ENHANCED KNOWLEDGE IN SCIENCES AND TECHNOLOGY
e-ISSN: 2773-6385

EKST

Vol. 5 No. 2 (2025) 582-589
https://publisher.uthm.edu.my/periodicals/index.php/ekst

Ethnobotanical Study of Traditional Jakun Midwifery Practices: Prenatal and Postnatal Care Treatment

Thivenisha M. Durai Raja[1], Siti Fatimah Sabran[1]*

[1] *Department of Technology and Natural Resources, Faculty of Applied Sciences and Technology, UTHM Kampus Cawangan Pagoh, Hab Pendidikan Tinggi Pagoh, KM 1, Jalan Panchor, 84600 Pagoh, Muar, Johor, MALAYSIA.*

*Corresponding Author: fatimahsb@uthm.edu.my
DOI: https://doi.org/10.30880/ekst.2025.05.02.067

Article Info

Received: 30 December 2024
Accepted: 2 February 2025
Available online: 19 December 2025

Keywords

Jakun, Ethnobotany, Midwifery Practices, Traditional Medicine, Herbal Remedies

Abstract

Midwifery practices remain significant in many ethnic groups but are increasingly forgotten in rural areas, particularly among indigenous communities in Malaysia. The Jakun people's traditional midwifery practices, including the use of herbal plants for prenatal and postnatal care, are at risk of being lost due to modernization and cultural shifts. This study documents the ethnobotanical knowledge and provides an inventory of plant species used by the Jakun community in Kampung Peta, Mersing. Data were gathered through semi-structured interviews, field surveys, and answering questionnaires, documenting 15 plants from 13 families such as Zingiberaceae, Piperaceae, Euphorbiaceae, Vitaceae, Malvaceae, Fabaceae, Musaceae, Annonaceae, Clusiaceae, Lygodiaceae, Acanthaceae, Lauraceae, and Araliaceae. For example, the *Leea indica* species, are used traditionally in herbal baths to treat body aches and have antibacterial properties, and *Panax ginseng's* roots were boiled and made into a decoction, as an herbal drink which has a vital medical function. The findings reveal a rich repository of ethnobotanical knowledge and highlight the urgent need to preserve traditional practices. Future research could explore the potential of these plants for sustainable healthcare solutions and therapeutic development. The findings of this study highlight the rich ethnobotanical knowledge within Jakun traditional midwifery practices, revealing the significant potential for scientific validation of documented plants.

1. Introduction

Traditional knowledge (TK) serves as a vital repository of insights into sustainable healthcare and cultural identity, passed down through generations among indigenous communities worldwide [1]. An indigenous group from Kampung Peta, Mersing, Johor, known as the Jakun, is one of the numerous unique cultures that continues to actively practice their Traditional Knowledge (TK) on the use of medicinal plants in the treatment of various ailments [2].

According to studies, certain indigenous and rural cultures use certain plants to treat malaria [3], and Tuberculosis (TB) [4] by the Jakun community. Similarly, there is also a traditional knowledge known as midwifery practices, which are incorporated with local herbal remedies, and are integral to prenatal and postnatal care. The Jakun community, primarily residing in Kampung Peta, Mersing, Johor, utilizes various medicinal plants in their midwifery practices. However, the knowledge is increasingly under threat from modernization, urbanization, and the declining interest of younger generations [3].

Additionally, despite the rich biodiversity of Malaysia, many of these practices are undocumented, risking the loss of invaluable ethnobotanical wisdom [4]. Globally, ethnobotanical studies have highlighted the role of traditional midwifery in enhancing maternal health, particularly in regions with limited access to modern healthcare. Documenting such practices not only helps preserve cultural heritage but also offers insights for integrating natural remedies into contemporary medical systems [5][6]. Preserving traditional Jakun midwifery techniques is crucial for maintaining cultural identity and protecting the health of indigenous populations in a time of rapid environmental and social transformation. Additionally, by doing this inventory, plant species that are threatened can be saved. Therefore, the objectives obtained through this study were to document ethnobotanical knowledge of plants used for prenatal and postnatal care treatment by the Jakun Community and to provide an inventory of plant species used by the Jakun Community in prenatal and postnatal care treatment.

