



A BIBLIOMETRIC STUDY TOWARDS THE APPLICATION OF HERBS IN AN ACADEMIC ENVIRONMENT

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ABSTRAK: Herbal adalah tumbuhan yang mempunyai nilai dari segi perobatan, khasiat makanan, perasa dan aromanya dan ia merupakan satu khazanah alami yang sangat bernilai. Dalam perobatan melayu tradisional, herbal sangat penting dalam mengobati penyakit dan menyelesaikan masalah yang dihadapi oleh, baik mereka yang sehat ataupun yang sedang dalam keadaan sakit. Artikel ini merupakan kajian bibliometrika yang menganalisis kajian akademik terkait herbal, sekaligus menjadi patokan dalam mengetahui produktivitas penelitian. Artikel ini mempunyai beberapa objektif penting yaitu : 1) mengkaji konsep bibliometrika terhadap pengaplikasian herbal yang terdapat dalam kajian akademik, 2) mengkaji jenis-jenis penerbitan kajian akademik yang mengkaji tentang herbal, 3) menganalisis perkembangan disiplin-disiplin ilmu yang terlibat dalam kajian herbal. Dalam kajian ini, penulis telah menggunakan metode kuantitatif dan analisis untuk mengukur tahap produktivitas dengan melihat sumbangan dan peranan penghasilan karya ilmiah dalam bidang ini. Kajian ini penting untuk dipahami agar dapat menjadi satu ukuran bagi ahli akademik dalam bidang keilmuan.

Kata kunci: Bibliometrika; herba; perobatan Melayu; kajian akademik

ABSTRACT: Herbs are plants and very valuable as a food, flavonoid, medical, nutrition food and perfume. In traditional folklore, especially within a Malay people, herbs are very important in treating the disease and resolve problems faced by people who are unhealthy. The application of bibliometric study applied to analyze the progress of the article based on a specific discipline, which can be the benchmark of a productivity research. This article seeks to achieve some of important objectives, namely 1) to review the concept of bibliometric towards the application of herbs contained in academic/scientific papers, 2) to examine the types of publishing scientific papers which studying about herbs, 3) to analyze the growth of the disciplines of knowledge involved in the study of herbs. This study will use quantitative methods and analysis of inductive and deductive method to measure the phase of productivity by looking at the contribution and role of the scientific papers in this field. The results of a study undertaken by the authors find that there are only a few researches undertaken related about herbs mentioned in scholarly works that have not been studied extensively by researchers.

Keywords: Bibliometric; herbs; Malay medicine; scientific works

1. INTRODUCTION

The production of scholarly works by academics helps society discover, use and build upon a wide range of knowledge through a powerful research and teaching platform and preserve this knowledge for future generations. In addition, the knowledge and experience documented could

be a catalyst for writing activities in academic environment (Omar, 2007:1). The effort of the publishing and writing project will make a lifelong learning in knowledge-oriented societies can be implemented. It is also a platform for all information whether in the fields of economy, medicine, culture, health, nutrition, environment and social.

Since the genres of writing in presenting herbal data from this bibliometric point of view have not yet been shown in the references of society, especially in the academic world, therefore in this study, the authors intend to present the analysis with quantitative and statistical analysis methods. This is because evaluation of bibliometrics methods can determine the influence of a publication in terms of its works or writers and can describe the relationship between two or more writers. According to Glanzel (1999) elaborated that bibliometric analysis in fact has become a standard tool of science policy and research management in the last decades (Hj Zainal, 2008:17). This research will be an indicator of research productivity, research trends and emphasis given to research in various disciplines such as publication quantity, popular subject and research quality, to evaluate academic performance. The purpose of this study is to analyze the progress of articles according to research discipline or research field in more specific form.

2. PREVIOUS FINDINGS

Herbs according to The Third Edition of The Dictionary Board is a plants used for food, medicine, flavoring or fragrances for their savory or aromatic properties. In botanical English, the word "herb" is also used as a synonym of "herbaceous plant". This means that it is not just a shrub plants even woody trees can also be defined as herbs if there is potential for any of these three uses (Mat Amin, 2015:23). According to Herb Trade Association (1976), the term of herb is also defined as a plant, parts of plants or plant extracts which are used for medicinal purposes. The World Health Organization (WHO) estimates that up to four billion people representing 80% of the world's population depends on traditional medicine as a primary source of healthcare which involves the use of herbs for rehabilitation, treatment and healthcare (Plate & Srinivasan, 1997:68-74). In China, India and Africa are well-known as herbal medicine practitioners where the group is one of the largest producers and consumers of herbal treatments in the world. In Malaysia it is estimated that nearly 1230 species of which are 8% of herbaceous herbs used as herbal medicines (Soepadmo, 1999:34).

