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AN ETHNOBOTANICAL STUDY OF MEDICINAL PLANTS IN MALAY TRADITIONAL MIDWIFERY AS POTENTIAL MALAY GARDEN DESIGN ELEMENTS

(KAJIAN ETNOBOTANI TUMBUHAN PERUBATAN DALAM PERBIDAN TRADISIONAL MELAYU SEBAGAI POTENSI ELEMEN REKA BENTUK TAMAN MELAYU)

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Abstract

In Malaysia, people have traditionally engaged in pre and postnatal care. However, the traditional practice's accompanying information is rarely documented and is simply passed down the generations. Only a few individuals are aware of and believe in the efficacy of herbs for postpartum recovery. The study aimed to explore medicinal plant species utilized by the Malay traditional midwifery and further integrate them into Malay garden design elements. The qualitative approach used in this research was a semi-structured interview at Kampung Panji and Kampung Bandar in Kelantan. They were Malay midwives who had experience as traditional Malay traditional midwifery practitioners. This study indicated that the commonly preferred pre and postnatal care were swinging the tummy, traditional bath, point massage, body wrap and traditional massage and miscarriage treatment. Overall, 44 medicinal plants used by both midwives were categorized into several categories; trees, palm, shrubs, herbaceous, climber and macrophytes. The researcher developed three Malay design concepts from the information gathered: *laman tiba*, *laman sisi* and *laman suri*. These new ethnobotanical records were a valuable source for preserving traditional knowledge of plant species through their integration into the Malay landscape.

Keywords: Landscape ethnobotany, traditional Malay midwifery, herbal, medicinal plant, Malay garden, Malay cultural heritage

Abstrak

Di Malaysia, secara tradisinya masyarakat telah terlibat dalam penjagaan semasa bersalin dan selepas bersalin. Walau bagaimanapun, amalan tradisional ini kurang didokumentasikan dan hanya diturunkan dari generasi ke generasi seterusnya sahaja. Terdapat sebahagian individu sahaja yang sedar dan percaya kemujaraban tumbuhan herba dalam proses pemulihan selepas bersalin. Kajian ini bertujuan untuk meneroka penggunaan tumbuhan perubatan tradisional yang digunakan oleh bidan Melayu dan seterusnya mengintegrasikan tumbuhan ini sebagai elemen dalam reka bentuk taman Melayu. Pendekatan kualitatif iaitu temubual separa berstruktur telah dijalankan di Kampung Panji dan Kampung Bandar di Kelantan. Responden merupakan bidan Melayu

yang berpengalaman sebagai pengamal bidan tradisional. Dapatan kajian menunjukkan bahawa penjagaan sebelum dan selepas bersalin yang sering diamalkan termasuklah amalan melenggang perut, mandi herba, bertungku, barut, urutan tradisional dan rawatan keguguran. Secara keseluruhan, 44 jenis tumbuhan ubatan telah digunakan oleh kedua-dua bidan yang merangkumi tumbuhan daripada jenis pokok, palma, renek, herba, memanjat serta makrofit. Daripada maklumat tersebut, pengkaji telah menghasilkan tiga konsep reka bentuk taman Melayu iaitu laman tiba, laman sisi dan laman suri. Maklumat mengenai etnobotani ini boleh dijadikan sebagai rekod baru kerana ia merupakan sumber yang berharga bagi melestarikan ilmu pengetahuan tentang tumbuhan tradisional yang telah disesuaikan dalam lanskap Melayu.

Kata kunci: *Lanskap etnobotani, perbidanan Melayu tradisional, herba, tumbuhan ubatan, taman Melayu, warisan dan budaya Melayu*

INTRODUCTION

Traditional medicines have been in use since time immemorial. Still, it has not been popular worldwide due to a lack of sufficient scientific evidence required by scientists for safety, efficacy and quality. Traditional practitioners are integrated and well-respected people in their communities and can play a vital role in the community's social health information and healthcare sensitization. Ethnomedicine is a study or comparison of the traditional medicine practised by ethnic groups, especially indigenous peoples. Documenting indigenous medical knowledge and scientific study of indigenous medicines and sharing this knowledge are some of the priorities for the current ethnomedicinal research (Shaik et al. 2020). Ethnomedicine, a traditional systematic medicine practised by indigenous communities, is related to the cultural interpretation of health, disease and illness (Suthari et al. 2014). A traditional medicinal system can be defined as a collection of comprehensive knowledge, belief, and practice that is utilized or underutilized by people who use it to address health challenges or improve their health status and passed on the accumulated information or knowledge to subsequent generations (Abdulrahman et al. 2018).

