

PATTERNS OF LOCAL WISDOM USED FOR CONSERVING HERBS WITH  
PROPERTIES OF SCARLET FEVER AND MENINGOCOCCAL DISEASE

TREATMENT ACCORDING TO TAXILA PHARMACOPEIA

รูปแบบการใช้ภูมิปัญญาในการอนุรักษ์สมุนไพรเกี่ยวกับโรคไข้พิษไข้กาฬ  
ตามคัมภีร์ตักสิลา

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**บทคัดย่อ**

บทความนี้เป็นการวิจัยเชิงคุณภาพที่มีการเก็บรวบรวมข้อมูลจากเอกสาร การสังเกต การสัมภาษณ์เชิงลึก การสนทนากลุ่ม และการประชุมเชิงปฏิบัติการเพื่อนำมาตอบความมุ่งหมายของการวิจัยดังนี้ 1) เพื่อศึกษาองค์ความรู้ในการใช้สมุนไพรเพื่อบำบัดโรคไข้พิษไข้กาฬตามคัมภีร์ตักสิลา 2) เพื่อศึกษาแนวทางการอนุรักษ์สมุนไพรซึ่งมีสรรพคุณในการบำบัดโรคไข้พิษไข้กาฬ และ 3) เพื่อศึกษารูปแบบการถ่ายทอดการใช้ภูมิปัญญาในการอนุรักษ์สมุนไพรซึ่งมีสรรพคุณในการบำบัดโรคไข้พิษไข้กาฬ ผลการวิจัยพบว่า องค์ความรู้ด้านนี้ได้รับมาจากคัมภีร์ตักสิลาของอินเดียโบราณ สมุนไพรที่มีสรรพคุณทางยาได้รับการอนุรักษ์ไว้ในแปลงปลูกส่วนตัวของหมอสมุนไพรและชาวบ้าน และความรู้ด้านนี้ได้ถูกนำไปถ่ายทอดแก่ชาวบ้านและบุคคลผู้สนใจทั่วไป

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## ABSTRACT

This is a qualitative investigation which uses data collected by documentary research and field study from secondary sources, participant and non-participant observation, structured interviews, unstructured interviews and focus-group discussions to address the three research objectives, which were: 1) to study the body of knowledge of the herbal remedies used for treating scarlet fever and meningococcal disease according to taxila pharmacopeia, 2) to study the ways to conserve herbs with properties of scarlet fever and meningococcal disease, and 3) to study patterns of transmission of local wisdom used for conserving herbs with properties of scarlet fever and meningococcal disease treatment. research findings indicate that the body of knowledge for traditional treatment of scarlet fever and meningococcal disease in Thailand is derived from the taxila pharmacopeia of ancient India, medicinal herbs are conserved in local gardens, and knowledge concerning their cultivation is transmitted among villagers and interested people.

**Keywords:** scarlet fever, meningococcal disease, taxila pharmacopeia.

## 1. INTRODUCTION

Taxila is a Settlement Situated in Modern Day Rawalpindi, Pakistan. The Site Has Become an Important Location for Archaeologists and Historians Concerned With Ancient Communities and, Specifically Education (Needham, 2004). of Particular Interest is The Evidence of Ancient Medicinal Practices And Medical Academics Taught at The Famed Taxila University, One of The Earliest Known Universities. for Several Centuries Before The Common Era, Taxila Was a Centre of Learning and Medical Scholarship. The Institutions of Taxila Held Region-Wide Renown and Students Flocked from Across The Old World to Expand Their Education. This Continued Until The Town Was Destroyed by The Huna People in The Fifth Century of The Common Era (Mookerji, 1989). Students Generally Entered Taxila At Sixteen And Were Educated in The Vedas, The Ancient and The Most Revered Hindu Scriptures, and Eighteen High Art Forms, Including Archery, Hunting and Elephant Lore. Additionally, Taxila Was a Centre of Learning in Law, Medicine And Military Science (Kulke And Rothermund, 2004).

Despite Its Hindu Origins, Taxila is Featured Prominently in Buddhist Scripture, Notably The Jataka Tales, Which Date From The Fourth Century BCE. Taxila is Referred to in The Jataka As The Capital of The Kingdom Of Gandhara And a Magnificent Hub of Learning. The Knowledge Taught at Taxila Was Exported Across Central and South Asia. One Document of Particular Note is The Taxila Pharmacopeia, a Treatise on Medicinal Remedies and Herbal Properties. This Document Allowed The Diffusion of Local Treatments and Cures Across The Region. When Indian Culture Was Exported to Thailand Through The Medium of Religion, Traditional Medical Knowledge Was Also Exchanged. The Taxila Pharmacopeia Became a Valuable Source of Information for Temples Along The Southeast Asian Peninsular, Which Also Doubled As Medical Centres for Local Communities.