History has also proven that many benefits from herbs for medical purposes. Islamic scientists and scholars also state that the purpose of using herbs not only constitutes the primary components to cure the disease but also makes the body in a healthy condition. In fact, Al-Riyasi Ibn Jarit, Egyptian ancestor and physician to Sultan Salahuddin Al Ayubi has written two books about lime and rubab and its uses (Hobbs, 2017). Ibn al-Bayṭār from Malaga wrote two books on medicinal plants in Kitāb Mughnifi al-adawiyah al-Mufradah (Medicinal Herbs) and Kitab al-Jami'fi al-Adawiyah al-Mufradah (Compendium on Simple Medicaments and Foods). Another ancient record of herbs used has indicated the use of chaulmoogra oil obtained from species of *Hydrocarpus gaertn* for the treatment of leprosy that was recorded in the pharmacopoeia of the Emperor Shen Nung of Chinese between 2730-3000 BC (Sallau, 2009:21). In the Qur'an and hadith there is also mention of the uses of plants, for example, in the Qur'anic texts expressed through the words i) shajara (tree) and also ii) nabata (grows) as 50 times, for instance in surah Fatir verse 13, surah al-Nisa verse 124, surah al-Isra verse 71 and so forth. In surah Fatir verses 13 Allah s.w.t said:

﴿ يُبْرِجُ اللَّيْلَ فِي النَّهَارِ وَيُبْرِجُ النَّهَارَ فِي اللَّيْلِ وَسَخَّرَ الشَّمْسَ وَالْقَمَرَ كُلًّا يَجْرِي لِأَجَلٍ مُّسَمًّى ذَلِكُمُ اللَّهُ رَبُّكُمْ لَهُ الْمُلْكُ وَالَّذِينَ تَدْعُونَ مِنْ دُونِهِ مَا يَمْلِكُونَ مِنْ قِطْمِيرٍ ﴾

Meaning: "He causes the night to enter the day, and He causes the day to enter the night and has subjected the sun and the moon-each running (its course) for a specified term. That is Allah, your Lord; to Him belongs sovereignty. And those whom you invoke other than Him do not possess (as much as) the membrane of a date seed" (35:13).

In the Quran, there are several other types of plants and herbs was mentioned as grapes (أَعْنَابٍ) (Quran, 2008: (17: 91), (80: 28), (2: 266), onion (بَصَلٍ) (Quran, 2008: 2: 61), garlic (فُومٍ) (Quran, 2008: 2: 61), mustard seed (خَرْدَلٍ) (Quran, 2008: (21: 47), (31: 16).), fig (التَّيْنِ) (Quran, 2008: 95: 1), pomegranate (الرُّمَّانِ) (Quran, 2008: (6: 99 & 141), (55: 68)), ginger (زَنْجَبِيلٍ) (Quran, 2008: 76: 17) and others. Certainly plants specifically mentioned in the Quran, has its own advantages and benefits. In the Qur'an and hadith also mentioned the usefulness of plants, such as hadiths related to the use of al-Habbat al-Sawda (Black Cumin) (Sahih al-Bukhari: 591). The hadith narrated by Khalid bin Sa'd: *We went out and Ghalib bin Abjar was accompanying us. He fell ill on the way and when we arrived at Medina he was still sick. Ibn Abi 'Atiq came to visit him and said to us, "Treat him with black cumin. Take five or seven seeds and crush them (mix the powder with oil) and drop the resulting mixture into both nostrils,* for `Aisha has narrated to me that she heard the Prophet (ﷺ) saying, *'This black cumin is healing for all diseases except As-Sam.'* Aisha said, *'What is As-Sam?'* He said, *'Death.'*

In addition, Islamic scholars also state that the purpose of using herbs is to restore the body's balance and curing the disease. According to Ibn Sina's theory in *The Canon of Medicine* the level of herbal function is:

1. Detoxification: The process of removing toxic substances or qualities in the body.
2. Relaxation: Placing the body in a stable state where the condition of temperature, alkali, acid are at the best possible level in order to help the function of the immune system.
3. Renew/Reproduce: Dead and damaged cells are replaced with new ones, where herbs with antioxidants can act to prevent degenerative diseases.
4. Move/Change: Restoring the function, that is, after the above process runs perfectly, the organs will function normally.

Malay Traditional Medicine

Malaysia is a multicultural country that has rich traditional practice modalities with herbal medicines among Malay communities. It is also proven by the discovery of various materials and manuscripts related to Malay traditional medicine manuscript known as *Kitab Tib*. The importance of the manuscripts related *Kitab Tib* has been emphasized with the development of medical science and practice of traditional medicine, especially among the Malay archipelago. There are more than 40 copies of the *Kitab Tib* with various titles located at the Centre of Malay Manuscript in National Library of Malaysia (PNM, 2017).

The field of medicine and healthcare is one of the newest and fastest growing disciplines. Traditional Malay medicine has an exclusive system in terms of the concepts of disease, diagnose, treat, cure, abstinence and how to avoid the illness. Similarly, treatment methods, ingredients and manufacturing process of the medicines, the terms used and other aspects of the whole. Additionally, an interesting aspect of Malay traditional medicine is the use of herbs as a medicinal ingredient and treatment for various diseases. These ingredients include various types of herbs, medicinal plants and other living things either animate or inanimate. The best example is the name of the plant, of the type of tree, shrub, herbs and others. There is also disclosed for specific parts used, including stems, roots, tubers, content, shoots, bark, leaves, buds, or the whole tree. These plants are given a distinctive name, different from one to another and most of them can be adjusted with the term of botanical or scientific names identical in most texts in this sub-genre (Mat Piah, 2012:6).