2. Methodology

2.1 Study Area – Kampung Peta, Mersing, Johor

Fig. 1 shows that the study was conducted in Kampung Peta, Mersing, Johor which is a settlement belonging to the Jakun Tribe, situated near the entrance of Johor's Endau Rompin National Park. The Jakun Tribe is the largest group in Johor and the second largest group in Peninsular Malaysia [18]. The reason Kampung Peta was chosen for this study is due to their current settlement area or houses, that are located nearest to a National Park and their dependency on it for natural resources in their daily life. In addition, as of November 2018, the Jakun Community population is around 289 individuals [17].

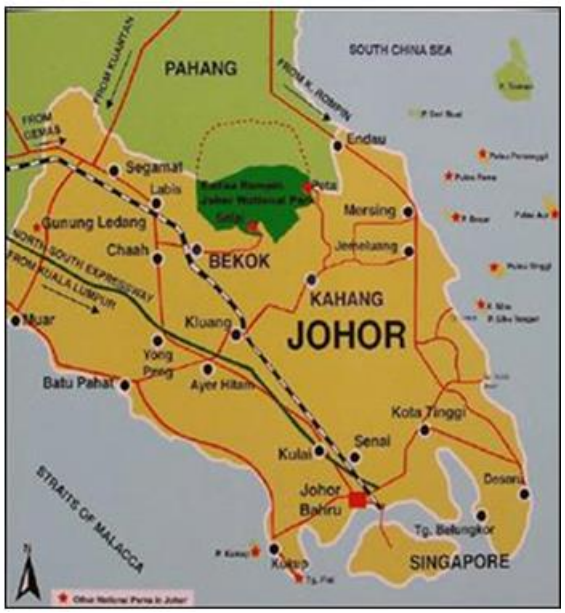

Fig. 1 Location of Kampung Peta, Mersing, Johor [3]

2.2 Data Collection

Data collection involved ethical authorization secured from respondents, fieldwork, interviews, and plant specimen collection. Using the snowball sampling technique, key informants were selected based on their experience with herbal knowledge and their reputation as local authorities. Typically, the researchers began their work with a limited group of initial contacts, or "seeds," who met the research criteria and received an invitation to participate in the study. After that, the agreeable participants are asked to suggest other individuals who meet the criteria for participation and who might also be willing participants. These contacts then suggest more contacts who might be interested in participating, and so on [7]. A written Prior Inform Consent (PIC), and Access and Benefit Sharing (ABS) form were also provided and explained at an interview, and JAKOA's approval was acquired. A set of questionnaires were also prepared for the interviews with the respondents and the interview was recorded using voice recording with their consent. The list of questions covers their understanding of the botanicals used during prenatal and postnatal care treatment.

2.3 Plant Specimen Preparation

The plants were collected during a field walk after an interview session had been done, with the respondent's guidance around the Kampung Peta area. The samples were then brought to laboratories to be dried and made into herbarium sheets. Once the herbarium was done, plant species were identified up to the species level, with

Enhanced Knowledge in Sciences and Technology Vol. 5 No. 2 (2022) p. 582-589

the aid of plant databases, such as the myBIS, books and previously identified specimens from an accessible plant database by comparing it.

2.4 Data Analysis

To compile all the information the respondents might have provided regarding midwifery practices, the voice recordings of the interviews were transcribed, examined, and evaluated. Based on the samples and herbarium voucher specimens, a list of plants used in prenatal and postnatal care treatment was created and arranged systematically. We also had the opportunity to discuss the Jakun community's traditional prenatal and postnatal care procedures.

Fig. 2 Plant Collection and Field Walk

3. Results and Discussions

3.1 Demographic Details and Botanical Overview

3.1.1 Key Informant

Due to the nature of the topic and the limited availability of individuals with relevant experiences, this study only recorded a single respondent who had the experience of witnessing the midwifery culture when she was little when she saw her father working as a male midwifery assistant in the 1980s. She was also highly recommended by villagers as someone with extensive knowledge in this field. Nur Athirah Binti Abdullah, known as Nek Guleng in Kampung Peta, provided a rare opportunity to access insights into traditional midwifery practices, which are now largely forgotten. Although she was not a trained midwife, she gained knowledge of the process, and experiences through her observation of her father who worked as a midwife assistant. Despite having only one respondent, the data provided is in-depth, firsthand, and contextually rich. While variability is limited, the findings remain valuable and can be cross-validated with existing ethnobotanical literature. Future research can expand on this foundation by incorporating more respondents.

