# Ubar Kampung: indigenous knowledge and practice of medicinal, aromatic and cosmetic (MAC) plants used for the treatment of diabetes mellitus in the Tatar Sunda Region of West Java, Indonesia

Febriyanti, R.M.

## Chapter V THE PLURAL MEDICAL SYSTEM IN WEST JAVA

Following the description of the research area and socio-demographic characteristics of the study population in Chapter IV, this chapter will further discuss the medical systems available in the research area. The history of cultural development in Indonesia is also reflected in the diversity of the medical system in the research area. The patterns of health care utilisation in five research villages involve pluralistic medical configuration characterised by the co-existence of different medical systems. Generally, all of the medical systems were accepted by the community members. However, the availability of more than one medical system increased the range of therapeutic choices, consequently complicating the patterns of health care utilisation (*cf.* Hardon 2004).

Health care in a society is characterised by plural medical systems which emphasise the interaction between socio-cultural aspects and behaviour in the historical and geographical complex (*cf.* Dunn 1976). Hence, it is helpful to view the medical system as a pluralistic arrangement. Medical pluralism is often evident in the region where there were multicultural encounters or colonial events (*cf.* Reyes 2009). A historical perspective, current developments, and the components of each medical system are presented in this chapter to characterise the plural medical system in the research area adequately. The plural medical system in the research area is composed of three different co-existing and interacting medical systems, namely the traditional, transitional, and modern medical system. During Dutch colonialisation in Indonesia, Western medicine became 'officially' dominant; however indigenous cultural beliefs were still supported by a larger population resulting in interaction between medical systems. Bodeker (2017) states that indigenous communities with a history of colonial conquest have patterns of utilisation of traditional medicine which vary according to the extent of spiritual needs and the strength of healing traditions. Consequently, the medical system presented in this study cannot be seen as a separate or static medical system because to some extent, there are overlaps between systems.

The first section of this chapter presents descriptions and documentations on the traditional medical system. Traditional medicines are considered as an important component of the health system, gaining more respect from the National Government. Traditional medicines predominate among people in the rural area even after Western medicines were introduced. Different from the modern and transitional medical system, traditional medicine is characterised by its historical cultural significance, non-commercial applicability, and local originality. The traditional medical system incorporates examples of a medical system which primarily uses Medicinal, Aromatic, and Cosmetic plants and spiritual forms of remedy for general ailments. A rather detailed description of traditional medicine for the treatment of diabetes mellitus will be presented in Chapter VI. The chapter continues by discussing the transitional medical system, which is identified based on its commercial orientation and informal sources of advice. In general, the component of transitional medicine is over-the-counter (OTC) medicine and the practice of medicine by transitional health care providers such as pharmacists, midwives, and *mantri*. Lastly this chapter describes the development of the modern medical system, which is the predominant medical system in the research area as well as in the country. The modern medical system in the present study is exclusively referring to the health services provided by professional health care, where the medical knowledge is obtained from formal institutions. In Indonesia, the modern medical system is part of the National Health care System and its service by public health care providers is covered by the National Health Insurance.

Overall, a detailed description of the traditional, transitional, and modern medical system in the research villages presented in this chapter provides a sound basis for the analysis of the patterns of transcultural health care utilisation which will be further discussed in Chapter VII.

## 5.1 The Traditional Medical System

Multi-ethnicity and culture are some features of people in Indonesia which led to the various kinds of beliefs in traditional medicine and health care utilisation behaviour. Traditional healing in Indonesia is part of everyday life and has a long history. Despite the advances of scientific medicine, the traditional medical practice persists over generations. Traditional healing practices are reported to have regained their importance since the 1980s due to lack of access and trust in western medicine (*cf.* Zaenuddin 2005).

People in Indonesia have historically used herbal medicines for protection and the treatment of diseases. In his book *Ramuan tradisional ala 12 Etnis Indonesia*, Hidayat (2005) argues that plants have been utilized by humans for thousands of years to maintain health and treat various diseases. Approximately 6000 plants have been used for medicinal purposes (*cf.* Antons & Antons-Susanto 2009). However, effectiveness and safety have not yet been supported by comprehensive research.

Responding to the high production and distribution of traditional medicine, the government has established a national policy on traditional medicine, namely KOTRANAS. The objective of this policy is:

1. Promoting the sustainable use of traditional medicine for the improvement of health services.
2. Ensuring the cross-sectoral management of natural resources as a sustainable economic source for community and country.
3. Ensuring the availability of traditional medicine which has been scientifically tested for its safety, quality, and efficacy for self-medication and formal health services.
4. Setting traditional medicine as a commodity of high quality, providing community with an employment opportunity, improving economic growth, and reducing poverty.

Furthermore, the Indonesian Federal Food and Drug Agency, *Badan Pengawasan Obat dan Makanan* (BPOM) released regulations for classified herbal medicines. Indonesian Traditional Medicines are divided into three categories, namely *jamu*, herbal medicine with the most simple requirements for its production and distribution; *obat herbal terstandar*, standardized herbal medicine, which has passed several pharmacological tests and is manufactured in standardized facilities; and *fitofarmaka*, herbal medicine which has already been scientifically evaluated for efficacy in clinical trials with human subjects. The manufacturers of traditional medicines in Indonesia are categorized as small and big industries, of which both have to register their products prior to distribution. In 2018, approximately 8000 herbal products were marketed, 90% of which are registered as Jamu, 64 as standardized herbal medicine and only 21 herbal medicines as phytopharmaca.

### 5.1.1 Accessibility of the Traditional Medical System

WHO encourages the use and development of traditional medicine as an accessible and affordable means to provide health care for all populations (*cf.* WHO 2005). In a rural area, people are mainly treated by traditional healers because the formal health care centre is inaccessible by most populations. People only go to the hospital if the disease is severe. Healers who are linked to the traditional medical system include the private home practice of traditional healers, *paraji*, and *dukun*. Certain components of the traditional medical system such as the use of MAC plants for self-medication and other traditional home remedies are generally available outside the institutions.

Among the rural populations, however, traditional medicine takes priority over these modern medicines. This is primarily because they are bound by strong cultural traditions. In addition, there are financial reasons and traditional healers are highly visible and convenient for rural patients. Similarly, Cheikhyoussef *et al*. (2011) list several benefits provided by traditional medicines for people in rural areas, namely close proximity to their residence, the healers are familiar with patients' cultures and environment, and it is relatively low cost. Local people can also feel uncomfortable about consulting with the doctor since doctors usually come from an urban area and have a different social class. Furthermore, communication is also rather difficult when the doctor is not able to speak the local language. Respondents perceive the accessibility of traditional medicine in the research area as rather easy. The distribution of perceived accessibility of the traditional medical system is presented in Table 5.1.