3. RESEARCH METHODOLOGY

This study used a bibliometric method to analyze the progress of the article on herbs used in traditional Malay medicine which can be the benchmark of a productivity research. Bibliometrics is statistical analysis of written publication such as books or articles (OECD, 2012). Bibliometric analysis is not only often used in the field of library and information science but it is also used in other fields such as scientometrics to provide quantitative analysis of academic literature or for evaluating budgetary spending. Besides that, citation analysis is a commonly

used bibliometric method which is based on constructing the citation graph, a network or graph representation of the citation between documents (Hertzal, 2003:288-328). The British Standard Institution defines bibliometrics as ‘the study of the use of documents and patterns of publication in which mathematical and statistical methods’. Thus, the purpose of bibliometric analysis is to quantify, compare and communicate the importance of your scientific work. Moreover, bibliometrics data will increase the visibility and impact of research, identifying the most suitable journals for publication, identifying potential collaborators and areas for research and others (Sulistyo-Basuki, 2002:13-15).

Therefore, the main objective of the bibliometric study is to measure academic and research works that have been published in scientific journals. The development publication also helps in obtaining data and information in bibliometric analysis (Ahmad, Monika, & Yakob, 2016). Pitchard in 1969 explained bibliometrics as “the application of mathematical and statistical methods to books and other media of communication”. This definition expands the scope of bibliometric to various media not only to books and scientific journal only (Pitchard, 1969:348-349).

In applying this bibliometric method, search methods are important to ensure that any data on the research can be found effectively. From a search in keywords, the authors found research and scientific works on herbs and traditional Malay medicine through articles, books, magazines, thesis, dissertation, journal and others. Search keywords are as follows:

Table 1: The technique to obtain data

No	Keyword Search
1.	Herbs
2.	Herbs and Plant
3.	Herbal Treatment
4.	Traditional Medicine
5.	Medicinal Plant

The search keyword to get data is generated through the process of screening and initial reading of articles on the topics of study which is to ensure that the findings comply with the features of the publication of journals and academic materials. Duration of data collection is limited to 2 decades to examine the development of productivity writing on herbs. Some of the databases used as sources for obtaining and identifying herbal data are MyTO:Malaysia Theses Online, Malaysian Academic Library Union Catalog, Google Scholar, Academia.edu, National Library of Medicine (NLM) dan National Agricultural Library (NAL). After all the data is collected, it will be scanned manually and classified using Microsoft Office Excel.

4. RESULTS AND FINDINGS ANALYSIS

In this bibliometric study, the authors have been focusing on herbs in which this production data will be the main reference data for academic or herbalist regarding the study of herbs that have been studied. This study will focus on two items to be analyzed:

1. The types of publishing scientific papers which studying about herbs
2. The disciplines of knowledge involved in the study of herbs

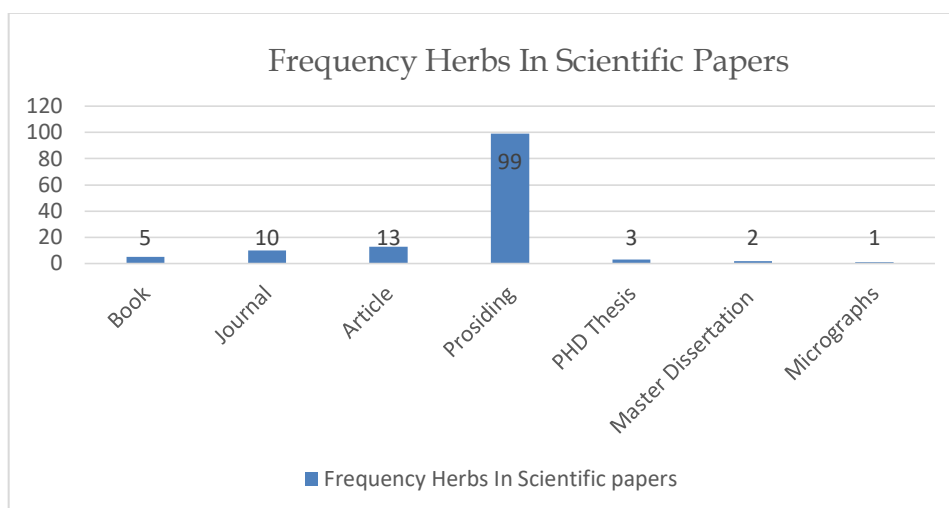


Figure 1. Frequency herbs in scientific papers

Referring to the clustered column above, the results of previous research on herbs found that majority of study are dominated by proceedings by 74%. Articles were in the second highest percentage of 9.7%. This was followed by a journal with the percentage of 7.5% and book by 3.7%. The lowest percentage recorded PhD thesis with the percentage 2.2%, master dissertation by 1.5% and micrographs by 0.75%. List of materials related publications herbs can be examined through the following table:

List of Publishing Scientific Papers and Disciplines of Knowledge about Herbs

Book		Disciplines Of Knowledge
1.	Agro-Techniques of Selected Medicinal Plants (2008)	Agriculture
2.	Herbal Medicine Biomolecular and Clinical Aspects (2011)	Herbal and Traditional Medicine
3.	WHO Monographs on Selected Medicinal Plants Vol1-Vol4 (1999)	Herbal and Traditional Medicine
4.	Prophetic Medicine and Herbalism (2014)	Islamic Studies
5.	<i>Warisan Perubatan Melayu</i>	Herbal and Traditional Medicine