3.1.2 Documented Botanical Information

Table 1 Sampled Plants List

No	Scientific Name	Family	Local Name	Parts used	Preparation Methods	Traditional Application	Source of plant
1	*Piper betle*	Piperaceae	*Sirih Biasa*	Leaf	Cut into dice and boiled	Topical, herbal bath	Wild
2	*Mallottus paniculatus*	Euphorbiaceae	*Balik Angin*	Leaf	Cut into dice and boiled	Topical, herbal bath	Wild
3	*Leea indica*	Vitaceae	*Memali*	Leaf	Cut into dice and boiled	Topical, herbal bath	Wild

4	*Zingiber zerumbet*	Zingiberaceae	*Lempoyang*	Leaf	Cut into dice and boiled	Topical, herbal bath	Wild
5	*Microcos tomentosa*	Malvaceae	*Cemenerai*	Leaf	Cut into dice and boiled	Topical, herbal bath	Wild
6	*Alpinia galanga*	Zingiberaceae	*Lengkuas*	Leaf	Cut into dice and boiled	Topical, herbal bath	Wild
7	*Flemingia strobilifera*	Fabaceae	*Seringan*	Leaf	Cut into dice and boiled	Topical, herbal bath	Wild
8	*Musa balbisiana*	Musaceae	*Pisang Pinang*	Leaf	Cut into dice and boiled	Topical, herbal bath	Wild
9	*Annona muricata*	Annonaceae	*Durian Belanda*, Soursop	Leaf	Cut into dice and boiled	Topical, herbal bath	Wild
10	*Garcinia atroviridis*	Clusiaceae	*Asam Gelugor*	Leaf	Cut into dice and boiled	Topical, herbal bath	Wild
11	*Lygodium flexuosum*	Lygodiaceae	*Reribu*	Leaf	Cut into dice and boiled	Topical, herbal bath	Wild
12	*Justicia gendarussa*	Acanthaceae	*Patah Tulang*	Leaf	Cut into dice and boiled	Topical, herbal bath	Wild
13	*Cinnamomum iners*	Lauraceae	*Tija*	Leaf	Cut into dice and boiled	Topical, herbal bath	Wild
14	*Panax ginseng*	Araliaceae	Ginseng	Root	Boiled	Oral, herbal drink	Wild
15	*Curcuma longa*	Zingiberaceae	*Kunyit,* Turmeric	Root	Cut and tied in a small cloth (amulet), Wrapped in cloth (treat wound)	Used in amulet, treating labor wounds of the mother	Wild

3.1.3 Uses of Plant and Parts Used

Most of the documented plants, 86.67% or 13 of them were used in herbal baths. All the plants involved in the herbal bath collectively provide therapeutic, healing, and calming properties to anyone who practices it. *Leea* species plants, in our case, the *Leea indica* species, are used traditionally to treat body aches and have antibacterial properties [8]. As for *Piper betle* species, *Piper betle* is widely used in traditional medicine because it contains many bioactive compounds. These compounds can be extracted from various parts of the plant, including its leaves, vines, branches, and roots. The main bioactive components in *Piper betle* are tannins, flavonoids (such as quercetin), eugenol, hydroxychavicol, and chavibetol, including various pharmacological properties such as antimicrobial, antifungal, and antioxidant which is essential for a new mom [12].

In Greek, "panax" means "all diseases can be cured," implying that P. ginseng has a vital medical function [9]. Panax ginseng's roots were boiled and made into a decoction, an herbal drink. Ginseng also could prevent disease by modulating the immune function of the human body [13]. *Curcuma longa,* or turmeric has profound healing properties that help to heal new mothers' newborn wounds. The most active ingredient in its rhizome, curcumin, has been researched for many years because of its biofunctional qualities, particularly its anti-inflammatory, antibacterial, and antioxidant capabilities, essential for wound healing [10]. Thus, Jakun midwifery relies on medicinal plants with potential therapeutic value. Scientific validation can bridge tradition and modern obstetrics. Integration into healthcare requires collaboration, standardization, and regulation.

3.2 Preparation and Administration

The Jakun people traditionally follow the custom of collecting an odd number of plants' leaves for an herbal bath in the early morning as high midday temperatures are too taxing for a woman's cardiovascular system [11]. As the herbal bath is used solely for external purposes, its application is topical, on the skin used for bathing new mothers, offering refreshments, aiding recovery, and alleviating exhaustion from childbirth.