Table 5.1. Accessibility of Traditional Medical System

| Accessibility | Lamajang | | Sukaluyu | | Cipanjalu | | Ciporeat | | Katapang | |
|---|---|---|---|---|---|---|---|---|---|---|
| | N | % | N | % | N | % | N | % | N | % |
| No institution | 0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0.0 | 4 | 4.0 |
| Very easily accessible | 13 | 13.4 | 5 | 8.5 | 3 | 4.3 | 4 | 11.4 | 9 | 9.1 |
| Easily accessible | 74 | 76.3 | 48 | 81.4 | 60 | 85.7 | 25 | 71.4 | 69 | 9.7 |
| Average | 3 | 3.1 | 2 | 3.4 | 2 | 2.9 | 5 | 14.3 | 6 | 6.1 |
| Difficult | 7 | 7.2 | 4 | 6.8 | 3 | 4.3 | 1 | 2.9 | 2 | 2.0 |
| Very difficult | 0 | 0.0 | 0 | 0.0 | 2 | 2.9 | 0 | 0.0 | 9 | 9.1 |
| Total | 97 | 100.0 | 59 | 100.0 | 70 | 100.0 | 35 | 100.0 | 99 | 100.0 |

*Source:* Household Survey 2017

Table 5.2 indicates that in view of geographical approachability, the majority of the respondents in the research area perceived it as easily accessible. Respondents seek medical services from a healer in the neighbourhood within walking distance; traditional medicine can be easily obtained at the traditional markets.

### 5.1.2 Knowledge, Beliefs, and Practice on the Traditional Medical System

Knowledge of traditional medicine is gradually disappearing despite still being practised in the communities (*cf.* Negi *et al*. 2010). In view of knowledge, beliefs, and practices of traditional medicine in West Java, the inhabitants in the five research villages are commonly familiar with the medicinal plants and speak profoundly about their knowledge of traditional medicine. The majority of respondents hold an average level of knowledge of traditional medicine (*cf.* Table 5.2). Most of the respondents are able to name the component of traditional medicine, which includes the name, use of MAC plants and the recipe to make the *ubar kampung*.

Table 5.2. Knowledge of Traditional Medicine of Patients (N = 360)

| Knowledge | Lamajang | | Sukaluyu | | Cipanjalu | | Ciporeat | | Katapang | |
|---|---|---|---|---|---|---|---|---|---|---|
| | N | % | N | % | N | % | N | % | N | % |
| No knowledge | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 2.9 | 2 | 2.0 |
| Very little knowledge | 1 | 1.0 | 3 | 5.1 | 8 | 11.4 | 10 | 28.6 | 16 | 16.2 |
| A little knowledge | 0 | 0.0 | 23 | 39.0 | 15 | 21.4 | 8 | 22.9 | 16 | 16.2 |
| Average | 16 | 16.5 | 24 | 40.7 | 17 | 24.3 | 10 | 28.6 | 17 | 17.2 |
| Much knowledge | 77 | 79.4 | 9 | 15.3 | 28 | 40.0 | 6 | 17.1 | 35 | 35.4 |
| Very much knowledge | 3 | 3.1 | 0 | 0.0 | 2 | 2.9 | 0 | 0.0 | 13 | 13.1 |
| Total | 97 | 100.0 | 59 | 100.0 | 70 | 100.0 | 35 | 100.0 | 99 | 100.0 |

*Source:* Household Survey 2017

Table 5.2 shows that Lamajang village has the highest percentage of respondents who have much knowledge on traditional medicine (79.4%, n=77), followed by Katapang village (35.4%, n=35). This finding indicates that although Katapang is classified as an urban village, the Sundanese community in Katapang still continues to pass down knowledge of traditional medicine.

Knowledge of traditional medicine is generally transferred orally, mainly from the parents to their children. Similarly, several studies reported that the transfer of local knowledge is hierarchically obtained from the family (*cf.* Meragiaw *et al*. 2016; Negi *et al*. 2010; Giday *et al*. 2009). In Indonesia, Pemberdayaan Kesejahteraan Keluarga (PKK) has played an important role in transferring information about the use of MAC plants in the community. A local association such as *arisan* serves as a media for exchanging information on MAC plants and encourages their members to cultivate MAC plants in their garden (*cf.* Djen Amar 2010).

This study also revealed that most of the knowledge of herbal remedies is handed down by elders in the community to the younger members. This finding demonstrates that ethnomedicinal knowledge is concentrated in the elder community members and its transfer to the younger generation is relatively difficult and slow. This phenomenon might be affected by modernisation and environmental change. Similar results were shown in a study in Ethiopia where the elderly group demonstrated higher knowledge of medicinal plants than youngsters. Modern education is assumed to make the younger generation underestimate local knowledge. Thus, age and education appear to be the main factors in the level of traditional knowledge (*cf.* Negi *et al*. 2010; Meragiaw *et al*. 2016). Furthermore, migration of the young generation to the cities also presents a challenge in the continuation of traditional medical knowledge, as the urban community tends to undermine cultural beliefs and traditional knowledge (*cf.* Negi *et al*. 2010). Likewise, a study in Morocco also reveals that knowledge of medicinal plants is in danger because of the influence of modernization, resulting in the mistrust of young generations to trust traditional medicine (*cf.* Chaachouay *et al.* 2019).

Cultural norms and beliefs in natural healing processes are ascribed to the widespread use of traditional medicine (*cf*. Gyasi *et al*. 2016). Evidence for the association of spiritual and cultural beliefs with the use of traditional medicine has been shown in the study conducted in Jamaica (*cf*. Picking *et al*. 2011) and Suriname (*cf*. Andel & Carvalheiro 2013). Likewise, as traditional medicines are deeply rooted in cultural preferences, beliefs in traditional medicine become one of the reasons to use traditional medicine among the Sundanese community. The distribution of beliefs on traditional medicine among community members in the research area is presented in Table 5.3.

Table 5.3. Belief in Traditional Medicine (N = 360)

| Belief | Lamajang | | Sukaluyu | | Cipanjalu | | Ciporeat | | Katapang | |
|---|---|---|---|---|---|---|---|---|---|---|
| | N | % | N | % | N | % | N | % | N | % |
| No belief | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 2 | 5.7 | 5 | 5.1 |
| Very little belief | 5 | 5.2 | 5 | 8.5 | 5 | 7.1 | 1 | 2.9 | 8 | 8.1 |
| Little belief | 7 | 7.2 | 12 | 20.3 | 8 | 11.4 | 8 | 22.9 | 19 | 19.2 |
| Average | 14 | 14.4 | 22 | 37.3 | 14 | 20.0 | 11 | 31.4 | 34 | 34.3 |
| Much belief | 55 | 56.7 | 20 | 33.9 | 30 | 42.9 | 12 | 34.3 | 16 | 26.3 |
| Very much belief | 16 | 16.5 | 0 | 0.0 | 13 | 18.6 | 1 | 2.9 | 7 | 7.1 |
| Total | 97 | 100.0 | 59 | 100.0 | 70 | 100.0 | 35 | 100.0 | 99 | 100.0 |

*Source:* Household Survey 2017

Table 5.3 indicates that the majority of the respondents in the research area holds great belief in the efficacy of traditional medicine. Only a minor percentage expresses no belief in

traditional medicine, namely from Ciporeat (5.7%, n=2); Katapang (5.1%, n=5) represents the semi-urban and urban villages. Conversely, the majority of respondents in Lamajang report much belief (56.7%, n=55) and very much belief (16.5%, n=16) on the efficacy of traditional medicine.

In a study on perceptions of the effectiveness of traditional medicine in Ghana, Gyasi *et al*. (2011) report that traditional medicine is perceived to be effective by patients for the treatment of broken bones, impotence, infertility, mental disorder and hypertension, while a lack of belief and negative opinions in the effectivity of traditional medicine is associated with insufficient scientific data regarding its safety. These findings are in agreement with the study conducted in the Kilimanjaro region, where some of the respondents perceived traditional medicine to be unsafe and could damage organs (*cf*. Kasole *et al*. 2019).

