

# TurnitinPreparingandImplemen tingModuleonHerbalMedicinefo rMedicalStudents

*by Abraham Simatupang*

---

**Submission date:** 04-May-2021 12:05PM (UTC+0700)

**Submission ID:** 1577520282

**File name:** Prosiding\_Preparing\_Implementing\_Module\_Herbal\_Medicine.pdf (497.86K)

**Word count:** 2043

**Character count:** 11613

## Preparing and Implementing Module on Herbal Medicine for Medical Students

Abraham Simatupang<sup>1\*</sup>, Hayati Siregar<sup>1</sup>, Mulyadi Djojaputro<sup>1</sup>

<sup>1</sup> Department of Pharmacology – Universitas Kristen Indonesia

\*Corresponding author, Head of Department of Pharmacology; email: [abrahamsimatupang@daad-alumni.de](mailto:abrahamsimatupang@daad-alumni.de)

### Abstract

The concept and practice of herbal medicine among medical doctors, who were trained according to the western medical education are not yet fully accepted. Nevertheless, since 1995, the Ministry of Health of Indonesia instructed through a decree (SK Menkes No. 0584/Menkes/SK/VI/1995) that every public health services should have a Center of Development and Application of Traditional Medicine. In medical schools, students are taught exclusively on modern medicine approach for treating diseases. Though Indonesia is the second nation after Brazil on biodiversity, but, unfortunately, the development of herbal medicine is lacking. Although most of the people still using “jamu” (traditional herbal preparation) as it is, some producers have been repackaging jamus into capsules, tablets or powder to give them more convenient to be used. Some of jamus have been through preclinical of toxicological studies but only few have been clinically studied. Since 2006, the Faculty of Medicine of Universitas Kristen Indonesia has been implementing the new curriculum, named Competence-based Curriculum, of which problem-based learning is the main method of learning. After 3 years of implementation, the Medical Education Unit (MEU) asked the Dept. of Pharmacology to set up a special module on Herbal Medicine that should be offered for the students at the end of their pre-clinical years. The module consists of theoretical and practical aspects of herbal medicine. The students learn the basis of herbal medicine and have an experience on how the herbal are grown, harvested, selected, tested and prepared. At the end pf the course students gave their comments on their experience. This paper will discuss the module and the experience on implementing the module for medical students.

### INTRODUCTION

Traditional medicine in Indonesia has been practiced since hundred years ago and known as indigenous knowledge, the practice of traditional medicine are orally transcribed from generations to generations. Though, some were carefully recorded in traditional writings like lontar and pustaha. As we observe in traditional chine medicine (TCM) and Ayurveda, they build their traditional heeling ways based on their philosophical paradigm on health and sickness which has inter-related between micro and macro-cosmos, between body and spiritual balance (Schwarz, 2004; Wong, 2006; and Maiers, 2009) On the other hand, the philosophical background of Indonesian Traditional Medicine (ITM) has not been fully explored, although some practitioners in ITM recently published books which reveal the paradigm of ITM.

Jamu, a specific name given to Indonesian herbal preparation, has been officially branded as the national herbal medicine and since then, jamu is extensively researched by private and governmental research agencies. Indonesia considers jamu now as one of the Indonesia’s national excellences which should be propagated into world like TCM. At the moment, the herbal medicine in Indonesia is categorised into 1. Jamu (a traditionally prepared

herbal medicine), 2. Standardised herbal medicine (herbal medicine which has passed at least, toxicity test) and 3. Phytopharmaca (herbal medicine that has passed clinical trials).

The main concern is now, from the perspective of conventional/modern medicine, how to increase the awareness and usage of ITM by the medical doctors, who are trained by modern (west) medical system. A quick glance on medical education in Indonesia is briefly discussed in the following passages.

