavors & Fragrance	1.6 billion
Pharmaceuticals/Nutraceuticals	0.95 billion
T/CM and herbal remedies	2.0 billion
Total	4.55 billion

Malaysian Medicinal plants



The Essential Oil Value Chain (Flavour & Fragrance Industry)



TRADITIONAL MALAY MEDICINE



TRADITIONAL HERBAL MEDICINE





Berberine

Quaternary Ammonium Compound

Fungal infections
Diabetes mellitus
Intestinal disorders
Represses tumor growth
Antidepressant






Berberis vulgaris
Coptis chinensis



Ensure consistency and high quality

- Today's consumers expect the exact same product every time
- The quality of the product must be exceptional to justify premium price - Small scale production is more expensive than large commercial production
- Use high quality ingredients to get a high quality product
- Have a consistent supply of the main ingredients -if using local crops, pick ones that can be produced consistently and in high quality
- Find processes to achieve and keep excellent quality
- Develop and always follow a protocol for production



University of Nevada Cooperative Extension

Need of Herbal Standardization

- Every Herbal Formulation must be standardized as per WHO guideline
- The objective is to define basic criteria for the evaluation of quality, safety and efficacy of drugs herbal medicines
- Malaysia is the world's 4th largest biodiversity country
- With the Malaysian government support, Malaysia has a great role to play, as supplier of herbal products not only to meet the domestic needs, but also to take advantage of the tremendous export potential.
- To be a global supplier of herbal medicines conforming to international specification the following aspects must be followed

Need of herbal standardization

1. Proper botanical identification of all medicinal plants
2. Processing of medicinal plants in a scientific, economic and safety way using similar ones used for modern drugs
3. Isolation and chemical characterization of active ingredients including inorganic constituents
4. Pharmacological and clinical studies to ascertain their efficacy and safety
5. Standardization to ensure uniformity
6. Documentation of research

2 major players :-
China and India

Share in global herbal and herbal product market :-

Total global market:- 60 billion US\$

India sharing:- only 1% of it

China sharing :- 30 % of it.

Why china is ahead of India in global herbal market?

Reasons:-

2. Most of the Chinese medicines are standardized, which increase its authenticity in global market.
2. China has created the data base of its ancient knowledge of herbs with modern flavor.

Global Trend

- 80% of world population used herbal medicine – WHO
- Tropical forest contributed 25% of the world's medicinal products and nearly half of the prescription drugs are plant-derived
- The global herbal trend shows that the herbal therapy enters the mainstream medicine from 1970 to 2000
- The World Bank estimated that the global herbal market value to reach USD 5 trillion by 2050
- Europe is the largest herbal product market: USD 7.5 billion (led by Germany, France, and Italy)
- Japan USD2.6 billion; China USD 8 billion; North America USD5.5 billion; Asia (exc Japan) USD6.4 billion
- Latin America USD 1 billion
- Middle East countries largely untapped

Development in Herbal Medicine with Reference to Trade

- There is great demand for herbal medicine in the developed as well as developing countries
- Medicinal herbal based industry has an enormous economic growth potential
- Nutraceutical market in USA alone is about USD\$80 -250 billion, with a similar market size in Europe and Japanese sale worth USD 1.5 billion
- New trends are emerging in the standardization of herbal raw materials whereby total content of phytoconstituents like polyphenols are determined

Issues and Challenges Facing Local Herbal Industries

1. Lacking in Good Research Documentation

- All research must be conducted in a proper scientific manner

2. No standardization in Farming Practices (GAP)

- Thus, difficult to achieve consistency in output and quality
- Need growing protocol (eg. for Kacip Fatimah, Tongkat Ali, hempedu bumi etc.)
- Not enough supply to cope with market demand

3. Need herbal cluster with trained farmers

- The launched of ECER first Agriculture EPP of the agriculture NKEA under the 10th Malaysian Plan

4. Lacks of GLP

- Lacks of Good Laboratory Practice (GLP) to ensure the quality of preclinical safety test.
- Without GLP, herba products manufactured locally cannot be perceived as high-ranking
- GLP governance comes from organisation for Economic Cooperation & Development (OECD), the findings will be accepted by all the member countries, which will then increase our export potential

5. Monographs

- Monograph or encyclopedia treatise of each of our herbal plants, which is required by all countries, which will then increase our export potential

6. Preclinical studies

- Involve in-vitro and in-vivo studies (animal studies)
- Mechanism of action (Molecular study)
- Toxicology and efficacy

7. Clinical trials

- Clinical trial will pave the way for the product to be marketed as herbal medicine or botanical drug with therapeutic claims, rather than as a 'herbal' or 'traditional' products
- Without clinical trials one cannot make any valid scientific claims
- This is the only way that Malaysian herbal medicine can be marketed to the world

8. Lacks in R&D

- The local herbal industry still lacking in proper R&D
- Too many players, no champion
- Product with no scientific-backed data
- Our herbal are currently in products (such as herbal tea & coffee) that are perceive as being of lower market value

9. Shortage of Medicinal Plants

- Need large scale cultivation of herbal plants
- The creation of East Coast Economic Regional (ECER) Herbal Plantation Project
- Dungun (406 hectares) and Lipis (327 heactares)

10. Others

- Regulatory issues (need to create guideline on regulation and registration of herbal medicine)
- Consumption of herbal products (herbal products were being used with many different name, brands and label)
- Product quality (GAP, GMP)

Conclusion

- The herbal industry in Malaysia is a strategic industry with a high growth potential
- Malaysia has great potential to emerge as a major player in the global herbal product based medicine.

Terima kasih