Around the world, 35,000 and 70,000 plant species are employed in folk medicine. In impoverished nations, 60–80% of the population continues to rely on plant-based medicines as an affordable and safe alternative to frequently unavailable allopathic therapy (Amjad et al. 2020). Medicinal products may be broadly categorized into (a) herbal medicinal products and (b) traditional herbal medicinal products. Herbal medicinal products are chemical constituents isolated from medicinal plants. For traditional herbal medicinal products, efficacy must be based on their long-standing use instead of being proven by clinical trials (Shaik et al. 2020). The distinctions and similarities in traditional knowledge and practice between two distinct cultural groups living in the same ecological region are fascinating because they illuminate how cultural reflection can alter individual perspectives on the environment and guide interactions between humans and ecosystem resources (Quave & Pieroni 2015). To be surprised, 25% of the prescribed modern medicine ingredients are directly or indirectly derived from higher plants. Also, it is reported that up to 80% of the world's population in the developing world relies on herbal medicinal products (Zakaria et al., 2020).

Midwife, or bidan kampung in Malay culture, refers to a respected skillful woman who holds the highest place in the community as a specialist doctor in childbirth, assisting women and advising young ladies (Othman et al. 2014). Midwifery is the practice of assisting a woman through childbirth using natural procedures. It was practised primarily among traditional peoples with limited access to biomedicine (Coe 2008). One of the reasons why midwifery is still popular is because, in most instances, a relationship or bond is formed between midwife, mother and child. Unfortunately, this is not the case with other ethnomedicinal practitioners. In 1990, the Malaysian government passed the Midwives Amendment and Extension Act, where the *bidan* was banned from delivering babies if they were not registered with the Ministry of Health (Md. Sharif et al. 2021). However, the Malay *bidan* not only helps in childbirth but also performs the roles of a

counsellor, nutritionist and masseuse for the mothers before, during and after childbirth (prenatal and postnatal care), which is necessary for improving the health of the child and mother. These services could extend to more than 40 days after childbirth to ensure proper postnatal care (Mak Bidan 2001). Traditional postnatal care aims to prevent postnatal depression as this complication may arise in the postnatal period. The incidence of postnatal depression is low in Malaysia, estimated at 3.9%, due to the vast majority of Malaysian women still observing the traditional postnatal beliefs and practices (Traditional and Complementary Medicine Unit 2002).

The Malay garden design concept is an initiative to establish the identity of the Malay garden design and the reinstatement of this concept exclusive to the Malays as the indigenous community of Malaysia. It does not only provide an opportunity to become known better but more often to rise and maintain its uniqueness (Salleh et al. 2018). The primary compositions of the traditional Malay landscape design consist of the design concept and their two main components: soft landscape elements and hard landscape elements, along with the three separate house compounds: front compound, side compound and rear compound. The overall design of the traditional Malays garden and its features are partly influenced by ethnicity beliefs of the resident in general. It consists of vernacular timber houses laid in a garden of fruit trees, edible shrubs, herbs and flowering and fragrant plants in the landscape furniture design (Ismail & Said 2002). From a mental point of view, Malay society needs landscaping as a space to express creativity and emotional outburst. From a spiritual perspective, traditional Malay society needs landscapes that can meet religious needs (Baharum et al. 2019). The Malay garden designs are concerned with good space layout to create a surrounding of high functionality and benefits for users. The garden's planting compositions indicate intrinsic cultural values, such as food, medicine, cosmetics, belief, decoration and provision of shade (Zakaria et al., 2019).

Traditions can be passed on by either word-of-mouth or through actual practice, well-known to their community members but with no formal scientific foundation or evidence (Mun et al. 2019). Unluckily, the knowledge associated with this traditional practice is infrequently documented and only delivered through generations. Therefore, this study aimed to explore medicinal plant species utilized by the Malay traditional midwifery and further to be integrated into Malay garden design elements. Two objectives were highlighted; (i) to identify the medicinal plant species used in Malay traditional midwifery practices and (ii) to propose medicinal plants as softscape elements in the Malay garden.