Ginseng roots are valued for their ability to alleviate internal fatigue and exhaustion caused by the birthing process. To prepare them, the roots are boiled to create a decoction, which is then consumed by the mother for its restorative and healing benefits. A study in Thailand also states that around 119 species of the sampled plants were made into a decoction and drank as tea or food orally [1] for midwifery purposes. Additionally, the rhizomes of turmeric or *Curcuma longa* are cut into small pieces, wrapped in a cloth, and tied either around the hand or the big toe to protect new mothers from negative energy or spirits other than using it to treat the newborn wound of the mother.

3.3 Prenatal Care Treatment

Back in the day, pregnant mothers and their husbands are encouraged to seek a midwife as early as the third month of pregnancy. The midwife will calculate the baby's due date and oversee preparations for a safe delivery. Pregnant women are encouraged to consume ripe bananas to prevent constipation and drink coconut water as a natural coolant, while sour fruits like young mangoes are recommended. Foods like pineapples and *asam kelubi* (*Eleiodoxa conferta*) are avoided during the first trimester, and consuming wild meat is prohibited if under spiritual influence. With high acidity and fiber content, overconsumption of pineapples may lead to digestive problems such as gas, diarrhea, or heartburn [14].

Pregnant women should avoid leaving the house after dusk, killing animals (especially snakes), and engaging in activities like cutting chickens or trimming nails, particularly during the fourth month. Rituals like *mandi tepung* (flour bath) and the use of talismans are employed to protect against spirits. Midwives are sought early in pregnancy to calculate due dates, oversee delivery preparations, and assist with childbirth using tools like bamboo knives and *selusoh* oil. Massages and positioning techniques are used to ensure a smooth delivery and the baby's proper alignment. Similarly, in Vondrozo, Madagascar, the midwives used a pointed stick made of bamboo, called ''kisolombo'' to cut the baby's umbilical cord [15]. In the past, before the advent of modern technology, midwives would also predict the baby's gender based on the mother's movements, character, and behaviour during pregnancy. Together, these elements reflect a careful and culturally rooted approach to childbirth.

Childbirth in traditional Jakun practices is a deeply cultural and spiritual process involving the midwife, the parents, and specific rituals for the baby and placenta. The pregnant mother gives birth at home, lying on a woven pandanus mat. The father plays a vital role by gathering wood to cover the area beneath the birthing space, preventing blood from seeping into the ground. The placenta (*uri*) is carefully washed with water, soap, and salt, wrapped with nails, and either buried or hung on a tree. Each method carries symbolic meanings for the child's future traits.

3.4 Postnatal Care Treatment

Postpartum confinement lasts 40 days, focusing on rest, hot compresses with heated stones, and dietary restrictions, while activities like river bathing and housework are prohibited. During confinement, abdominal binders, turmeric leaves, and carefully prepared diets, such as boiled foods for the first three days, are essential for maternal healing. Foods causing bloating (e.g., *baung* fish), postpartum psychosis (e.g., *toman* fish, quail eggs), or hindering milk production are avoided.

The medicinal plants used in postpartum care have therapeutic benefits supported by cross-cultural ethnobotanical studies, highlighting their significant value. Herbal baths, known as *mandian serom,* utilize leaves with healing properties to rejuvenate the mother's body and mind. Herbal baths can open pores, stimulate digestion, enhance circulation, support natural detoxification, and encourage better sleep for new mothers [16]. In Indonesia, the herbal bath is called *Bakera* which involves 60 species of plants altogether [11]. Other than that, newborn care involves massages with roots like *akar pung-pung*, baths with turmeric water, and protective charms (*tangkal*) to ensure the baby's health. Another indigenous ethnicity, the Temuan community in Taman Negara Gunung Ledang, used *Annona muricata (durian belanda)* and *Psidium guajava (jambu batu)* for their postpartum care herbal bathing [16].

Ceremonies, such as shaving the baby's head at 40 days and specific rituals for ailments, are performed to protect and bless the child. Moreover, the floor-cleaning ceremony, or *langi bidan*, symbolizes gratitude and purification, with symbolic payments made to honor the midwife. The symbolic payment known as *langi bidan* includes items such as white glassware (plates, bowls, cups), rice grains or rice, mature coconuts, seven rounds of white thread, a needle, nail clippers, lime, a small knife, flour mixed with turmeric, a drop of morning dew, Zam-Zam hair oil, traditional clothes (*baju kurung*), a sewn batik cloth, and optionally, money. Even the poorest

families are expected to offer a glass cup, flour mixed with turmeric, and a drop of dew, but wealthier families may also slaughter a cow and host a feast. This intricate ceremony reflects a deep respect for the midwife's role and the cultural emphasis on purification and reciprocity.