Journal		Disciplines Of Knowledge
1.	A Novel Heptacyclic Diterpene From <i>Alipinia Pahangensis</i> Ridley, A Wild Ginger Endemic To Malaysia. (2014)	Chemistry
2.	Antioxidant And Antibacterial Activities of Flavonoids and Curcuminoids From <i>Zingiber Spectabile</i> Griff. (2012)	Food Science Technology
3.	Anti-Allergic Activity of Some Selected Plants In The Genus <i>Boesenbergia</i> And <i>Kaempferia</i> (2011)	Botanical
4.	Antioxidant Activities and Cytotoxicity of <i>Zingiber Zerumbet</i> (L.) Smith Rhizome (2013)	Botanical
5.	Antioxidant Properties of Selected <i>Etlingera</i> and <i>Zingiber</i> Species (<i>Zingiberaceae</i> From Borneo Island. (2012)	Biological Science

6.	Chemical Composition and Antibacterial Activities Essential Oil From Zingiber Spectabile Griff (2012)	Chemistry Biological Science
7.	Essential Oils Of Zingiber Officinale Var.Rubrum Theilade And Their Antibacterial Activities. (2010)	Chemistry Biological Science
8.	Significance of Gingers (Zingiberacea) In India System Of Medicine – Ayurveda : An Overview (2013)	Medicine
9.	Zingiber Officinale : A Natural Gold (2011)	Biological Science
10.	Zingiber Skornickovae, A New Species of Zingiberaceae From Central Vietnam	Botanical
11.	Study Medicinal Plants in Holy Quran (2014)	Islamic Studies

Article		Disciplines Of Knowledge
1.	Cultural Studies In Ornamental Ginger. (2002)	Botanical
2.	Ginger (Zingiber Officinale) (1999)	Botanical
3.	Medicinal Properties Of Ginger (Zingiber Officinale Rosc.) (2003)	Pharmacology Algriculture Food Science Technology Botanical
4.	Potting Ornamental Ginger (2001)	Botanical
5.	Thai Zingiberaceae: Species Diversity and Their Uses. (1999)	Biological Science
6.	Three New Species Of Scaphochlamys (Zingiberaceae) From Peninsular Malaysia (2005)	Forest Research
7.	Herbal Treatment And Home Remedies Of Dengue (2015)	Pharmacology
8.	Herbal Manual : The Medicinal. Toilet, Culinary And Other Uses Of 130 Of The Most Commonly Used Herbs (1936)	Herbal and Traditional Medicine
9.	History Of Use Of Traditional Herbal Medicines (2004)	Herbal and Traditional Medicine
10.	Health And Medicine In The Islamic Tradition Based On The Book Of Medicine (Kitab Al-Tib Of Sahih Al-Bukhari (2006)	Medicine Islamic Studies
11.	<i>Perbandingan Tumbuh-Tumbuhan Dalam Gaya Bahasa Al-Quran Al-Karim (2015)</i>	Herbal and traditional Medicine
12.	<i>Anatomi Sistematis Pada Anggota Familia Zingiberaceae (2001)</i>	Biological Science
13.	Useful Medicinal Flora Enlisted in Holy Quran and Ahadith (2009)	Islamic Studies

Proceedings		Disciplines Of Knowledge
1.	Tongkat Ali : From Lab To Market.	Herbal and Traditional Medicine
2.	Analyzing Malay Medical Manuscript Mss 2999 The Findings And The Hope For The Future.	Medicine Islamic Studies
3.	Commercialized Innovative Herbal Products From UPM	Herbal and Traditional Medicine
4.	Development Of Herbal Product For Cancer Therapy	Herbal and Traditional Medicine
5.	Physio-Chemical Properties Of Spray Dried Clinacanthus Nutans Extract.	Chemistry Medicine

6.	Extraction Of Antioxidants From Leaves Of Clinacanthus Nutans Lindau : Effects Of Extraction Method And Solvent	Medicine
7.	Anti-Proliferative Effect Of Clinacanthus Nutans On Ovarian, Breast And Colorectal Cancer Cell Lines.	Medicine Biological Science Agriculture
8.	Detection Of Irradiated Herbs Using Photo-Stimulated Luminescence Technique.	Biological Science Agriculture
9.	Optimization Of Antioxidant Activity In Clinacanthus Nutans	Food Science Technology
10.	Effects Of Equal Doses Of Sulforaphane, Curcumin And Quercetin On Heme Oxygenase 1 Gene Expression In Mice Liver	Pharmacology Medicine
11.	Evaluation Of Antimicrobial And Antioxidant Properties Of Anethum Araveolens Leaf Extracts	Food Science Technology
12.	Asam Gelugur Powder Rich In HCA (Hydroxycitric Acid : A Potential Crop For Weight Management	Food Science Technology
13.	Toxicology Study Of Hibiscus Sabdariffa L. Leaves Extract On Normal Sprague-Dawley Rats	Food Science Technology
14.	Clinacanthus Nutans L : Safety And Toxicity Study	Food Science Technology
15.	In Vito Toxicological Evaluation Of 50 Methanol Extracts From Traditional Medicinal Plants Used By The Orang Asli	Forest Research
16.	Toxicity Study Of Sarawak Wild Pepper Root (Piper Arborescens	Forest Research
17.	In Silico Prediction Of Drug Likeness And Admet Properties Of Some Centella Compounds	Forest Research
18.	Nutrigenomics Effects Of Curculigo Latifolia On Type 2 Diabetic Model	Medicine
19.	Protein Expression Pattern In Swietenia Macrophylla Seed	Forest Research
20.	Proteome Profiles Of Seeds From Swietenia Macrophylla After Cold Storage	Forest Research
21.	Effect Of PH On Adsorption Of Organic Acid And Phenolic Compounds In Noni	Chemistry Food Science Technology
22.	Effect Of Organic-Based Fertilizer Rate And Planting Distance On Biomass Yield Of Belalai Gajah (Clinacanthus Nutans)	Food Science Technology Horticulture Research
23.	The Effect Of Packaging Technique On Quality Of Dried Mas Cotek (Ficus Deltoidea	Horticulture Research
24.	Potential Of Medicinal Plants Used By The Jakun People As Antituberculosis Agents	Biological Science Herbal and Traditional Medicine
25.	Medicinal Plants Used For Women's Healthcare Among The Jakun Community In Kg. Peta : A Preliminary Study	Biological Science Herbal and Traditional Medicine
26.	Kaempferia L: Herbs And Ornamental Potential Of Zingiberacea Species	Herbal and Traditional Medicine
27.	Distribution Of Herbs Cultivation In Peninsular Malaysia	Forest Research
28.	Halal Herbal Product Integrity Risk Through Supply Chain : A Conceptual Study	Agriculture
29.	Consumer Preferences In Selecting Herbal Products	Forest Research