### Medical Education in Indonesia

In the 14<sup>th</sup> century, the westerners (Portuguese & the Netherlands) came to Indonesia looking for spices, of which, at the end brought to colonialism to Indonesia. On 2<sup>nd</sup> January 1849, Medical education in Indonesia was introduced, with the main objective is to produce local “barefooted” doctors to help the Dutch doctors in vaccination against variola outbreaks, also they taught local people on primary health care issues, such as sanitation, which reduce the diarrhea outbreaks significantly. In 1875 the curriculum and objective of the school was revied and aimed not only to produce vaccination’s assistant but medical doctor named “Dokter Jawa” or Java’s Doctor. In 1899 in Jakarta, **STOVIA (School tot Opleiding voor Indische Artsen)** was established and the school was changed many times into **School tot Opleiding van Inlandsche Geneeskundigen** and **School tot Indlandsche Artsen** respectively.

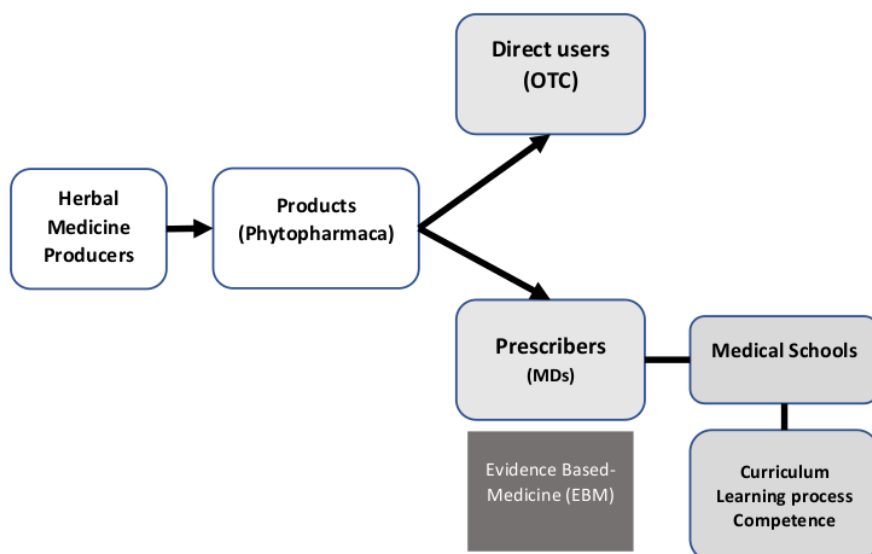


Figure 1. Diagram of interconnections between herbal (medicine) producers and conventional medicine

Although in 17 August 1945 Indonesia declared its independence, but up to 1950s- the medical education system was still greatly influenced by the Dutch (colonial) system. From 1950s to the present time there are some minor and major changes of the medical education system. One of the major changes was in 2003 as the Directorate General of emphasize competence in accordance to the new paradigm of medical doctors instilled by World Federation of Medical Education (WFME), that led to establishment of competence-based curriculum or Kurikulum-berbasis kompetensi (KBK).

Meanwhile, in 1995 the Ministry of Health through its decree announced that every governmental health services should have a Center of Development and Application of Traditional Medicine. Unfortunately, only few of governmental hospitals follow this decree, among others are Sutomo General Hospital in Surabaya-East Java, followed by General Hospital in Malang-East Java and Cipto Mangunkusumo Hospital in Jakarta. Thus, in nutshell, the medical education in Indonesia is greatly influenced by the western//conventional medicine.

Medical doctors are accustomed to use (chemical) medicine which has been proved by clinical trials. Therefore, when they are willing to use herbal medicine, they demand also (clinical) evidence. As all we know, clinical trial is a painstaking scientific methods of proving the efficacy and safety of drugs applied to the real patients. Moreover, the studied-drugs have to be evaluated and compared with the available medicines not only to placebo (head-to-head comparison). Therefore, only phytopharmacas would have been prescribed by the doctors.