METHODOLOGY

Study area

This study was carried out in Kelantan, Malaysia which were at Kampung Panji, Kota Bharu and Kampung Bandar, Pulai Chondong. Kota Bharu is a town in Malaysia serving as Kelantan's state capital and royal seat. Meanwhile, Pulai Chong is located north of Machang District, Kelantan. Both areas showed a majority of Kelantanese Malay ethnicity. They were selected as a case study because there are traditional medical practitioners who still practice the traditional Malay traditional midwifery except in the childbirth process.

Data collection

Interviews were semi-structured and took place in the midwives' homes. During interviews, the conversation was tape-recorded with the interviewee's consent. Two traditional Malay midwives were individually interviewed and asked about the Malay traditional midwifery practices from pregnancy to postpartum stages. The first respondent was Mak Teh age 84 years old, a *bidan kampung* at Kampung Panji, Kota Bharu, Kelantan and has been a traditional midwife for almost 40 years until the present. Second respondent was Mak Su Bidah, 72 years old who lived at Kampung Bandar, Pulai Chondong, Kelantan. She has experience for 24 years as a midwife until the present. Information required includes identifying the medicinal plant species used during Malay traditional midwifery practices and determining Malay traditional midwifery practices. The data gathered from

the interview was analyzed before proposing those medicinal plants as softscape elements in a Malay garden.

Ethnobotanical data

Ethnobotanical data were collected according to the methodology (Jain 1996). A semi-structured interview will be used to extract information on the ethnobotanical uses of plants. Most of the names of medicinal plants were given in Malay. Therefore, the scientific names were cross-checked through various floristic records or secondary data such as sources from books, the internet, Rimba Ilmu, University of Malaya; Taman Pertanian Universiti, UPM; Makmal Herbarium, UKM; Taman Botani, Putrajaya; Forest Research Institute of Malaysia (FRIM), Kepong; and also, from previous research studies and journals) to ascertain the nomenclature.

RESULTS AND DISCUSSION

Classification and composition of medicinal plants by traditional Malay midwifery

The traditional Malay midwifery practices have three stages: antepartum, intrapartum and postpartum. Both midwives highlighted the use of medicinal plants during prenatal care and postnatal care. The prenatal care was swinging the tummy (*lenggang perut*), meanwhile, postnatal care included traditional bath (*mandi teresat* or *mandi herba*), point massage (*bertungku)*, body wrap (*berbarut)* and traditional massage (*urutan*) and miscarriage treatment (*keguguran*). Overall, there were 27 medicinal plants used by the Mak Teh and 43 species were used by Mak Su Bedah (Table 1). The plant can be categorized into several types: trees, palm, shrub, herbaceous, climber and macrophytes.

The result for swingging the tummy (*lenggang perut*) established that seven plant have been used by Mak Bedah at Kampung Panji while 18 plant species have been used by Mak Su Bedah at Kampung Bandar (Table 1). The similarity observed in both midwives was the usage of *Areca catechu* (pinang), *Lawsonia inermis* (inai) and *Punica granatum* (delima).

From the finding, Mak Teh had used 6 species while Mak Bedah had used 4 medicinal plant species in traditional baths (*mandi teresat* or *mandi herba*) (Table 1). The similarity of medicinal plant species identified by both midwives was *Cymbopogon nardus* (serai wangi), *Pandanus amaryllifolius* (pandan) and *Pogostemon cablin* (nilam), and most of them used leaves. The traditional bath categories were mostly herbaceous and one from zingiber and macrophytes. The process of making the traditional bath was first to boil the water with medicinal plant species. Then, take a half cup of water from '*air teresat*' and drink it after showering as medicine. Usually, the mother was advised to take a traditional bath at 3 am and begin on an odd number of days, starting from days 3, 5, and 7.

Point massage (*bertungku*) presented 4 medicinal plant species used by both midwives (Table 1). However, only two of medicinal plant species had a similarity which were *Morinda citrifolia* (mengkudu) and *Homalomena coerulescens* (kemayan) and others were *Carica papaya* (betik), (daun kayu), *Curcuma domestica* (kunyit) and *Curcuma zedoaria* (kunyit putih). In this practice, Mak Teh has recommended using the river stones found on the river's edge as tools for hot compression instead of iron.