Fig. 3 Preparation of Mandian Serom

Fig. 4 Steps of Mandian Serom

Fig. 5 The symbolic payment or langi bidan

3.5 Challenges in Preserving Midwifery Traditional Knowledge

Traditional midwifery knowledge is at risk of being lost due to modernization, globalization, migration, and declining interest among younger generations. The lack of documentation, as midwifery knowledge is primarily passed down orally, makes it vulnerable to extinction, with limited research on practices, particularly among the Orang Asli in Malaysia especially in Jakun ethnicity. In addition, in many countries, the practice now requires formal certification, which may not align with traditional methods of knowledge transmission, posing challenges

to the preservation of these practices [19]. Other than that, A *Journal of Occupational Health Psychology* study highlights challenges midwives face in preserving traditional birthing practices, as professionalization often overlooks Indigenous knowledge, creating conflicts with Western medicine [20]. A case study from Guatemala discusses efforts to blend traditional midwifery with professional practices. Challenges include sustaining nonprofit health initiatives and balancing biomedical interventions with respect for women's rights within traditional contexts [21]. However, sustainable opportunities also exist to preserve this knowledge, such as monetizing traditional practices through Access and Benefit Sharing (ABS) agreements and developing herbal products. Collaborating with stakeholders also can help communities sustain and promote their midwifery traditions while earning money.

4. Conclusion

The study documented 15 plants, with Zingiberaceae being the most represented family, followed by 12 others. These findings emphasize the importance of traditional knowledge preservation and serve as a foundation for further pharmacological analysis to validate and standardize herbal remedies used in maternal care. Traditional midwifery is vital to cultural heritage and maternal care but faces challenges like modernization, declining youth interest, and poor documentation. Despite this, its remedies complement modern healthcare, especially in resource-limited settings. Understanding their efficacy and safety can help integrate traditional practices with modern obstetrics for a more holistic approach to maternal health. To ensure its survival, efforts should focus on documentation, validation, and integration while respecting cultural contexts. Limitations include a lack of clinical validation, inconsistent preparation methods, and reliance on secondary sources. Future research should prioritize pharmacological studies, phytochemical screening, and improved methods for capturing perinatal knowledge. Preservation efforts should include oral history documentation, digital archives, and mentorship programs to sustain its relevance in Malaysia and beyond.

Acknowledgement

The authors would like to thank the Faculty of Applied Sciences and Technology, Universiti Tun Hussein Onn Malaysia, for its support and also thanks the Jakun community.

Conflict of Interest

Authors declare that there is no conflict of interests regarding the publication of the paper.

Author Contribution

The authors confirm contribution to the paper as follows: ***study conception and design:*** *Thivenisha M. Durai Raja, Siti Fatimah Sabran;* ***data collection:*** *Thivenisha M. Durai Raja;* ***analysis and interpretation of results:*** *Thivenisha M. Durai Raja, Siti Fatimah Sabran;* ***draft manuscript preparation:*** *Thivenisha M. Durai Raja, Siti Fatimah Sabran. All authors reviewed the results and approved the final version of the manuscript.*

References

[1] Panyaphu, K., Van On, T., Sirisa-Ard, P., Srisa-Nga, P., ChansaKaow, S., & Nathakarnkitkul, S. (2011). Medicinal plants of the Mien (Yao) in Northern Thailand and their potential value in the primary healthcare of postpartum women. Journal of Ethnopharmacology, 135(2), 226–237. https://doi.org/10.1016/j.jep.2011.03.050

[2] Chee, B. J. (2005). Medicinal properties and common usages of some palm species in the Kampung Peta community of Endau-Rompin National Park, Johor. Journal of Tropical Medicinal Plants, 6(1), 79–83.

[3] Ismail, I., Linatoc, A. C., Mohamed, M., & Tokiman, L. (2015). Documentation Of Medicinal Plants Traditionally Used by The Jakun People Of Endau-Rompin (Peta) For Treatments Of Malaria-Like Symptoms. Jurnal Teknologi/Jurnal Teknologi, 77(31). https://doi.org/10.11113/jt.v77.6908

[4] Sabran, S. F., Mohamed, M., & Bakar, M. F. A. (2016b). Ethnomedical knowledge of plants used for the treatment of tuberculosis in Johor, Malaysia. Evidence-based Complementary and Alternative Medicine, 2016, 1–12. https://doi.org/10.1155/2016/2850845

[5] Lefeber, Y., Voorhoeve, H.W.A., 1998. Indigenous Customs in Childbirth And Child Care. Van Gorcum, Assen.