Table 5.4. Opinion on Traditional Medicine (N = 360)

| Opinion | Lamajang | | Sukaluyu | | Cipanjalu | | Ciporeat | | Katapang | |
|---|---|---|---|---|---|---|---|---|---|---|
| | N | % | N | % | N | % | N | % | N | % |
| No opinion | 0 | 0.0 | 1 | 1.7 | 0 | 0.0 | 0 | 0.0 | 3 | 3.0 |
| Very negative | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 2 | 2.0 |
| Negative | 2 | 2.1 | 0 | 0.0 | 2 | 2.9 | 1 | 2.9 | 4 | 4.0 |
| Average | 21 | 21.6 | 15 | 25.4 | 7 | 10.0 | 10 | 28.6 | 34 | 34.3 |
| Positive | 59 | 60.8 | 41 | 69.5 | 52 | 74.3 | 23 | 65.7 | 47 | 47.5 |
| Very positive | 15 | 15.5 | 2 | 3.4 | 9 | 12.9 | 1 | 2.9 | 9 | 9.1 |
| Total | 97 | 100.0 | 59 | 100.0 | 70 | 100.0 | 35 | 100.0 | 99 | 100.0 |

*Source:* Household Survey 2017

Table 5.4 shows that respondents in the research village commonly show positive opinions on traditional medicine. Positive opinions on traditional medicine are associated with being close to home, easy access, affordable, and lower side effects. Many respondents use traditional medicine because it is easy to obtain and cost effective. Furthermore, Gyasi *et al*. (2016) suggest that respondents' positive attitudes are associated with the belief in natural remedies.

The knowledge, opinions, and sources of medicinal plants in the other three villages are rather different. Despite the majority of respondents reporting average knowledge of MAC plants in Sukaluyu, Cipanjalu, and Ciporeat, some of them actually use MAC plants on a daily basis to promote their health, as well as to prevent and cure certain illnesses. Similar results have been found in previous research conducted in Lembang sub-district whereby the Sundanese community in Lembang demonstrated knowledge, positive opinions, and strong beliefs in the efficacy of MAC plants (*cf.* Djen Amar). In her study about indigenous communication on MAC plant knowledge and practices within the *arisan* in Lembang, Indonesia, Djen Amar (2010) concluded that '*the main factors which are related directly to the use and practice of MAC plants in the village are still rooted in this complex system of traditional ecological knowledge (TEK). The qualitative study also yielded documentation which reveals that traditional ecological knowledge (TEK) and the philosophy of life also consist of impressive local contributions to the conservation of biocultural diversity, most apparent at the community level in the cultivation of various MAC plants*'. However, in the research area, people in Katapang do not personally cultivate medicinal plants. TOGA is rarely found in their garden. Most of the respondents obtain medicinal plants from the traditional market.

### 5.1.3 MAC Plants Used by the Sundanese Community in the Research Area

The respondents acknowledge various medicinal plants and their medicinal properties such as *daun sirih* (*Piper bettel*) to reduce body odour and treat wounds, *koneng gede* (*Curcuma xanthrorriza*) to increase apetite in children and treat liver disease, laja (*Alpinia galanga*) to cure fungal skin infection, and *Aloe vera* to treat burns and skin cuts (*cf.* Fieldnote 2017). Their interest in MAC plants is shown by the rows of pots and plastic polybags filled with MAC plants in their small gardens or on the terraces/verandahs of their house (*cf.* Illustration 5.6). In the research area, the most common medicinal plants grown in their home garden are *lidah buaya* (*Aloe vera*), *sirih* (*Piper bettel*), *binahong* (*Anredera cordifolia*), *seledri* (*Apium graveolens*), *daun katuk* (*Sauropus androgynus*), and *beluntas* (*Pluchea indica*). Those plants are commonly found because of their ease of cultivation. People grow medicinal plants and share them among family, friends, and neighbours for self-treatment. These results are affirmed by the study in Guatemala of three main sources of obtaining medicinal plants: gathering from the field, harvesting from the home garden, and getting them from neighbours or relatives (*cf.* Cruz & Cetto 2015).

MAC plants are used for the treatment of various conditions, including headache, common cold, cough, stomach-ache, diarrhoea, including external wounds such as skin infection. The majority of MAC plants are known for having multiple medical properties for treating several conditions, in a single form or in a mixture. MAC plants are considered to have positive effects on overall human health. In this case, the infusion of herbs such as *daun sembung* (*Blumea balsamifera*), *antanan* (*Centella asiatica*), and *daun baluntas* (*Clerodendron buchananii*), are consumed regularly. Inhabitants in the research area sometimes combined several ways in preparing medicinal plants for health treatment. Information about the preparation of medicinal plants is presented in Table 5.5.

Table 5.5. Herbal Preparations by Patients in the Research Area (N = 156)

| Means | Lamajang | | Sukaluyu | | Cipanjalu | | Ciporeat | | Katapang | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | N | % | N | % | N | % | N | % | N | % | N | % |
| Fresh plants | 16 | 33.3 | 7 | 24.1 | 10 | 35.7 | 3 | 33.3 | 9 | 21.4 | 45 | 28.8 |
| Dried plants | 11 | 22.9 | 1 | 3.4 | 1 | 3.6 | 4 | 44.4 | 9 | 21.4 | 26 | 16.7 |
| Boiled hebs | 15 | 31.3 | 15 | 51.7 | 8 | 28.8 | 2 | 22.2 | 23 | 54.8 | 63 | 40.3 |
| Other | 6 | 12.5 | 6 | 20.7 | 9 | 32.1 | 0 | 0.0 | 1 | 2.4 | 22 | 14.1 |
| Total | 48 | 100.0 | 29 | 100.0 | 28 | 100.0 | 9 | 100.0 | 42 | 100.0 | 156 | 100.0 |

*Source : Fieldwork 2017*

In the research area, boiling medical plants is found to be the most common preparation (40.3%, n=63). In addition to internal use, traditional home remedies such as *minyak sereh (Citronella essential oils)* are also used in external applications. *Miyak sereh* can be used as a massage oil, applied on the pain sites such as sprained ankles and insect bites. Another way of using medicinal plants is making ointment by boiling *Handeleum leaves* (*Graptophyllum pictum* (L.) Griff.) in coconut oil as a media of the ointment base.

The traditional medical system exists along with growing numbers of pharmacies and other modern medicinal options. Sometimes, transitional and modern health care providers such as pharmacists and physicians also recommend the use of MAC plants. Furthermore, it has been successful in societies where there is a mix between those systems because of its cultural sensitivity.

Illustration 5.1 MAC Plants in the Terrace of the House
*Source*: Photograph by M. Febriyanti (2017)

### 5.1.4 Traditional Healing Practices in the Sundanese Community

Despite the prolonged use of traditional medicine by the Sundanese, documentation on the practice of traditional medicine among the Sundanese is still limited. One of the documents which contain the healing practices of the Sundanese is the script of medicines from Demak Kingdom (*cf.* Illustration 5.4). This script, written in Pegon, indicates the influence of Islam in the Sunda Region during the reign of Faletehan from Demak. The script consists of a ritual of healing practices including *jampi* (spells) and plants for the treatment of several conditions.

In relation to the script, there is a belief among the Sundanese that in order to achieve a virtuous life, they have to possess the ethos which is known as *Kasundaan.* In addition, the healing process is related to treating ailments on particular days and times (*cf.* Transliteration of Script of Sundanese Medicines).