Meanwhile, the result from body wrap (*berbengkung*) showed that Mak Su Bedah had used 13 medicinal plant species compared to Mak Teh, which was only three species (Table 1). From the observation, there was a similarity among the medicinal plant species usage, which were *Chromoleana odorata* (kapal terbang), *Citrus aurantifolia* (limau nipis) and *Curcuma domestica* (kunyit). Other plant species namely (senduduk), (halia merah), (halia putih), (bawang merah), (bawang putih), (lada hitam), (kapur barus), (kunyit putih), (jarak) and (serapat). The plant uses leaves, water/juice, rhizomes and seeds. For body wrap preparation, all ingredients were mashed and added with lime water before applying to the body and wrapping with a girdle.

For miscarriage treatment, both midwives used different medicinal plants (Table 1). Among the medicinal plants used by Mak Teh was *Caesalpinia sappan* (sepang), (kederang), *Lawsonia inermis* (inai), *Punica granatum* (promegranate), *Sauropus androgynus* (cekur manis) meanwhile, Mak Su Bedah used *Eugenia polyantha* (samak), *Curcuma domestica* (kunyit), *Alpinia galangal* (lengkuas), *Nepenthes* sp. (periuk kera) and *Jasminum sambac* (melur).

Table 1. List of medicinal Plant used in Malay traditional midwifery at Kampung Panji and Kampung Bandar in Kelantan

Midwifery practices	**Local name**	**Scientific name**	**Plant part used**	**Types of Plant**	**Kg. Panji**	**Kg. Bandar**
Swingging the tummy (*lenggang perut*)	Pokok pinang	*Areca catechu*	Shoot	Palm	*	-
	Pokok sinai	*Streblus asper*	Shoot	Shrub	*	*
	Cabbage	*Brassica oleracea*	Leaves	herbaceous	*	-
	Pokok inai	*Lawsonia inermis*	Roots	Tree	*	*
	Delima	*Punica granatum*	Roots	Tree	*	*
	Cekur manis	*Sauropus androgynous*	Roots	Zingiber	*	-
	Melur	*Jasminum*	Roots	Tree	*	-
	Pokok semalu	*Mimosa pudica*	Leaves and roots	Shrubs	-	*
	Serapat	*Parameria polyneura*	Roots	Herbaceous	-	*
	Tunjang bumi	*Eurycoma longifolia*	Roots	Herbaceous	-	*
	Pokok kenanga	*Cananga odorata*	Roots	Herbaceous	-	*
	Akar larak	*Fissitigma latifolium*	Roots	Herbaceous	-	*
	Kemayan	*Homalomena coerulescens*	Leaves	Herbaceous	-	*
	Sepang kederang	*Caesalpinia sappan*	Bark and branch	Tree	-	*
	Lemak ketam	*Melochia corchorifolia*	Leaves	Climber	-	*
	Lempoyang	*Zingiber zerumbet*	Roots	Zingiber	-	*
	Sendudok	*Melastoma malabathricum*	Leaves	Shrub	-	*
	Cekur hitam	*Kaempferia pulchra*	Rhizomes	Zingiber	-	*
	Semeru	*Micromelum pubescens*	Leaves	Zingiber	-	*
Traditional bath (*mandi teresat* or *mandi serom*)	Serai wangi	*Cymbopogon nardus*	Leaves	Herbaceous	*	*
	Nilam	*Pogostemon cablin*	Leaves	Herbaceous	*	*
	Pandan	*Pandanus amaryllifolius*	Leaves	Herbaceous	*	*
	Semeru	*Micromelum pubescens*	Leaves	Zingiber	*	*
	Lengkuas	*Alpinia galangal*	Leaves	Herbaceous	*	*
	Kunyit	*Curcuma domestica*	Leaves	Herbaceous	*	*