30.	Consumer's Perception Towards Local Herbal Supplement Products	Agriculture
31.	The Importance Of Long-Term Relationship For The Sustainability Of Malaysian Herbal Industry (2015)	Agriculture
32.	Integrating Traditional And Complementary Medicine Into National Health Care (2004)	Herbal and Traditional Medicine
33.	Can Traditional Medicine Coexist With Modern Medicine In The Same Health Care System? (2004)	Herbal and Traditional Medicine
34.	Clinical Trials For Herbal Extracts (2004)	Herbal and Traditional Medicine
35.	Herbal Medicine : Criteria For Use In Health And Disease (2004)	Herbal and Traditional Medicine
36.	Effect Of Phytochemicals In Chinese Functional Ingredients On Gut Health. (2004)	Herbal and Traditional Medicine
37.	Tea And Health (2004)	Herbal and Traditional Medicine
38.	Ginkgo Biloba : From Thaditional Medicine To Molecular Biology (2004)	Herbal and Traditional Medicine
39.	Ginger (2004)	Herbal and Traditional Medicine
40.	Lingzhi Polyphorus Fungus (Ganoderma Lucidum) (2004)	Herbal and Traditional Medicine
41.	Epimedium Species (2004)	Herbal and Traditional Medicine
42.	Lingusticum Chuangxiong Hort (2004)	Herbal and Traditional Medicine
43.	Salvia Miltiorrhiza (2004)	Herbal and Traditional Medicine
44.	Schsandrin B And Other Dibenzocyclooctadiene Lignans (2004)	Herbal and Traditional Medicine
45.	Spirulina : An Overview (2004)	Herbal and Traditional Medicine
46.	Averrhoa Bilimbi (2004)	Herbal and Traditional Medicine
47.	Lentinus Edodes : Shiitake Mushrooms (2004)	Herbal and Traditional Medicine
48.	Cruciferous Vegetables And Chemoprevention: The Mechanism Of Isothiocyanate-Mediated Chemoprotection In Humans (2004)	Herbal and Traditional Medicine
49.	Rosemary (2004)	Herbal and Traditional Medicine
50.	Crataegus(Hawthorn) (2004)	Herbal and Traditional Medicine
51.	Resveratrol : The Promise Therein. (2004)	Herbal and Traditional Medicine
52.	Pharmacological And Physiological Effects Of Gingseng (2004)	Herbal and Traditional Medicine
53.	Antioxidant Activities Of Prickly Pear Copuntia Ficus Indica Fruit And Its Betalains : Betanin And Indicaxanthin (2004)	Herbal and Traditional Medicine
54.	Antioxidant Activity And Antigenotoxicity Of Cassia Tora (2004)	Herbal and Traditional Medicine
55.	Sho-Saiko-To (2004)	Herbal and Traditional Medicine
56.	Licorice Root Flavonoid Antioxidants Reduce LDL	Herbal and Traditional