The Conservation of Herbs With Properties of Scarlet Fever and Meningococcal Disease Treatment According to Taxila Pharmacopeia Has Been Perpetuated by All The People Living in Thai Communities. In 2011, Venkata Naeen

Kasagana and Sree Karumiri (2011) Conducted A Research Investigation Into The Conservation of Medicinal Plants. The Findings Indicated That The Goal of Conservation is to “Support Sustainable Development By Protecting And Using Biological Resources In Ways That Do Not Diminish The World’s Variety of Genes and Species or Destroy Important Habitats and Ecosystems.” There are Two Methods For The Conservation Of Plant Genetic Resources, Namely In-Situ & Ex-Situ Conservation (Legeasse, Teferi And Baudouin, 2013). A Similar Study From 2008 By Kunwar and Bussman (2008) Indicated That There are Many Ways to Conserve Medicinal Plants but Medicinal Plant Conservation Strategies Need to be Understood and Planned for Based on an Understanding of Indigenous Knowledge and Practices. The Results of The Current Investigation Will be Considered Against The Findings of Previous Related Academic Studies.

This is an Investigation to Study The Body of Knowledge of The Herbs Used for Treating Scarlet Fever And Meningococcal Disease According to Taxila Pharmacopeia In Thailand. It is Important That The Traditional Knowledge Is Not Lost, So The Secondary Aim of The Research Is To Study The Ways to Conserve Herbs With Properties of Scarlet Fever And Meningococcal Disease Treatment And to Study The Transmission of Local Wisdom Used for Conserving Herbs With Properties of Scarlet Fever And Meningococcal Disease Treatment (Figure 1). as Thai Society Becomes Ever More Urbanised and Modernised, There Is A Danger That The Ancient Remedies Could be Lost To Modern Science If They are Not Properly Recorded and Maintained. This Paper Is a Recognition of The Fragility of Traditional Knowledge and an Attempt to Document The Historic Treatment of Scarlet Fever and Meningococcal Disease That Remain Relevant to Today's Society.

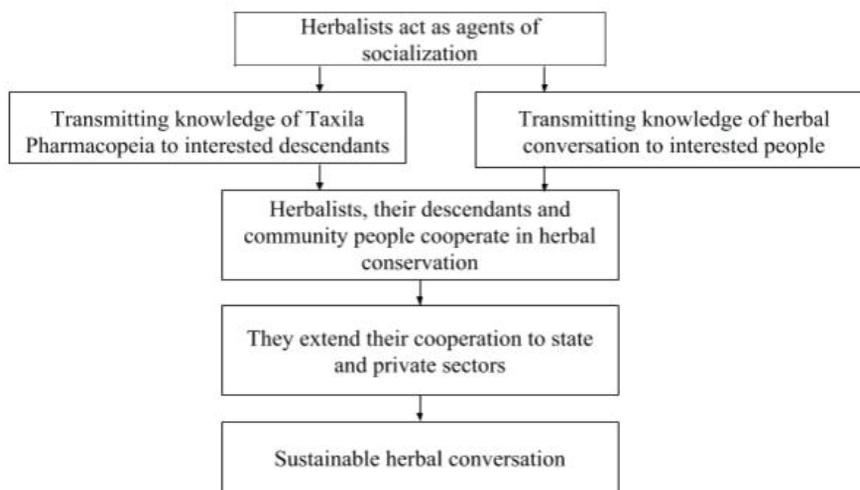


Figure 1. Conceptual framework (Source: adapted from White, G., 1977)

## 2. RESEARCH OBJECTIVES

There Were Three Objectives for This Investigation, Which Were: 1) To Study The Body of Knowledge of The Herbal Remedies Used For Treating Scarlet Fever And Meningococcal Disease According to Taxila Pharmacopeia, 2) To Study The Ways to Conserve Herbs With Properties Of Scarlet Fever And Meningococcal Disease, and 3) To Study Patterns of Transmission of Local Wisdom Used for Conserving Herbs With Properties of Scarlet Fever And Meningococcal Disease Treatment.

## 3. RESEARCH METHODOLOGY

This Research Was Conducted in Chiangmai Sub-District, Phochai District, Roi Et Province. a Qualitative Research Method Was Used For The Research. A Sample of 90 People Was Purposively Selected, Which Consisted of 10 Key Informants From The State Sector and The Private Sector, 40 Casual Informants Representing Government Organizations and Private Herbal Enterprises, and 40 General Informants. Research Instruments Used for This Research Were Basic Surveys, Interviews, Observations, and Focus Group Discussions. Research Data Were Gathered Through Documentary and Field Studies. at The Stage of Data Analysis, All The Data Derived From All Instruments Were Examined by Means of Triangulation and Then They Were Classified Into Three Categories According to The Research

Objectives. A Descriptive Analysis Was Used for Presenting The Results. All The Results Representing The Conclusions of The Research Objectives Were Presented Through Multimedia.