	Serai kayu	*Syzigium polyanthum*	Leaves	Herbaceous	*	-
	Jeringau	*Acorus calamus*	Leaves	Macrophyte	-	*
Point massage (*bertungku*)	Mengkudu	*Morinda citrifolia*	Leaves	Herbaceous	*	*
	Betik	*Carica papaya*	Leaves	Herbaceous	*	-
	Kemayan	*Homalomena coerulescens*	Leaves	Shrub	*	*
	Kunyit	*Curcuma domestica*	Leaves	Zingiber	-	*
	Kunyit putih	*Curcuma zedoaria*	Leaves	Zingiber	-	*
Body wrap (*berbarut* or *berbengkung*)	Kapal terbang	*Chromolaena odorata*	Leaves	Shrub	*	*
	Limau nipis	*Citrus aurantifolia*	Water/ juice	Shrub	*	*
	Kunyit	*Curcuma domestica*	Leaves	Herbaceous	*	*
	Senduduk	*Melastoma malabathricum*	Leaves	Shrub	-	*
	Halia merah	*Halia merah*	Rhizome	Zingiber	-	*
	Halia putih	*Zingiber officinale*	Rhizome	Zingiber	-	*
	Bawang besar	*Allium cepa*	bulb	Herbaceous	-	*
	Bawang putih	*Allium sativum*	bulb	Herbaceous	-	*
	Lada hitam	*Piper nigrum*	Seeds	Herbaceous	-	*
	Kunyit putih	*Curcuma alba*	Rhizome	Herbaceous	-	*
	Kapur	*Dryobalanops aromatic*	Leaves	Tree	-	*
	Jarak	*Parameria laevigata*	Leaves	Shrub	-	*
	Serapat	*Parameria polyneura*	Leaves	Herbaceous	-	*
Miscarriage treatment	Sepang kederang	*Caesalpinia sappan*	Bark and branch	Tree	*	-
	Inai	*Lawsonia inermis*	Roots	Shrub	*	-
	Delima	*Punica granatum*	Roots	Tree	*	-
	Cekur manis	*Sauropus androgynous*	Roots	Tree	*	-
	Melur	*Jasminum sambac*	Roots	Zingiber	*	-
	Jeringau	*Acorus calamus*	Leaves	Macrophyte	-	*
	Cekur	*Kaempferia galangal*	Leaves	Herbaceous	-	*
	Periuk kera	*Nepenthes* sp.	Pitcher	Climber	-	*
	Lengkuas	*Alpinia galangal*	Rhizome	Herbaceous	-	*
	Kunyit	*Curcuma domestica*	Rhizome	Herbaceous	-	*
	Samak	*Eugenia polyantha*	Leaves	Shrub	-	*

Integration of plant material composition in Malay garden

The second objective of this study is to propose medicinal plants as softscape elements in Malay gardens. Therefore, the researcher came up with three Malay gardens. The garden design is based on the plant's characteristic that is suitable to portray the surrounding landscape of Malay landscape. Malay garden design can be categorized into three spaces were welcoming garden (laman tiba), side garden (laman sisi) and yard garden (laman suri). *Laman tiba* is an important space to welcome people or neighbours with vibrant and colourful fragrant plants. *Laman sisi* is a space at both left and right of the Malay house, purposely designed for a feast, a place to relax with family, and a playground for children. Meanwhile, *laman suri* is a space near the kitchen and is usually used for cooking. Based on the identification of medicinal plant species in Table 1, the researcher proposed three Malay garden design concepts (Figures 1, 2 and 3).

The first proposed Malay garden design comprises three spaces. For welcoming space (laman tiba) were *Areca catechu*, *Jasminum sambac* and *Melastoma malabathricum*. For side space (laman sisi) were *Citrus aurantifolia*, *Homalomena coerulescens*, *Morinda citrifolia* and *Acorus calamus*. In contrast, yard garden (laman suri) was *Alpinia galangal*, *Curcuma domestica*, *Punica granatum*, *Carica papaya* and *zingiber officinale* as detailed in Figure 1 and Table 2.

The second proposed Malay garden design also comprises of three spaces. For *laman tiba*, there was *Areca catechu*, *Jasminum sambac*, *Streblus asper*, *Melastoma malabathricum* and *Cymbopogon nardus*. As for *laman sisi* was *Citrus aurantifolia*, *Micromelum pubescens*, *Chromoleana odorata* and *Melochia corchorifolia*. Meanwhile, *laman suri* was *Punica granatum, Curcuma domestica, Curcuma zedoaria, Zingiber officinale* and *zingiber minus,* as detailed in Figure 2 and Table 3.