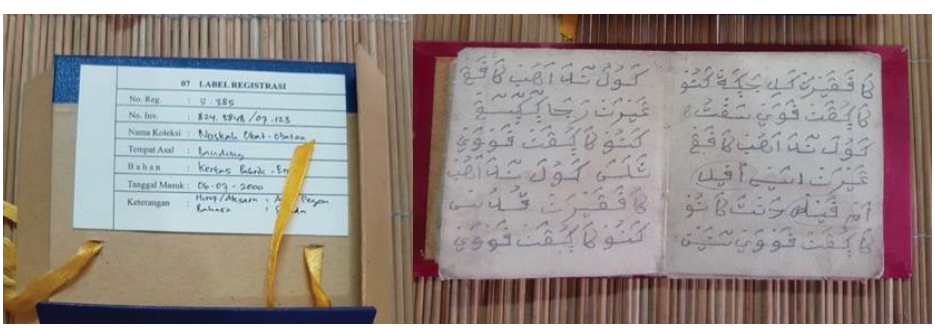


Illustration 5.2 Script of Sundanese Medicines
*Source:* Collection of Museum Sri Baduga, Bandung (*cf.* Fieldwork 2017)

*Traditional healer*

An observation in the study of health-seeking behaviour reveals that it is affected by socio-cultural factors. Cultural background such as the ethnicity of the patients defines what kind of traditional healers they choose. For example, the Javanese ethnic group in Central Java will seek treatment from traditional healers who practice *kejawen* whereas in West Java people tend to seek treatment from the elderly. Sundanese people in rural areas still respect cultural leaders for their healing ability. The importance of social interaction and respect for cultural leaders provides favourable conditions for the development of the health promotion program. Generally, traditional healers come from societies with a low educational level and low socio-economic status. They are usually domiciled for many years in the location where they worked and well known among people in their neighbourhood. They are involved more personally in the client problem, compared to the health care professional.

In order to become a healer, an individual must possess empirical knowledge about the illness and healing practices, which are usually inherited. Unlike biomedicine, which is studied in a formal academic institution, most traditional healers started their profession after they had a supernatural or extraordinary experience such as receiving healing powers through a dream or meditation. Furthermore, acquiring these abilities has its own rules and prohibitions (*cf*. Nawiyanto 2017). Knowledge of traditional healers is first learned from and constantly practised by their parents, kin, and forebears. Gewehr (2017) reports that supernatural factors are considered vital in indigenous healing practices. For those who practice traditional healing, their practices have made them mediators of the people who are ill and spiritual beings.

Traditional healers have specific names and specialisation on what illness they treat. In the event where mystical factors are suspected as the cause of illness, people in the rural community seek treatment from the *dukun* or *kyai*. However, the term is not exclusively referring to the person who has the ability to cure some illnesses. The term *kyai* generally refers to the religious leader, an old man, who has much knowledge of Islam. A *kyai* usually heals the patient by praying and asking for God's help; he doesn't necessarily give medicinal plants, but sometimes he gives tap water which is believed to be a media for healing. Some people seek help from the *dukun* when they suspect they are possessed by evil spirits. In order to protect the person from the evil being, the dukun usually give the 'patient' a *jimat* (amulet). This ritual is practised not only among the Sundanese but also the Javanese. A study on the medical traditions in the region of Besuki also reveals similar findings (*cf*. Nawiyanto 2017).

*Religious and spiritual forms of medicine*

Since the majority of Sundanese are Muslim, religious faith has a strong influence on the healing process. This practice is usually adopted by elderly men in the community. In Sundanese healing practices, the healer will convey some prayers while applying massage oil onto the pain area of the body. The prayers are believed to soothe the patients and enhance the healing process. Kleinmann (1980) notes that communication with the spiritual dimension raises the patient to believe in the healer.

## 5.2 The Transitional Medical System

Perceived susceptibility to disease and experience of the symptoms underlies many of the actions taken. As care services are getting more expensive and sometimes aren't available, most people tend to choose simpler and cheaper treatment available in the community before visiting formal health centres. In the present study, the practice of people's use of medicine for treating health problems without consulting a physician, or self-medication using over-the-counter

(OTC) medicine is categorized as a transitional medical system (*cf.* Montastruc *et al.* 1997). Pharmacists, previous prescriptions, advertisements from television, and family are common sources of information for practising self-medication (*cf*. Bennadi 2014).

### 5.2.1 Accessibility of the Transitional Medical System

Self-medication is influenced by many factors such as education, availability, and advertisements (*cf*. Bennadi 2014). Several studies indicate that access to health care plays an important role in initiating self-medication behaviour (*cf.* Panda 2017; Shafie *et al.* 2018). Unregulated availability of OTC medicine, high cost of medicines, non-availability of doctors, and inadequate health services additionally promote the use of OTC medicine among the community (*cf.* Panda 2017; Dawood 2017). Consequently, pharmaceutical outlets become the first contact point of health care services (*cf.* Panda 2017).

In the practice of self-medication, in general, patients often obtain medicines from community pharmacies. The 2013 National Health Basic Research reports that the majority of households in Indonesia purchased their medicines through community pharmacies. Based on data from the Ministry of Health (2017), there are more than 2400 major pharmaceutical suppliers, 22,000 pharmacies, and 5000 registered drug stores in the country. The significant role of the pharmacy in the community is furthermore reflected by the widespread use of the pharmacy in Kabupaten Bandung. In the research area, there is at least one pharmacy within the radius of 1km, if not more.

The inhabitants in the research areas have mixed opinions on the accessibility of transitional medicines (*cf.* Table 5.6). While the majority of inhabitants in Ciporeat (80%, n=28) and Katapang (78%, n=77) perceive the transitional medical system to be very easily accessible, inhabitants of Lamajang, Sukaluyu and Cipanjalu claim near-equal perceptions of easy/difficult accessibility for transitional medicine. In terms of cost affordability, study participants perceived transitional medicine to be affordable and cheaper than the modern medical system. These perceptions are similar to those reported by WHO, that self-medication provides a cheaper and more convenient alternative treatment for minor illnesses.

Table 5.6. Accessibility of Transitional Medicine of Patients (N = 360)

| Accessibility | Lamajang | | Sukaluyu | | Cipanjalu | | Ciporeat | | Katapang | |
|---|---|---|---|---|---|---|---|---|---|---|
| | N | % | N | % | N | % | N | % | N | % |
| No institution | 4 | 4.1 | 0 | 0.0 | 0 | 0 | 0 | 0.0 | 2 | 2.0 |
| Very easily accessible | 16 | 16.5 | 20 | 33.9 | 30 | 42.9 | 28 | 80.0 | 77 | 78.0 |
| Easily accessible | 27 | 27.8 | 19 | 32.2 | 10 | 14.3 | 5 | 14.3 | 18 | 18.0 |
| Average | 16 | 16.5 | 2 | 3.4 | 9 | 12.9 | 2 | 5.7 | 2 | 2.0 |
| Difficult | 6 | 6.2 | 4 | 6.8 | 2 | 2.9 | 0 | 0.0 | 0 | 0 |
| Very difficult | 28 | 28.9 | 14 | 23.7 | 19 | 27.1 | 0 | 0.0 | 0 | 0 |
| Total | 97 | 100.0 | 59 | 100.0 | 70 | 100.0 | 35 | 100.0 | 99 | 100.0 |

*Source:* Household Survey 2017

### 5.2.2 Knowledge and Opinions of the Transitional Medical System

In the utilisation of self-medication, it would be safe if community members have sufficient knowledge. Regarding knowledge and opinions of transitional medical systems, the inhabitants of the research area present mixed characteristics of knowledge and opinions on this medical system (*cf.* Table 5.7).