1

### Evidence-based Medicine

Evidence-based medicine (EBM) is the conscientious, explicit and judicious use of current best evidence in making decisions about the care of the individual patient (Sackett, 1996). The practice of EBM means integrating *individual clinical expertise* with the best available *external clinical evidence* from the *systematic research* (Balatbat, 2008). The “least evidence” lies at the bottom of the hierarchical pyramid of the evidence (see Fig. 2) such as laboratory studies and animal research while the “best evidence” in clinical context is systematic reviews.

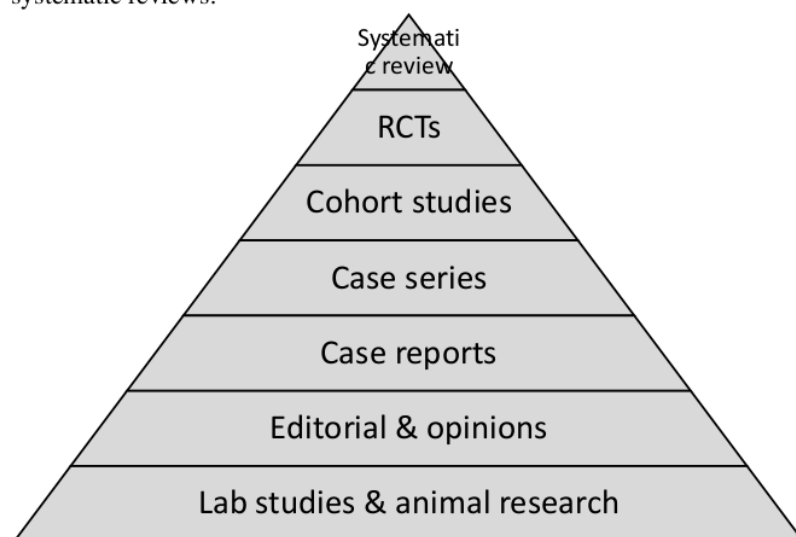


Figure 2. Pyramid of Evidence-based medicine

By far, most of the herbal studies done in Indonesia are animal studies, and only a small numbers studies go directly to clinical trial. This can be seen, that we only have 5 phytopharmacas registered although there are more than 100 herbals with various active substances available. While most of the people is still using jamu and standardise herbal medicine, then people think there is no need to invest for clinical trials to produce phytopharmaca. Therefore, it is big challenge to those who are interested to develop extended

clinical evidence or efficacy and safety profile of any given herbal medicine (Verma, 2008; Anonymous, 2009). However, the debates between modern and traditional medicine are never end. Most people who practice modern medicine calls the traditional, phyto- or herbal medicine as “alternative” thought the modern medicine actually is a “deviation” or the true “alternative” medicine according to traditional healers, while traditional medicine have been practised thousands of years through the world (Kheel, 1989).

### The Herbal Medicine Block

Block 26 comprises of sub-blocks: Herbal Medicine, Entrepreneurship and Disaster Management. Students are free to choices which sub-block he or she wants to apply. The main objective Herbal Medicine Block is to introduce students on the use and further development of herbal medicine. The duration of the block is 4 weeks and during the study students will learn 3 scenarios:

1. Marketing of Phytomedicine. The learning objective of the scenarios is to introduce the phytomedicine and its usage in the market.
2. Diarrhoea (hygienic aspects of herbal medicine). In this scenario, the students learn some important aspects of preparation, producing, and using of herbal medicines, especially simplicias.
3. Failure in Newborn-babies (toxicological aspects of herbal medicine). This scenario gives a broad picture of the toxicological aspect of herbal medicine to be considered by the students.