[6] Laelago, T. (2019). Herbal Medicine Use during Pregnancy: Benefits and Untoward Effects. IntechOpen. doi: 10.5772/intechopen.76896

[7] SAGE Research Methods Foundations Metadata. (2020). https://doi.org/10.4135/URL

[8] Hossain, F., Mostofa, M. G., & Alam, A. K. (2021). Traditional uses and pharmacological activities of the genus leea and its phytochemicals: A review. *Heliyon*, *7*(2), e06222. https://doi.org/10.1016/j.heliyon.2021.e06222

[9] Liu, H., Lv, C., & Lu, J. (2020). Panax ginseng C. A. Meyer as a potential therapeutic agent for organ fibrosis disease. Chinese Medicine, 15(1). https://doi.org/10.1186/s13020-020-00400-3
[10] Tejada, S., Manayi, A., Daglia, M., Nabavi, S. F., Sureda, A., Hajheydari, Z., Gortzi, O., Pazoki-Toroudi, H., & Nabavi, S. M. (2016). Wound Healing Effects of Curcumin: A short review. Current Pharmaceutical Biotechnology, 17(11), 1002–1007. https://doi.org/10.2174/1389201017666160721123109
[11] Zumsteg, I. S., & Weckerle, C. S. (2007). Bakera, an herbal steam bath for postnatal care in Minahasa (Indonesia): Documentation of the plants used and assessment of the method. *Journal of Ethnopharmacology*, *111*(3), 641–650. https://doi.org/10.1016/j.jep.2007.01.016
[12] Azahar, N. I., Mokhtar, N. M., & Arifin, M. A. (2020). Piper betle: a review on its bioactive compounds, pharmacological properties, and extraction process. *IOP Conference Series Materials Science and Engineering*, *991*(1), 012044. https://doi.org/10.1088/1757-899x/991/1/012044
[13] Riaz, M., Rahman, N. U., Zia-Ul-Haq, M., Jaffar, H. Z., & Manea, R. (2018). Ginseng: A dietary supplement as immune-modulator in various diseases. Trends in FoodScience&Technology,83,12–30. https://doi.org/10.1016/j.tifs.2018.11.008
[14] Mehta, S. (2024, October 14). Pineapple in pregnancy: Benefits, risks, and safe consumption. MyHealth.https://redcliffelabs.com/myhealth/pregnancy/pineapple-in-pregnancy- benefits-risks-and-safe-consumption/
[15] Kotobesoa, Raymond, R. J., & Marie, P. R. S. (2024). Meaning of the traditional custom regarding the umbilical cord in the Sahafatra Society in Vondrozo district. International Journal of Humanities Social Sciences and Education, 11(8), 91–103. https://doi.org/10.20431/2349-0381.1108012
[16] Jahiman, N. A., Pa'Ee, F., Manan, N. A., & Md Salleh, N. A. (2021). Development of herbal bag for herbal bath during postnatal care from Temuan traditional knowledge. IOP Conference Series: Earth and Environmental Science, 736(1). https://doi.org/10.1088/1755-1315/736/1/012027
[17] Jabatan Kemajuan Orang Asli. (2024, May 12). Laman web rasmi Jabatan Kemajuan Orang Asli. Laman Web Rasmi Jabatan Kemajuan Orang Asli. https://www.jakoa.gov.my/
[18] Yusof, A. F. M., & Wook, I. (2020). Indigenous peoples living in protected areas: An observation on the impact of COVID-19 in Kampung Peta, Endau-Rompin National Park. *INSLA E-PROCEEDINGS*, *3*(1), 44–49. https://insla.usim.edu.my/index.php/eproceeding/article/view/18
[19] *UNESCO - Midwifery: knowledge, skills and practices*. (n.d.). https://ich.unesco.org/en/RL/midwifery-knowledge-skills-and-practices-01968
[20] Mharapara, T. L., Clemons, J. H., Greenslade-Yeats, J., Ewertowska, T., Staniland, N. A., & Ravenswood, K. (2022). Toward a contextualized understanding of well-being in the midwifery profession: An integrative review. *Journal of Professions and Organization*, *9*(3), 348–363. https://doi.org/10.1093/jpo/joac017
[21] White, K. (2010). *Midwifery in Guatemala: Blending tradition and modernity.* Jones & Bartlett Learning. Retrieved from https://samples.jblearning.com/9780763781538/White_Chapter_2.pdf