Table 5.7. Knowledge on Transitional Medicine of Patients (N = 360)

| Knowledge | Lamajang | | Sukaluyu | | Cipanjalu | | Ciporeat | | Katapang | |
|---|---|---|---|---|---|---|---|---|---|---|
| | N | % | N | % | N | % | N | % | N | % |
| No knowledge | 0 | 0.0 | 0 | 0.0 | 4 | 5.7 | 3 | 8.6 | 8 | 8.1 |
| Very little knowledge | 7 | 7.2 | 7 | 11.9 | 15 | 21.4 | 13 | 37.1 | 4 | 4.0 |
| A little knowledge | 41 | 42.3 | 29 | 49.2 | 18 | 25.7 | 8 | 22.9 | 34 | 34.3 |
| Average | 35 | 36.1 | 18 | 30.5 | 22 | 31.4 | 6 | 17.1 | 32 | 32.3 |
| Much knowledge | 14 | 14.4 | 3 | 5.1 | 9 | 12.9 | 4 | 11.4 | 18 | 18.2 |
| Very much knowledge | 0 | 0.0 | 2 | 3.4 | 2 | 2.9 | 1 | 2.9 | 3 | 3.0 |
| Total | 97 | 100.0 | 59 | 100.0 | 70 | 100.0 | 35 | 100.0 | 99 | 100.0 |

*Source:* Household Survey 2017

Table 5.7 indicates that the majority of the respondents in Lamajang and Ciporeat report very little and rather little knowledge of transitional medicine (42.3%, n=41 and 37.1%, n=13, respectively), while in Sukaluyu, Cipanjalu, and Katapang, respondents express rather average knowledge. In this regard, knowledge of transitional medicine appears not to be influenced by the urban and rural characteristics of the location. Information on the transitional medical system in the research area is obtained from various sources. Drug sellers, relatives or friends are the most reported sources of information on medicines used for self-medication. Most of the study participants do not acknowledge that some drugs cannot be taken simultaneously with milk or certain foods.

The practise of self-medication is common in developing countries such as India, Nepal, and Indonesia (*cf.* Dineshkumar *et al*. 1995; Sclafer *et al*. 1997; Shankar *et al*. 2002). Due to the disparity in health care delivery in Indonesia, self-medication plays a pivotal role as the first action taken by the population in managing their health care. In 2013, it was reported that 91% of Indonesians were practising self-medication (*cf*. Statistics Indonesia 2015). A study in Malaysia reports that 54.1% of the respondents reported using self-medication for treating their health problems, of which 33% practice self-medication more frequently within a three-month period (*cf*. Dawood *et al*. 2017).

Furthermore, it has been reported that prescription medicine in developing countries can be obtained as OTC medicines (*cf*. Vizhi *et al.* 2010). In his review on current challenges on self-medication, Bennadi (2014) listed several drug categories used for self-medication, including dextromethorphan, diclofenac, ciprofloxacin, and cefadroxil. Some studies report that the majority of drugs used for self-medication are prescription-only medicine such as non-steroid analgesics (NSAID), gastrointestinal tract medicine, antimicrobials and antibiotics (*cf.* Panda 2017; Shafie *et al.* 2018). Self-medication using antibiotics including the use of leftover antibiotics is also common practice in Indonesia (*cf*. Hadi *et al*. 2008).

Table 5.8. Opinion on Transitional Medicine of Patients (N = 360)

| Opinion | Lamajang | | Sukaluyu | | Cipanjalu | | Ciporeat | | Katapang | |
|---|---|---|---|---|---|---|---|---|---|---|
| | N | % | N | % | N | % | N | % | N | % |
| No opinion | 5 | 5.2 | 0 | 0.0 | 3 | 4.3 | 1 | 2.9 | 10 | 10.1 |
| Very negative | 9 | 9.3 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Negative | 19 | 19.6 | 1 | 1.7 | 2 | 2.9 | 0 | 0.0 | 12 | 12.1 |
| Average | 18 | 18.6 | 20 | 33.9 | 15 | 21.4 | 6 | 17.1 | 19 | 19.2 |
| Positive | 44 | 45.4 | 38 | 64.4 | 48 | 68.6 | 28 | 80.0 | 58 | 58.6 |
| Very positive | 2 | 2.1 | 0 | 0.0 | 2 | 2.9 | 0 | 0.0 | 0 | 0.0 |
| Total | 97 | 100.0 | 59 | 100.0 | 70 | 100.0 | 35 | 100.0 | 99 | 100.0 |

*Source:* Household Survey 2017

Table 5.8 shows that the majority of the respondents in the research area share a positive opinion on the transitional medical system. The positive opinion is generally associated with easy access to medicine and time savings. The cost of services, waiting times for receiving services, and attitudes towards patients displayed by health care workers were cited by participants as motives for accessing drug shops directly. This finding is in agreement with a study in Malaysia regarding perceptions of OTC medication which reports that convenience, easy access, and time savings are the most frequent reasons for self-medication (*cf*. Azhar 2013). On the other hand, negative opinions are generally associated with side effects and the fear of using wrong medicines (*cf*. Fieldnote 2017).

Pharmacies are more attractive for the community members because the facilities are usually near to the house, the consultation is free, and the medicine can be purchased in the desired amount. In the research area, community members generally come to the drug stores or pharmacy, disclosing any symptoms of their illnesses to the pharmacy staff. In the case of extended use of some medication, they occasionally take the packaging of the medicine to buy the same medicines. The staff in the local pharmacies, which are commonly pharmacist assistants play a decisive role in the administration of medical treatment. Pharmacists or pharmacist assistants not only provide their customers with information and advice on how to use pharmaceutical dosage forms but also offer medical consultation. A study in Ghana also reports similar findings where pharmacists in Ghana also provide health services by directly selling both biomedicine and herbal medicine (*cf*. Pereira 2013). Therefore, the pharmacists in the community have the potential to contribute to public health care by providing appropriate health advice for the patients with self-medication requests.

Apart from the ease of their accessibility, the practice of self-medication also renders negative consequences. While responsible self-medication can promote self-reliance in managing health care, the practice of self-medication without adequate knowledge may lead to several risks. Major problems related to self-medication are incorrect choice of therapy, increased resistance of pathogens, adverse reactions, and prolonged episodes of disease (*cf*. Ruiz 2010; Bennadi 2014). Self-medication has frequently been accompanied by improper application such as the use of leftover medicine from previous illness, the exchanging of medicine between family members, the use of medicine which has been prescribed for someone else with similar symptoms, the intake of medicine with coffee, tea, and milk, and discontinuity in the use of medicines once the symptoms have disappeared.