	Oxidation And Attenuate Cardiovascular Disease (2004)	Medicine
57.	Estrogen-Like Activity Of Licorice Root Extract And Its Constiturnts (2004)	Herbal and Traditional Medicine
58.	Protection Of Oxidative Brain Injury By Chinese Herbal Medicine (2004)	Herbal and Traditional Medicine
59.	Eurycoma Longifolia Jack (Tongkat Ali) (2004)	Herbal and Traditional Medicine
60.	The Biological & Pharmacological Properties Of Cordyceps Sinensis, A Traditional Chinese Medicine, That Has Broad Clinical Applications (2004)	Herbal and Traditional Medicine
61.	Phytochemistry, Pharmacology And Health Effects Of Brandisia Hancei (2004)	Herbal and Traditional Medicine
62.	Ephedra (2004)	Herbal and Traditional Medicine
63.	Echinacea And Immunostimulation (2004)	Herbal and Traditional Medicine
64.	Medical Attributes Of St.John's Wort (Hypericum Perforotum) (2004)	Herbal and Traditional Medicine
65.	Therapeutic Potential Of Curcumin Derived From Turmeric (Curcuma Longa) (2004)	Herbal and Traditional Medicine
66.	Extracts From The Leaves Of Chromolaena Odorata (2004)	Herbal and Traditional Medicine
67.	Medicinal Properties Of Eucommia Bark And Leaves (2004)	Herbal and Traditional Medicine
68.	Systematic Reviews Of Herbal Medicinal Products : Doing More Good Than Harm (2004)	Herbal and Traditional Medicine
69.	Us Of Silicon-Based Oligonucleotide Chip In Authentication Of Toxic Chinese Medicine (2004)	Herbal and Traditional Medicine
70.	Traditional Chinese Medicine : Problems And Drawbacks (2004)	Herbal and Traditional Medicine
71.	Review Of Adverse Effects Of Chinese Herbal Medicine And Herb-Drug Interactions (2004)	Herbal and Traditional Medicine
72.	<i>Pemanfaatan Tumbuhan Ubat Dalam Upaya Pemeliharaan Kesihatan (2015)</i>	Herbal and Traditional Medicine
73.	<i>Peralatan Penyediaan Ubatan Dalam Kaedah Rawatan Perubatan Tradisional Melayu (2015)</i>	Herbal and Traditional Medicine
74.	<i>Amalan Perubatan Tradisional Melayu Di Semenanjung Malaysia : Adakah Masih Relevan Pada Masa Kini (2015)</i>	Herbal and Traditional Medicine
75.	<i>Trend Penggunaan 18 Speseies Tumbuhan Ubatan Di Bawah Progeam NKEA Di Kalangan Pengamal Perubatan Tradisional Melayu Di Semenanjung Malaysia. (2015)</i>	Herbal and Traditional Medicine
76.	<i>Penggunaan Herba Dalam Perbidanan Tradisional Melayu Selepas Bersalin Di Zon Tengah, Semenanjung Malaysia (2015)</i>	Herbal and Traditional Medicine
77.	<i>Penggunaan Tumbuhan Dalam Kehidupan Orang Asli Kumpulan Senoi Di Malaysia : Khususnya Subetnik Temiar Dan Semai (2015)</i>	Herbal and Traditional Medicine
78.	<i>Tapak Warisan FRIM : Potensi Sebagai Tapak Konservasi Ex Situ Terbesar Bagi Germplasma Tumbuhan Ubatan Di Semenanjung Malaysia. (2015)</i>	Herbal and Traditional Medicine
79.	<i>Konservasi Secara Ex Situ Bagi Kacip Fatimah Variety Lanceolate (2015)</i>	Herbal and Traditional Medicine
80.	<i>Rumpai Miang Mexico , Ancaman Melebihi Manfaat (2015)</i>	Herbal and Traditional Medicine

81.	<i>Produk Herba Dan Trend Pencemaran Mikroorganisma (2015)</i>	Herbal and Traditional Medicine
82.	<i>Serangan Atteva Sciodoxa (Ulat Harimau Pada Tanaman Tongkat Ali Di Hutan Dan Ladang Semenanjung Malaysia (2015)</i>	Herbal and Traditional Medicine
83.	<i>Pembiakan Aksesori Kacip Fatimah Terpilih Melalui Kaedah Keratin Dan Penilaian Pengeluaran Pucuk Pada Peringkat Tapak Semaian (2015)</i>	Herbal and Traditional Medicine
84.	<i>Pengeluaran Dan Penilaian Minyak Daun Kayu Manis Malaysia (2015)</i>	Herbal and Traditional Medicine
85.	<i>Pemilihan Dan Penghasilan Baka Limau Purut (Citrus Hystrix Bermutu Tinggi (2015)</i>	Herbal and Traditional Medicine
86.	<i>Mekanisma Tindakan Sebatian Bioaktif Anti-Malaria Dalam Paku Pakis Ubatan, Gleichenia Truncate (2015)</i>	Herbal and Traditional Medicine
87.	<i>Asas Molekul Aktiviti Anti-Malaria Kurkumin (2015)</i>	Herbal and Traditional Medicine
88.	<i>Penilaian Kandungan Fitokimia Dan Aktiviti Sitotoksiti Spesies Terpilih Tumbuhan Ubatan Berasaskan Pengetahuan Traditional Subetnik Jahal/Temiar Di Kg.Air Banun, Gerik, Perak (2015)</i>	Herbal and Traditional Medicine
89.	<i>Penentuan Julat Eurycomanone Dalam Produk Tongkat Ali Melalui Kaedah Kromatografi Cecair Ultraprestasi (2015)</i>	Herbal and Traditional Medicine Chemistry
90.	<i>Kandungan Fitokimia Mas Cotek Berlainan Aksesori (2015)</i>	Herbal and Traditional Medicine
91.	<i>Saringan Fitokimia Dan Aktiviti Anti-Radang Tumbuhan Ubatan , Terpilih Warisan Orang Asli Semelai, Pos Iskandar, Bera Pahang. (2015)</i>	Herbal and Traditional Medicine
92.	<i>Mengangkat Tongkat Ali Ke Mata Dunia : Pengalaman Pengkomersialan (2015)</i>	Herbal and Traditional Medicine
93.	<i>Kajian Rantainya Nilai Industry Herba Terpilih Di Semenanjung Malaysia (2015)</i>	Herbal and Traditional Medicine
94.	<i>Penyelidikan Dan Pembangunan Serta Pengkomersialan Produk Berasaskan Tanaman Ubatan Dan Beraroma Di Mardi (2015)</i>	Herbal and Traditional Medicine
95.	<i>Peralatan Dalam Perubatan Tradisional Melayu : Khazanah Ilmu Dan Peradaban Warisan Bangsa. (2015)</i>	Herbal and Traditional Medicine
96.	<i>Pendokumenan Pengetahuan Tradisi Melayu Berkaitan Tumbuhan Ubatan Di Semenanjung Malaysia (2015)</i>	Herbal and Traditional Medicine
97.	<i>Hala Tuju Industry Herba Di Bawah NKEA (2015)</i>	Herbal and Traditional Medicine
98.	<i>Memartabatkan Pengetahuan Tradisi : Antara Khazanah Warisan Bangsa Dan Sumber Kekayaan Baharu Negara (2015)</i>	Herbal and Traditional Medicine
99.	<i>Trend Penanaman Dan Kegunaan Tumbuhan Herba Dalam Kalangan Masyarakat Melayu Di Balik Pulau Pinang. (2015)</i>	Herbal and Traditional Medicine