#### 4. RESULTS

*The Body of Knowledge of The Herbal Remedies Used for Treating Scarlet Fever and Meningococcal Disease According to Taxila Pharmacopeia*

Scarlet Fever Most Commonly Affects Children Between Five and Fifteen Years of Age. The Signs and Symptoms Include A Sore Throat, Fever, Headaches, Swollen Lymph Nodes, and a Characteristic Rash. The Rash is Red and Feels Like Sandpaper And The Tongue May be Red And Bumpy. Meningococcal Disease Carries a High Mortality Rate if Untreated. It Best Known as The Cause of Meningitis. Widespread Blood Infection Can Result in Sepsis, Which is A More Damaging and Dangerous Condition. While Meningococcal Disease Is Not as Contagious as The Common Cold, It Can be Transmitted in a Similar Fashion, Through Saliva and Occasionally Through Close, Prolonged General Contact With an Infected Person. Both Diseases are Prevalent In Thailand.

The Body of Knowledge of The Herbs Used for Treating Scarlet Fever and Meningococcal Disease of Herbalists Living in The Research Area Is Derived From Their Ancestors. These People Have Passed on Knowledge, Primarily Through Word of Mouth Transmission, That Originated from The Taxila Pharmacopeia. This Originated In Taxila of Ancient India (Present-Day Pakistan) And Was Diffused to The Research Area. It Has Been Perpetuated Up Till Now. The Ingredients of Herbal Medicine for Scarlet Fever And Meningococcal Disease Treatment According to a Taxila Pharmacopeia are Bai Ya Nang (Tiliacora Triandra (Colebr.) Diels), Ching Chi (Cappris Monantha), Polynesian Arrowroot (Tacca Icontopetalodies), Cluster Fig (Ficus Racemose Linn.), and Harisonis Perforate (Balnco Merr.). Thus, Most Medicinal Herbs Are Carefully Conserved In Herbalist' Patches.

### *The Ways to Conserve Herbs With Properties of Scarlet Fever and Meningococcal Disease*

Herbalists And People Living In The Research Area Appreciate The Value of Herbs That Have Properties of Scarlet Fever And Meningococcal Disease Treatment According to Taxila Pharmacopeia So They Are Prepared to Participate in Herbal Conservation. The Herbalists Conserve Them In Patches and Some Herbalists Propagate Them Through A Technique of Tissue Culture. These Same People Use The Herbs to Produce Many Types of Herbal Medicine. The Outstanding Herbal Medicine is The Herbal Medicine For Scarlet Fever And Meningococcal Disease Treatment. as for General People, They Conserve Medicinal Plants in Their Own Patches Around Their Houses For Household Consumption.

### *Patterns of Transmission of Local Wisdom Used for Conserving Herbs With Properties of Scarlet Fever and Meningococcal Disease Treatment*

The Transmission of Local Knowledge Used for Conserving Herbs With Properties of Scarlet Fever And Meningococcal Disease Treatment Is Conducted by Herbalist of Each Village. The Herbalist Willingly Transmits Knowledge Concerning Medicinal Plant Conservation to Interested Villagers. Some Have Established Their Houses as Learning Centers for Transmitting This Knowledge to Descendants And Interested People. Some Have Established Web Pages for Informing Data And Knowledge Concerning Medicinal Herbs And How to Conserve Them to Interested People. Some Herbalists Allow Interested People to Practice on Medicinal Plant Propagation In Their Herb Patches. The Patterns of Transmission of This Knowledge Can Be Illustrated as in Figure 2.