In its guideline on self-medication, WHO (2000) listed potential risks associated with the practice of self-medication, which include:

1. Incorrect self-diagnosis
2. Failure to seek appropriate medical advice promptly
3. Incorrect choice of therapy
4. Failure to recognize special pharmacological risks
5. A rare but severe adverse effect
6. Failure to recognize contraindications and interactions
7. Failure to recognize double medication
8. Incorrect route of administration
9. Inadequate or excessive dosage
10. Excessively prolonged use
11. Risk of dependence
12. Food and drug interactions
13. Storage in incorrect conditions

A pharmacist is one of the health professionals who can have a potential role in preventing the potential risk of self-medication. A pharmacist has a valuable role in identifying and preventing

drug-related problems for achieving optimal patient outcomes (*cf.* WHO 2000). Additionally, pharmacists have a function in the community for educating customers about the proper use of medicine and participating in health promotion to raise awareness on self-medication (*cf.* Bennadi 2014; Brata *et al.* 2018). Studies on the role of the pharmacists in the communities reveal that patients feel more comfortable to have a consultation with the pharmacist than with the physician (*cf.* Aiglsperger 2012; Brata *et al.* 2018). In this way, the substantial roles played by the pharmacists in the community explain the practice of the transitional medical system as an overlap with the modern medical system.

Apart from pharmacy employees, the transitional medical system is moreover administered by many retailers and other personnel. These healers or personnel are not representing the professional or traditional health care healers. They occupy an intermediate position between the traditional and modern health sector. The 'transitional' medical system is developed in the context of transitional societies, both due to the achievements, as well as the failure, of 'modern' medicine.

The *mantri*, always almost a male, is one of the healers in the transitional medical system. Mantri who are neither western-trained health care professionals nor explicitly traditional healers run their private practices and offer certain biomedical services. They charge less money than *Puskesmas* and may agree to accept payment in kind rather than money. A *mantri*'*s* best-known treatment is injection. Despite the fact that it is an illegal practice, people in the village feel appropriately treated after they receive an injection from the *mantri*.

In the research area, the *mantri* distributes steroid and non-steroid analgesics with the local name '*pil stelan*'. This combination is well-known among villagers as a potent cure for rheumatics or back pain, and people consume this medicine as a supplement. '*Pil stelan*' which in fact is a combination of sodium diclofenac and dexamethasone are prescription-only medicines. Prolonged use of dexamethasone leads to several side effects such as gastrointestinal disorders, osteoporosis, infections, hyperglycemia, and thromboembolism. Moreover, the combination of non-steroid analgesics such as sodium diclofenac with a steroid increases the risk of gastric bleeding by 15-fold (*cf.* Vyvey 2010).

This situation may give rise to serious public health problems. The use of ineffective treatments can lead to avoidable morbidities and the continuing spread of disease. Examples of the indigenization of pharmaceuticals are also observed in the Philippines and Thailand. For instance, in Thailand, itinerant peddlers distribute packets of assorted prescription medicine including antihistamines, antibiotics, steroids, and anti-depressants with claims to cure all kinds of disease. This medicine has been indigenized with the local name *ya thud* (sets of medicine). Another example can be found in Brazil, where the use of terramycin as an oral and topical medicine has been indigenized with the name Terramicine do Mato (herbal terramycin) as a traditional medicine for treating wounds (*cf.* Haak & Hardon 1988). Similar reports from Thailand and India reveal that some herbal preparations contain 'secret' drugs; food supplements were also commonly used (*cf.* Kuku 2011).

### 5.3 The Modern Medical System

The development of the modern medical system in West Java has been strongly influenced by the national health care system in the country. Since regional autonomy began in 1999, there was optimism in the reformation for achieving improvements in the health sector. Decentralisation, as one of the principles in regional autonomy, has provided an opportunity for the regional government to manage health services in the region and address local problems. As Heywood & Choi state (2010): '*…there were high hopes that decentralisation would stimulate changes and innovation at the district level as local administrations used the newfound discretion over resources to tackle local problems in ways appropriate to the local*

*situation*'. In accordance with the mandates of Regional Government Law No.22 in 1999 and No.32 in 2004, the health sector was one of the authority's mandates which must be implemented by the regional government. Health services are urgent and essential needs for patients which could have fatal consequences if they have to pass long and complicated procedures. Thus, local governments are required to be faster and more effective in providing health services to the community. Health decentralisation is intended to provide the community with easily accessible health services without requiring people to go through lengthy bureaucratic procedures at the province level.

In order to provide services to all levels of communities, the provision of health facilities should meet the needs of society. In Kabupaten Bandung, the modern health care service is provided by the public and private sector. Overall, at the district level, there are at least four public hospitals and two private hospitals which offer complete health care services. The list of available health care providers in Kabupaten is presented in Table 5.9.

Table 5.9. Health care Facilities in Kabupaten Bandung

| Number | Facility | **Amount** |
|---|---|---|
| 1 | Central hospital | 3 |
| 2 | Province Hospital (Al-Ihsan) | 1 |
| 3 | Private hospital (AMC and Bina Sehat ) | 2 |
| 4 | *Puskesmas* | 62 |
| 5 | Maternity home | 14 |
| 6 | Mobile *puskesmas* | 270 |
| 7 | *Puskesmas Pembantu* | 78 |
| 8 | Public clinic laboratory | 1 |
| 9 | Private clinic laboratory | 15 |
| 10 | Medical centre | 131 |
| 11 | Registered traditional healer | 36 |
| 12 | Pharmacy | 370 |
| 13 | Drugs retailer / vendor | 189 |
| 14 | Beauty clinics | 13 |

*Source: Dinas Kesehatan Kabupaten Bandung 2016*

For the primary health service, there are sixty-two *puskesmas* in Bandung Regency spread over thirty-one districts. According to the Republic of Indonesia Decree No. 128/Menkes/ SK/II/2004, ideally, at least one *puskesmas* is available for every 30,000 people in an area. Compared to the number of populations in Kabupaten Bandung in 2018, which is 4,069,872, the number of *puskesmas* in Bandung Regency is still inadequate.

Additionally, according to the Ministry of Health Decree No. 75/2016, *puskesmas* requires ten types of health care personnel to carry out its main tasks and functions, namely doctor; dentist; nurse; midwife; pharmacy; sanitarian; dietician/nutrition; medical laboratories; and general workers. The average workforce in each *puskesmas* is twenty-five people (*cf.* Official Website of Kabupaten Bandung 2018). In the research area, the majority of *puskesmas* weren't supported by sufficient health care personnel (*cf.* Table 5.10). Lack of health care professionals in primary health care facilities is a common phenomenon in Indonesia. A similar study in the assessment of professional health care of *puskesmas* in five districts including Situbondo, Central Maluku, North Aceh, Ngada, and Majalengka also reveal that almost all *puskesmas* in five research districts have not met the standards of Permenkes No. 75/2016 (*cf.* BAPPENAS 2016). Despite the oversupply of general practice, the distribution is still unbalanced.

There are only twelve provinces in Indonesia which met the standards of the doctor:patient ratio (one doctor for 2500 people). In 2019, there were 728 *puskesmas* in Indonesia which didn't have a general practitioner (*cf.* Ministry of Health 2019).

Table 5.10. Number of Health care Professional at the *Puskesmas* in the Research Area

| Professional health care | Pangalengan | Cilengkrang | Katapang |
|---|---|---|---|
| General practitioner | 2 | 2 | 1 |
| Dentist | 1 | 1 | 1 |
| Nurse | 8 | 2 | 5 |
| Midwife | 10 | 10 | 8 |
| Pharmacy | 1 | 1 | 1 |
| Sanitarian | - | - | - |
| Dietician | 1 | 1 | - |
| Medical laboratories | - | - | - |

*Source:* Household Survey 2017

Table 5.2 indicates that not all of the *puskesmas* were facilitated with sanitarian and dietician, which are important for the promotion and prevention of communicable and non-communicable diseases. In contrast to the limited number of general practitioners, *puskesmas* in the research area have an oversupply of midwives. In the study on the adequacy of health care professionals in Indonesia, Budijanto & Astuti (2015) report that 71.5% of *puskesmas* in Indonesia have an oversupply of midwives and an inadequate number of physicians. Examination and treatment for children and babies are provided by midwives instead of paediatricians. The oversupply of midwives in the *puskesmas* is partly the result of the government program to reduce maternity and infant mortality rates. However, at the sub-district level, particularly in a rural area, health services provided by midwives are generally more accepted by the community.