	PhD Thesis	Disciplines Of Knowledge
1.	Phytochemistry And Pharmacology Of Plants From The Ginger Family, Zingiberaceae.	Chemistry Pharmacology
2.	From Ancient Islamic Samarkand To Andalusia To American Medicine (2014)	Herbal and Traditional Medicine

3.	<i>Istilah Tumbuh-Tumbuhan Dalam Al-Quran Al-Karim : Kajian Leksikografi Dan Analisis Wacana Bahasa Arab (2015)</i>	Islamic Studies
Master Dissertation		Disciplines Of Knowledge
1.	Factors Influencing Intention To Consume Herbal Supplement (2004)	Herbal and Traditional Medicine
2.	<i>Jenis Jenis Tanaman Herba Ubatan Tempatan Dan Nilai Perubatannya (2001)</i>	Botanical
Micrographs		Disciplines Of Knowledge
1.	Secretary Structures Of Aromatic And Medicinal Plants : A Review And Atlas Of Micrographs (2000)	Agriculture

The Disciplines of Knowledge Involved In the Study of Herbs

Based on the study of the herbs classification, analyses of the results are as follows:

Table 2. Classification of research on herbs

No.	Disciplines of Knowledge	Frequency	Percentage %
1.	Agriculture	8	5.3
2.	Herbal and Traditional Medicine	82	54
3.	Chemistry	7	4.6
4.	Food Science Technology	9	5.9
5.	Botanical	9	5.9
6.	Biology Science	10	6.6
7.	Medicine	8	5.2
8.	Pharmacology	4	2.6
9.	Forest Research	8	5.2
10.	Islamic Studies	6	3.9
	Total	151	100