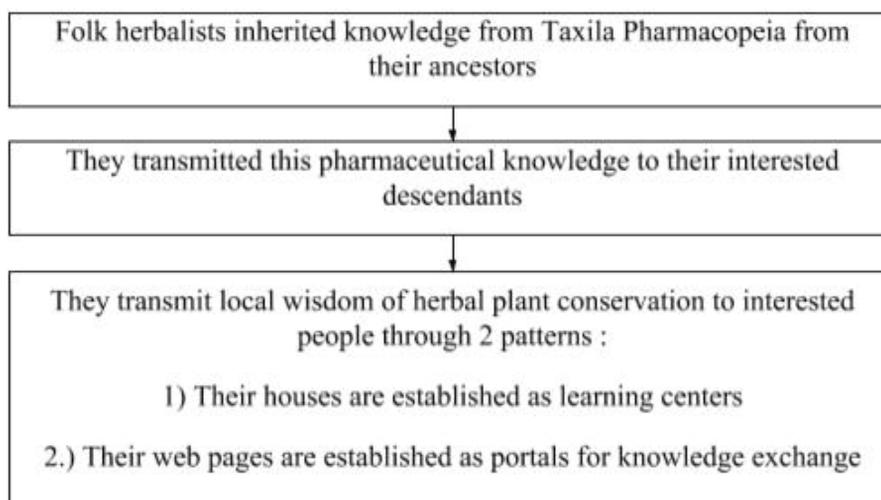


Figure 2. Patterns of Knowledge Transmission Concerning Herbal Remedies for The Treatment of Scarlet Fever and Meningococcal Disease.

## 5. DISCUSSION

Symptoms of Both Scarlet Fever and Meningococcal Disease Can Occur in an Infected Person. Some People in The Research Area Suffered From Them and Folk Herbalists Produced Herbal Medicines For Treating Them. The Condition of The Patients Improved in a Short Period. The Ingredients of Herbal Medicine for Scarlet Fever and Meningococcal Disease Treatment According to a Taxila Pharmacopeia are Bai Ya Nang (*Tiliacora Triandra* (Colebr.) Diels), Ching Chi (*Capparis Monantha*), Polynesian Arrowroot (*Tacca Icontopetalodies*), Cluster Fig (*Figus Racemose* Linn.), and Harisonis Perforate (*Balnco Merr.*). Thus, Most Medicinal Herbs are Carefully Conserved in Herbalist' Patches. This is Consistent With The Research Results of Venkata Naveen Kasagana and Sree Karumiri (2011) and Kunwar, R.M. and Bussman, R.W. (2008). Both Investigations Suggested That There are Many Ways to Conserve Medicinal Plants but Medicinal Plant Conservation Strategies Need to be Understood and Planned for Based on an Understanding of Indigenous Knowledge and Practices.

There are Dangers in Using Unregulated Locally Grown Products to Treat Disease. Two of The Most Obvious Potential Problems are Incorrect Dosage of

Medicine and The Potential for Ineffective Treatment (Bone And Mills, 2013). There Have Been Recent Pushes from The Academic World to Instigate Nationwide Standardization In Traditional Thai Medicine (Sahoo, Manchikanti and Dey, 2010). Thailand Currently Has 21 National Monographs For Herbal Medicine and The List of Essential Medicines Includes 16 Herbal Preparations. The Thai Herbal Pharmacopoeia is The Treatise for Most Traditional Formularies of Herbal Medicines and is Produced in Five Volumes. Although Drug Regulations Were Implemented in Thailand in The Year 1967, Locals in Rural Areas Continue to Produce Unregulated Herbal Remedies to Treat Diseases. These Treatments are Often Based on Knowledge Passed on In The Family, Which Stems From The Taxila Pharmacopoeia Rather Than The Official Thai Version. There Must be A Concerted Drive To Educate People in The Rural Communities to The Dangers of Unregulated Medical Treatments and to Promote The Standardized and Officially Accepted Thai Preparations.

The Herbalists Use Two Patterns for Transmitting Knowledge Concerning Herbal Plant Conservation to Interested People. The Transmission is Conducted Through a Learning Center and a Web Page of Knowledge Exchange Belonging to Each Herbalist. This is Consistent With The Research Results of UNDP ETHIOPIA (2012). The Findings Indicated That Ethiopia Can Draw Upon These Experiences to Develop and Utilize Existing ICT-Based Knowledge Management Techniques to Implement Robust Strategies and Intervention to Transform Its Agricultural Sector. This Is A Model That Thailand Should Use as Inspiration Going Forward. Not Only is It A More Formal Method of Documenting Practices Compared To The Traditional Word-Of-Mouth Transmission, It Is Also More Accessible to Modern Society.

## **6. CONCLUSION**

The Transmission of Agricultural Knowledge is Necessary for All The Communities In Thailand Because Most People Live in Agricultural Areas and They Lead Their Lives Closely Related to Agriculture. New Agricultural Techniques Will

Raise Their Quality of Life and They Also Require Alternative Health-Care, Depending on Available Medicinal Plants And Natural Resources.

## **7.RECOMMENDATIONS**

Both Private and State Sectors Should Cooperate in Medicinal Plant Conservation for Supplying Traditional Thai Medicine and Alternative Medicine Because People Living In Remote Areas Need Alternative Medical Services. Research Concerning Ways to Conserve Medicinal Plants Should be Conducted, Especially Research on Medicinal Plant Propagation Through a Technique of Tissue Culture Because It is Not Limited By Time And Space.

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