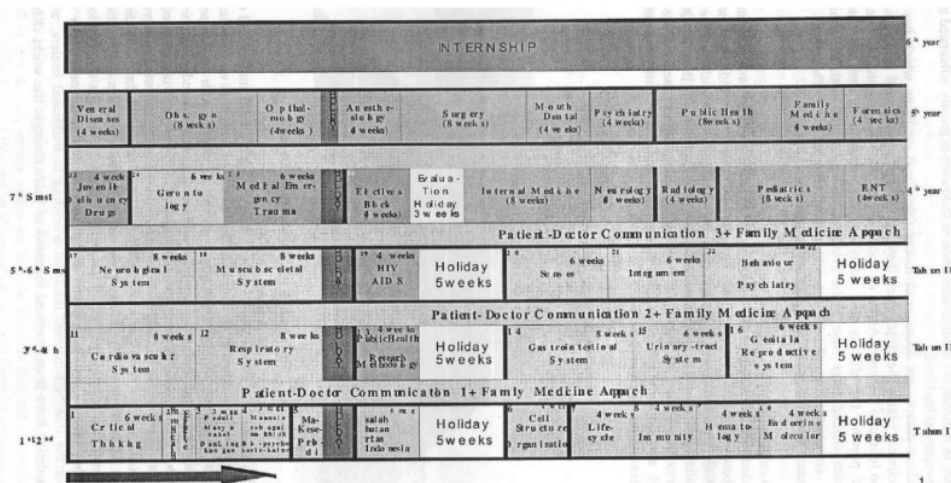


Figure 3. Map of competence-based curriculum developed in 2005 and firstly implemented in 2006

Students discuss and learn by themselves the topics of the scenarios. In the field, students are showed the nursery and herbal plantation, and preparation of herbal medicine. At the end of the block's session, students take multiple choice examinations.

Some students developed a media communication using Facebook (see Fig. 4). They use the social-networking as a tool for exchanging ideas, information on herbal medicine. And they asked the lecturer as the moderator. We also used the media to inform them on certain issues, also it was used for a survey on the perception of the students about the Block.

**Box 1 Perception and Suggestions from students about the Block of Herbal Medicine**

One student says: “I like this block, I learn that herbs have been used quite sometimes by our ancestors and yet now we are using them, but it needs more scientific evidence through research”

Other students say: “I learn new things on herbal medicines, and herbal medicine can be a great help to modern medicine. And I think (medical) students should make small-scale research on herbal medicine that maybe can improve the quality of health service in Indonesia.”

“Too much lecturing and lack of practical examples are things should be considered for the improvement of the block,” other student comments.

**Future Plans**

As it is planned, the Block 26 will be given prior to clinical practice, therefore the students are prepared to carry out what they have in the pre-clinical years. The three subjects offered in this Block (Herbal medicine, Disaster management and Entrepreneurship) are indeed as important as other subjects such as internal medicine, paediatrics, ENT, surgery, neurology, etc. However there is no department in the teaching hospital ready yet for practicing the herbal medicine. Therefore, it is important to have department of herbal medicine in the teaching hospital which will give service for patients who seek complementary and alternatives medicine to relieve their health problems. This department should also do research and clinical trials for fulfilling the requirement for registration of the herbal medicine to the legal authority. With regards to education, we will revise the scenarios and focusing the theme of the scenarios on What, When and How to use phytopharmaca.