Last but least, the proposed Malay garden design 3 for *laman tiba* was *Areca catechu, Jasminum sambac, Streblus asper* and *Melastoma malabathricum*. For *laman sisi* was *Citrus aurantifolia, Pandanus amaryllifolius, Lawsonia inermis, Acorus calamus* and *Kaempferia pulchra*. While *laman suri* comprised *Punica granatum, Curcuma domestica*, *Curcuma zedoaria, Allium sativum* and *Allium cepa* as detailed in Figure 3 and Table 4.

According to Barakbah (2007), there were different practices in the Malay pre and postnatal care treatment. It consists of diet during pregnancy, coconut belly rubs or swinging the tummy ceremony, body spread, point massage, body girdle, forehead treatment, massage, traditional bath, traditional confinement, vaginal heat or herbal treatments, herbal decoctions, heat treatment, confinement and miscarriage. However, in this study, both Malay midwives only practised several processes: swinging the tummy, traditional bath, point massage, body wrap and miscarriage treatment. The swinging tummy or 'lenggang perut' ceremony is believed to unite all the family members as they come together to pray for the pregnant couple (Laderman 1987). A comprises different plant categories, and species can be integrated into Malay garden design as a part of the Malay cultural landscape. Rama midwives use a diverse group of plants in the practice of midwifery, 162 species from 125 genera and 62 families. This extensive ethnopharmacopoeia is used to treat the many health issues of pregnancy, parturition, postpartum care, neonatal care, and primary health care of women and children (Coe 2008). The term herbal in science botany means any non-wooden plant or less wood that is different from shrub or tree, as for herbal in medicinal plants including all types of plants as medicine including low plant, trees, fungi and algae. Besides, in the western country, herbal refers to all types of plants as medicine, flavour, spices and fragrance (Siti Fatimah & Yusmilayati 2019).

Table 2. Proposed medicinal plants as softscape element in Malay garden 1

Laman Tiba	***Laman Sisi***	***Laman suri***
- Areca catechu *-Jasminum sambac* *-Melastoma malabathricum*	**-***Citrus aurantifolia* *-Homalomena coerulescens* *-Morinda citrifolia* *-Acorus calamus*	**-***Alpinia galangal* *-Curcuma domestica* *-Punica granatum* *-Carica papaya* *-Zingiber officinale*

Figure 1. Proposed Malay garden design 1

Table 3. Proposed medicinal plants as softscape element in Malay garden 2

Laman Tiba	***Laman Sisi***	***Laman suri***
- Areca catechu *-Jasminum sambac* *- Streblus asper* *-Melastoma malabathricum* *-Cymbopogon nardus*	**-***Citrus aurantifolia* *-Micromelum pubescens* *-Chromoleana odorata* *-Melochia corchorifolia*	**-***Punica granatum* *-Curcuma domestica* *-Curcuma zedoaria* *-Zingiber officinale* *- Zingiber minus*

Figure 2. Proposed Malay garden design 2

Table 4. Proposed medicinal plants as softscape element in Malay garden 3

Laman Tiba	***Laman Sisi***	***Laman suri***
-Areca catechu *-Jasminum sambac* *-Streblus asper* *-Melastoma malabathricum*	**-***Citrus aurantifolia* *-Pandanus amaryllifolius* *-Lawsonia inermis* *-Acorus calamus* *-Kaempferia pulchra*	**-** *Punica granatum* *-Curcuma domestica* *-Curcuma zedoaria* *-Allium sativum* *-Allium cepa*

Figure 3. Proposed Malay garden design 3

CONCLUSION

The botanical record of the Malay midwifery plant species in Kelantan has served as clear evidence that it is a valuable source to be used as a medium to explore the environmental and cultural factors

of the indigenous knowledge in Malay midwifery practice. By understanding the lifestyle and the Malay cultural landscape, an effort to integrate Malay traditional midwifery in Malay garden design by introducing medicinal plant species is to preserve the traditional knowledge from becoming history.

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REFERENCES

Abdulrahman, M.D., Ali, A.M., Fatihah, H.N.N., Khandaker, M.M. & Mat, N. 2018. Traditional medicinal knowledge of Malays in Terengganu, Peninsular Malaysia. *Malayan Nature Journal* 70(3): 349–366.