### 5.3.1 Accessibility of Modern Medicine

Accessibility of health services has been reported to be an important determinant of health care utilisation in developing countries (*cf.* Pereira 2017; Awoyemi *et al*. 2011; Mekonnen & Mekonnen 2002). The accessibility of the health service is generally influenced by several factors, including geographical characteristics, regional development, and the availability of basic facilities. In the study of health care services in Gunung Kidul Regency, Usman *et al*. (2010) conclude that spatial inequality has significantly influenced the level of accessibility of health care services.

Lack of accessibility to health care facilities for the disadvantaged population remains a problem in Indonesia, including in Kabupaten Bandung. Their access to the health service is still constrained by both internal and external factors including lack of awareness and interest to use health services, lack of participation in health insurance, and limited health care support facilities. Until today, modern health facilities were not evenly accessible across the country and are increasingly becoming unaffordable (*cf.* Zaenuddin 2005). Longer travel time and great distances to health centres in rural areas are associated with the aversion for repeat visits for patients with chronic conditions (*cf.* Awoyemi *et al*. 2011). Inadequacy in accessing health care facilities, therefore, has reduced the quality of life of chronic patients. Modern health services are mainly concentrated in the urban area, resulting in the absence of preventive health care and a high prevalence of chronic conditions such as diabetes and cardiovascular disease among inhabitants in the rural area (*cf.* Tran *et al*. 2019). Barriers to accessing health services have implications in the use of alternative medical systems to resolve health needs (*cf.* WHO 2007).

In view of the accessibility of modern health care providers in the research area, patients perceive accessibility of health care facilities, in terms of geographical approachability and financial affordability, as being rather difficult (*cf.* Table 5.11).

Table 5.11. Access to the Modern Health care Facility (N = 360)

| Accessibility | Lamajang | | Sukaluyu | | Cipanjalu | | Ciporeat | | Katapang | |
|---|---|---|---|---|---|---|---|---|---|---|
| | N | % | N | % | N | % | N | % | N | % |
| No institution | 1 | 1.0 | 0 | 0.0 | 3 | 4.3 | 0 | 2.9 | 0 | 0.0 |
| Very easily accessible | 8 | 8.2 | 12 | 20.3 | 25 | 35.7 | 26 | 34.3 | 53 | 53.5 |
| Easily accessible | 28 | 28.9 | 10 | 16.9 | 6 | 8.6 | 6 | 25.7 | 31 | 31.3 |
| Average | 15 | 15.5 | 0 | 0.0 | 10 | 14.3 | 2 | 22.9 | 6 | 6.1 |
| Difficult | 8 | 8.2 | 6 | 10.2 | 5 | 7.1 | 0 | 14.3 | 2 | 2.0 |
| Very difficult | 37 | 38.1 | 31 | 52.5 | 21 | 30.0 | 1 | 0.0 | 7 | 7.1 |
| Total | 97 | 100.0 | 59 | 100.0 | 70 | 100.0 | 35 | 100.0 | 99 | 100.0 |

*Source:* Household Survey 2017

The majority of the respondents in Lamajang (38.1%, n=38.1) and Sukaluyu (52.5%, n=31) perceive the accessibility of the modern health care facilities to be very difficult. Most of the respondents perceived the service provided by modern health care facilities, generally in private clinics, to be expensive. In order to obtain more affordable services, such as public health services, the inhabitants in Lamajang and Sukaluyu have to travel about 30–45 minutes by motorcycle. In terms of infrastructure, the road is not in good condition, and there are many cracks and potholes which fill with water in a monsoon season. In Lamajang, there is a relatively high rate of motorcycles accidents. In contrast, people in Katapang (53.5%, n=53) and Ciporeat (34.3%, n=26) perceive modern health care facilities to be very easily accessible, generally in terms of geographical approachability. Visiting *puskesmas* is a relatively common activity for the inhabitants in Katapang. Parents tend to take their children to *puskesmas* for consulting about mild symptoms such as fever or diarrhea.

In the research area, at the sub-district level, there is at least one community health centre (*puskesmas*). Each *puskesmas* has at least a general practitioner, a dentist, and a midwife. These health care professionals are often from outside the community. *Puskesmas* can be accessed from the research village using public transport since the location is not in walking distance. Patients can visit the *puskesmas* without having made an appointment in advance and services are provided on a first-come, first-serve basis. Health services are generally provided by general practitioners. In general, physicians provide primary health services in the form of a general check-up, prescribing medicines, and giving vaccinations and referrals to health care facilities at the district level.

Before patients have a consultation with the general practitioners, patients will have a general examination such as blood pressure and body weight measurements taken by a nurse. During the consultation, the general practitioner generally embarks on a conversation on current medical complaints. However, the consultation time is very limited because of the unbalanced number of patients to physicians in the facility. Generally, there are only two general practitioners in the facility and an estimated 30-50 number of patients per day. Considering the limited opening hours which are only four hours per day, one patient is given approximately only five minutes for a consultation with the doctor, resulting in a rather non-personal discussion and the patient cannot elaborate on the complaints well. After the consultation, the doctor gives the patients a prescription; the medicines can be obtained from the pharmacy department at the *puskesmas*. Sometimes there is a shortage in the supply of medicines and medical devices at the *Puskesmas*. Under this condition, *puskesmas* give the patient a referral to a district hospital.

In terms of facilities, almost all the *puskesmas* in the research area have complete facilities. For example, at *Puskesmas* Katapang there are two examination rooms for general patients (non-pediatric and non-geriatric patients), and each room is equipped with a bed and basic medical equipment to treat common illnesses and injuries. The *puskesmas* can handle small emergencies but must refer the patient to the district hospital for severe cases. Each *puskesmas* also provides a well-situated waiting room which is equipped with chairs, fans, and posters on health promotion, allowing patients to feel comfortable while waiting in line. For geriatric and child patients, there are specialized waiting rooms and examination rooms, reducing the queue.


Illustration 5.3 Facilities in the *Puskesmas* Katapang
*Source*: Photograph by M. Febriyanti (2017)

In *puskesmas* in Pangalengan, Cilengkrang, and Katapang, documentation of the patients such as registration and medical records is still managed manually. The current documentation system is still not optimal, and almost all work processes in *puskesmas* still use manual systems, such as patient registration, patient data management, medication data processing as well as medical record data processing. Manual documentation systems can cause problems mainly related to processing patient data. Sometimes if a patient loses a treatment card, the *puskesmas* staff will make another new registration and create a new medical record book of the patient even though the patient's data already exists, causing double data or redundancy of patient data. Another problem is related to the management of the patient's medical record data; medical officers need a long time to find the patient's old medical records because it has to be searched for manually.