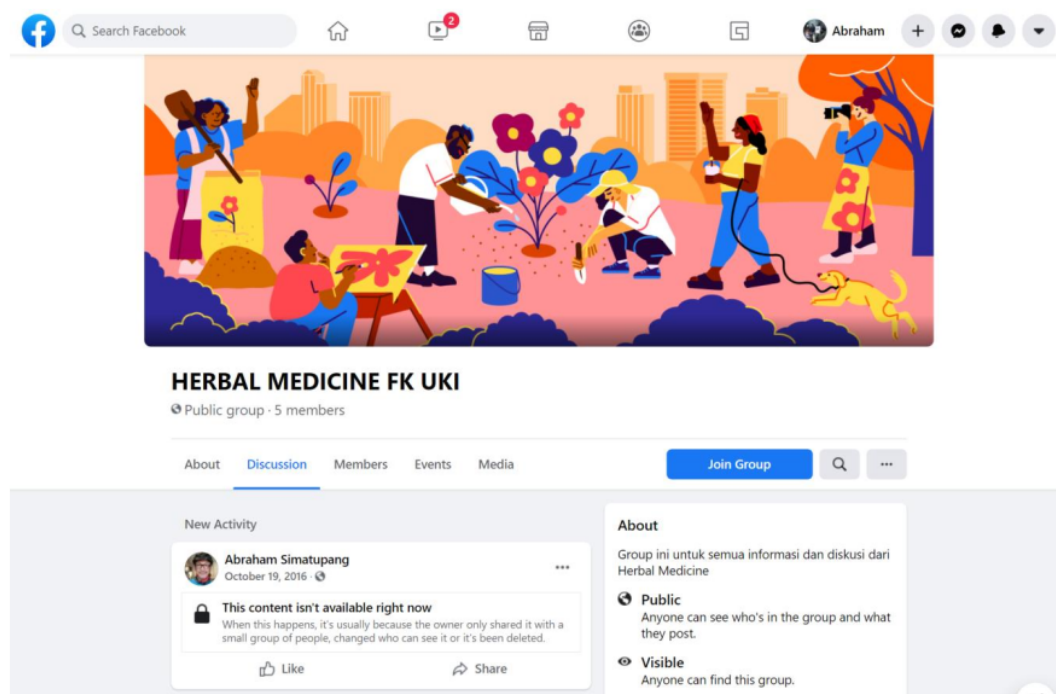


Figure 4. Facebook of Herbal Medicine FK UKI setup by students

## REFERENCES

- Anonymous, 2009. Perspective. Alternative medicine meets modern technology. Icommunity newsletter, Summer 2009.
- Kheel M., 1989, From Healing Herbs to Deadly Drugs: Western Medicine's War Against The Natural World dalam *Healing the Wounds; The Promise of Ecofeminism*, (ed. Judith Plant), Philadelphia, PA: New Society Publishers, pp.96-111.
- Maiers M., McKenzie E., Evans R., McKenzie M., 2009, The Development of a Prospective Data Collection Process in a Traditional Chinese Medicine Teaching Clinic, *J Alternat Complement Medicine*; **15**, 305-320.
- Schwarz M. R., Wojtczak A., Zhou T., 2004 Medical education in China's leading medical Schools, *Medical Teacher*, **26**, 215-22
- Sackett D. L., Rosenberg WM, Gray JA, Haynes RB, Richardson WS (1996). "Evidence based medicine: what it is and what it isn't. *BMJ*, **312**, 71-72.
- Seef L. B., Lindsay K. L., Bacon B., Kresina T. F., Hoofnagle J. H., 2002, Hepatology Vol. 34, No, 3
- Verma S., Singh S. P., 2008. Current and future status of herbal medicines. *Veterinary World*, **1**, 347-350.
- Wong W. C. W., Lee A., Wong S. Y. S., Wu S. C., Robinson N., 2006, Strengths, Weakness, and Development of Traditional Chinese Medicine in the Health System of Hong Kong: Through the Eyes of Future Western Doctors. *J. Alternat Complement Medicine*, **12**, 189-9.

# TurnitinPreparingandImplementingModuleonHerbalMedicin...

## ORIGINALITY REPORT

6%

SIMILARITY INDEX

3%

INTERNET SOURCES

5%

PUBLICATIONS

5%

STUDENT PAPERS

## PRIMARY SOURCES

1

L Zipperer. "Clinicians, librarians and patient safety: opportunities for partnership", Quality and Safety in Health Care, 2004

Publication

2%

2

Submitted to Universitas Riau

Student Paper

2%

3

fk.ui.ac.id

Internet Source

1%

4

C. (Kees) van Dijk. "The Netherlands Indies and the Great War, 1914-1918", Brill, 2007

Publication

<1%

Exclude quotes On

Exclude matches Off

Exclude bibliography On