Amjad, M.S., Zahoor, U., Bussmann, R.W., Altaf, M., Gardazi, S.M.H. & Abbasi, A.M. 2020. Ethnobotanical survey of the medicinal flora of Harighal, Azad Jammu & Kashmir, Pakistan. *Journal of Ethnobiology and Ethnomedicine* 16(1): 1–28.

Baharum, H., Hamzah, N., Harun, J., Luthfi, M., Mohamad, A. & Nasir, M.R.A. 2019. Malay Cultural Landscape Aesthetics in Traditional Malay Literary Texts. *International Journal of Innovation, Creativity and Change* 5(2): 1786–1811.

Barakbah, A. 2007. *Ensiklopedia Perbidanan Melayu – Encyclopedia of the pregnancy, births, and maternal health care according to traditional Malay culture*. Kuala Lumpur: Utusan Publication.

Coe, F.G. 2008. Rama midwifery in eastern Nicaragua. *Journal of Ethnopharmacology* 117(1): 136–157.

Ismail, N.A. & Said, I. 2002. Design paradigm: Sustaining responsive cultural landscape of Malay rural residential area. *International Seminar on Vernacular Settlement*, pp. 316–323

Jain, S.K. 1996. Ethnobiology in Human welfare. *International Congress of Ethnobiology 1994*. Lucknow, India: Deep publications.

Laderman, C. 1987. Destructive heat and cooling prayer: Malay humoralism in pregnancy, childbirth and the postpartum period. *Social Science & Medicine* 25(4): 357–365.

Mak Bidan. 2001. *Rawatan Traditional Ketika Mengandung, Selepas Bersalin & Tips Penjagaan Bayi*. Selangor: Hizi Print Sdn. Bhd.

Md. Sharif, S., Yap, W.S., Fun, W.H., Yoon, E.L., Abd Razak, N.F., Sararaks, S. & Lee, S.W.H. 2021. Midwifery Qualification in Selected Countries: A Rapid Review. *Nurs. Rep* 11: 859–880.

Mun, W.C., Daud, F. Bin, Sivaratnam, L.A. & Selimin, D.S. 2019. The "irrational" taboos and "irrelevant" traditions related to postpartum women's health and well-being. *Sains Malaysiana* 48(5): 1055–1064.

Othman, R., Illani, N., Razak, A. & Ishak, N. 2014. Ethnobotanical Study of Traditional knowledge on Plant Used in Traditional Bath (mandi serom) among Malay Midwives in Perak and Negeri sembilan. *Research Journal of Biological Science* 9(5): 193-196.

Quave, C.L. & Pieroni, A. 2015. A reservoir of ethnobotanical knowledge informs resilient food security and health strategies in the Balkans. *Nature Plants* 1(2): 14021.

Salleh, I.H., Abd. Rashid, M.S., Md Sakip, S.R. & Mohd Nasir, M.R. 2018. The Development of the Malay Garden Concept. *Asian Journal of Quality of Life* 3(10): 159.

Shaik, M.K., Chunling, L., Kanchit, T. & Henrik, L. 2020. *Medicinal Plants: Biodiversity, Sustainable Utilization and Conservation*. Singapore: Springer.

Siti Fatimah, A.A. & Yusmilayati, Y. 2019. Khasiat Herba dalam Kitab Tib Melayu (Herbal Remedies in the Malay Tib). *Akademika* 89(1): 151–162.

Suthari, S., Sreeramulu, N., Omkar, K., Reddy, C.S. & Raju, V.S. 2014. Intracultural cognizance of medicinal plants of Warangal north Forest division, northern Telangana, India. *J Ethnobot Res Appl* 12: 211–235.

Traditional and Complementary Medicine Unit. 2002. Postnatal care. *Minister of Health Malaysia* https://tcm.moh.gov.my/en/upload/garispanduan/amalan/Postnatal.pdf [11 November 2021].

Zakaria, A.Z., Dali, M.M. & Hussein, H. 2019. Implementing the Malaysian Heritage Garden as the Identity for National Landscape: Case Study in Putrajaya. *International Journal of Academic*

Research in Business and Social Sciences 9(1): 898–914.
Zakaria, S.M., Amri, C.N.A.C. & Shahari, R. 2020. Ethnobotany and traditional knowledge of acanthaceae in Peninsular Malaysia: A review. *Pharmacognosy Journal* 12(6): 1482–1488.

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