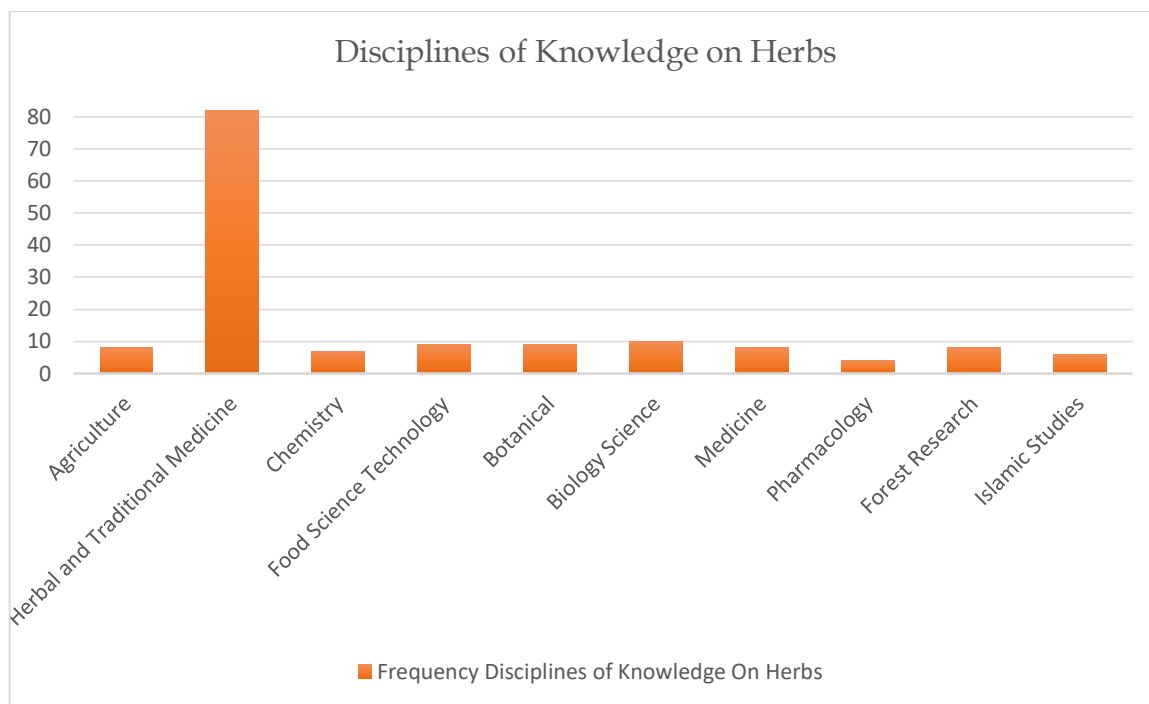


Figure 2. Disciplines of knowledge on herbs

Research on the method of analysis conducted in the previous studies found that most studies on herbs done on a scientific analysis (laboratory studies). Studies on aspects of science has been divided into eight areas that is agriculture, herbal and traditional medicine, chemistry, food science technology, botanical, biological science, medicine and pharmacology which focus on scientific discussion. Meanwhile, for forest research more on new research and survey data on herbs and only one field that focuses on the analysis of herbal-based Islamic studies and manuscripts.

Through comparative evaluation of research found that a total of 137 kinds of studies involves the study of the scientific aspects compared to only 8 studies based on forest research and 6 studies based on Islamic studies. While search keywords give the results of traditional and herbal medical studies the highest, they are still dominated by laboratory studies. Therefore, this proves that scientific research on herbs is too much in line with the requirements of today's science that requires scientific proof and not just a mere theory. The study of herbs from the Islamic point of view is still little in the research and discussion about it from the standpoint of Islam are strongly encouraged. Therefore, it proves that scientific research on herbs is well known and needed by researchers and not just theoretical knowledge solely.

Aspect of Study and Advanced Research on Herbs

Many studies have been presented on the use of herbs to treat diseases and one of them is the medical Malay manuscript that is the *Kitab Tib*. Basically in *Kitab Tib* contains the way to know the disease, general tips for health, chronic diseases such as typhoid and cancer, common illnesseses such as fever, medication and methods of treatment and cure of disease. Most of this knowledge is obtained when parts of plants such as leaves, roots, stems, flowers are used as food and medicines and animal behavior are observed to determine whether certain plants are poisonous or not. From the experience, humans use a variety of nourishment from nature. For instance, ginger in treating fever, onions treat leprosy, lime to cleanse the scalp and eliminate unpleasant smells on the body as well as others (Aniza, 2001:45).

Therefore, it has become essential and important to organize and orderly collection of information regarding herbs. Through the organized information, it may raise awareness among

the community about the potential of herbs due to the lack of detailed information related to it, as practiced by the Chinese and Indian communities.

Scientific researches have shown that some species of herbaceous plants already containing organic compound and have become an alternative medicine. Among researchers from Universiti Putra Malaysia have found a new technology to prevent early cervical cancer by using Zingiber Zerumbet Smith or known as '*lemboyang*' wild ginger. The studies that have undergone clinical trials can provide therapeutics to kill cancer cells without damaging normal tissues (Al-Zubairi, Abdul, & Syam, 2017:45). It has been shown to have anti-cancer and apoptosis-inducing properties against various human tumour cells. The rhizomes of the plants are employed as a traditional medicine for some ailments and as condiments. Through this discovery, it benefits for the cervical cancer patient which it can reduce the cost of treatment compared use the imported medicines and is ideally using with the chemotherapy treatment. (UPM's CCD, 2017).

Research and documentation of knowledge about herbs is very important in terms of the development of modern products. With comprehensive data analysis, further investigations of herbs as potential medicines, therapeutics and cosmetics can be achieved. For example, the discovery of anticancer compounds from several species of tropical forest plants by Dr Azimahtol Hawariah Lope Pihie of the Department of Biochemistry of the National University of Malaysia, has proven that the plant also has high efficacy and high medical value including as an anticancer agent (Nor, 1999). Based on these reasons, the effort to produce scientific data is something that needs to be emphasized in highlighting herbs as an alternative treatment and creating public awareness of the potential of this plant.

In addition, research on herbal plants should also be expanded to create a collaborative network and raising awareness about the potential of this field for creating sustainable economic growth. Most studies only cover a specific field whereas if the cooperation is carried out it can be beneficial to many parties. Among the organizations conducting research while preserving herbs are Malaysian Research and Agriculture Institutions (MARDI), Forestry Institutions Malaysia (FRIM) and Universiti Putra Malaysia (Mohammad & Hamid 2014). In addition, the knowledge of this herb can also be inherited to future generations so that we do not lose the knowledge that brings great potential for us.

The combination of research on herbs from the aspects of science and religion should be intensified which would prove the truth of the Islamic teachings with the analysis of scientific evidence. In the Holy Quran and hadith mentioned many herbs and treatment systems that can cure diseases. Through the scientific methods, it can be benefit to identify herbs that can be used as medicine and have a safe use of pharmaceuticals. Additionally, it can prevent incidents of poisonous and toxicity and ensure the quality of traditional medicines (Hamamah, 2017:11).

5. CONCLUSION

Herbs are natural commodities that have not yet been investigated. The benefit to mankind, it is undeniable. Several proposals for new research on herbal are expected to inspire in producing something useful. If no effort is taken to maintain herbaceous plants, we will lose a very valuable knowledge civilization. So research on herbs by commercially needs to be done and the pharmaceutical results have to be pattern.

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