At the village level, modern health services are generally provided by remote *puskesmas* (*puskesmas pembantu),* village health posts (*pos kesehatan desa*/*poskesdes*), integrated village NCD prevention posts (*pos binaan terpadu/posbindu*), and integrated health service posts (*pos pelayanan terpadu/posyandu*), which operate under the authority of the national health system. The number of community health facilities in the research area is presented in Table 5.12.

Table 5.12. Community Health Services in the Research Area and Kabupaten Bandung

| Health care service | Pangalengan | Cilengkrang | Katapang | Kabupaten Bandung |
|---|---|---|---|---|
| *Puskesmas pembantu* | - | 1 | 1 | 134 |
| *Poskesdes* | - | - | - | 127 |
| *Posyandu* | 220 | 190 | 202 | 4198 |
| *Posbindu* | 2 | 1 | 1 | 28 |

*Source:* Household Survey 2017

Table 5.12 indicates that the distribution of village health posts is still uneven. *Puskesmas pembantu* is not available in most villages in the research area. In Ciporeat, *puskesmas pembantu* only can be accessed by *ojek*, which generally cost more than other public transportation. Unlike in *puskesmas*, health services in *puskesmas pembantu* are provided by a nurse or a midwife instead of a doctor. As for other forms of the village health post, each research area has its own *posyandu* and *posbindu*.

In view of the prevention of NCDs, Posbindu, a community-based integrated coaching post, enables residents to actively participate in the prevention, detection, and monitoring of people with NCDs. Given that NCDs are generally asymptomatic at the early stage, the activities in *posbindu* provide an early warning system through controlling risk factors such as smoking, unhealthy dietary habits, less physical activity, obesity, stress, hypertension, hyperglycemia, and hypercholesterolemia (*cf*. Ministry of Health 2014). The activities in Posbindu are generally focused on the prevention and monitoring of risk factors, such as calculating body mass index, measuring blood pressure, blood glucose, cholesterol, and health counselling. Posbindu becomes one of the important strategies of the Ministry of Health to control the progression of NCDs which is increasingly alarming. Posbindu targeted all the community members over 15 years of age and healthy individuals as well as individuals with risk factors. However, in the research area, the participation of the community members in Posbindu is still low. Such observations may be associated with the failure of health care providers to educate patients on the disease prevention.

Illustration 5.4 Posbindu at Cipanjalu Village
*Source*: Photograph by M. Febriyanti (2017)

In addition, in 2010, Askes (health insurance for civil servants) developed a chronic-disease management program named 'Prolanis'. This program focuses on the self-management of diabetes mellitus, consisting of consultation services and monthly checks at the primary health care facilities (*puskesmas*). This program provided benefits for those insured with Askes, in terms of more time for counselling and patient education but raised inequalities for those not insured by Askes. However, after the implementation of the National Health Insurance (JKN), all the diabetes patients in *puskesmas* are able to participate in the *Prolanis* program.

### 5.3.2 Knowledge, Beliefs and Opinions on Modern Medicine

Knowledge, beliefs, and opinions on health care providers have been identified as determinants of health care utilisation (*cf.* Braveman *et al*. 2014). In view of knowledge and opinions on modern medicines, community members in the research area generally have little knowledge of modern medicines (*cf.* Table 5.13).

Table 5.13. Knowledge on Modern Medicine (N = 360)

| Knowledge | Lamajang | | Sukaluyu | | Cipanjalu | | Ciporeat | | Katapang | |
|---|---|---|---|---|---|---|---|---|---|---|
| | N | % | N | % | N | % | N | % | N | % |
| No knowledge | 5 | 5.2 | 3 | 5.1 | 5 | 7.1 | 1 | 2.9 | 2 | 2.0 |
| Very little knowledge | 19 | 19.6 | 23 | 39.0 | 13 | 18.6 | 12 | 34.3 | 15 | 15.2 |
| A little knowledge | 41 | 42.3 | 21 | 35.6 | 25 | 35.7 | 9 | 25.7 | 17 | 17.2 |
| Average | 20 | 20.6 | 8 | 13.6 | 13 | 18.6 | 8 | 22.9 | 24 | 4.2 |
| Much knowledge | 12 | 12.4 | 2 | 3.4 | 9 | 12.9 | 5 | 14.3 | 33 | 3.3 |
| Very much knowledge | 0 | 0.0 | 2 | 3.4 | 5 | 7.1 | 0 | 0.0 | 8 | 8.1 |
| Total | 97 | 100.0 | 59 | 100.0 | 70 | 100.0 | 35 | 100.0 | 99 | 100.0 |

*Source:* Household Survey 2017

Based on Table 5.13, in relation to distance to the district hospital, Lamajang as the farthest village to the district hospital has the highest percentage of patients with little knowledge of modern medicine (42.3%, n=41). On the contrary, Katapang village, located only 7.2 km from the district hospital presenting the closest research village to the hospital, reports much knowledge of modern medicine. A study on the relation of distance from home to the nearest medical facility with knowledge on biomedicine conducted in China reveals similar results: nearer distance to health care facilities results in higher knowledge on biomedicine (*cf.* Yuan *et al.* 2015). Most respondents report obtaining information about modern medicine from *kader* in *posyandu*.

Despite having rather little knowledge, the majority of the respondents in the research area hold positive and very positive opinions on modern medicine, with only a minor percentage in Lamajang (4.1%, n=4) expressing negative opinions on modern medicine (*cf.* Table 5.14). Opinions are given in association with the quality of health services provided by formal health institutions in terms of technical competence, access, service, effectiveness, efficiency, security, human relations, comfort and continuity of service. Villagers generally respect the knowledge and experience of health care professionals and confidence in their diagnosis and treatments. However, to some extent, patients also report negative experiences when using formal health care services. This state of dissatisfaction is reportedly related to people's concerns about the lack of personal contact between professional health care with patients. Furthermore, negative opinions on the modern medical system are occasionally related to inefficient opening hours, long waiting time at the facility, and frequent changing of the physician on duty in public health care facilities.

Table 5.14. Opinion on Modern Medicine (N = 360)

| Opinion | Lamajang | | Sukaluyu | | Cipanjalu | | Ciporeat | | Katapang | |
|---|---|---|---|---|---|---|---|---|---|---|
| | N | % | N | % | N | % | N | % | N | % |
| No opinion | 1 | 1.0 | 0 | 0.0 | 5 | 7.1 | 0 | 0.0 | 0 | 0.0 |
| Very negative | 4 | 4.1 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Negative | 4 | 4.1 | 1 | 1.7 | 0 | 0.0 | 0 | 0.0 | 2 | 2.0 |
| Neutral | 32 | 33.0 | 22 | 37.3 | 10 | 14.3 | 2 | 5.7 | 7 | 7.1 |
| Positive | 50 | 51.5 | 36 | 61.0 | 53 | 75.7 | 33 | 94.3 | 85. | 85.9 |
| Very positive | 6 | 6.2 | 0 | 0.0 | 2 | 2.9 | 0 | 0.0 | 5 | 5.1 |
| Total | 97 | 100.0 | 59 | 100.0 | 70 | 100.0 | 35 | 100.0 | 99 | 100.0 |

*Source:* Household Survey 2017

Waiting time at the modern facilities is reported as a major problem for most of the households to access modern health services. This phenomenon seems prevalent, particularly at public health facilities. Facilities at the public health services are usually crowded because of the large numbers of patients. Health insurance is partly responsible for the increased utilisation of the public health service, thereby prolonging the waiting time. Dissatisfaction with health services reduces community trust for the public health care facility. Consequently, people tend to choose private health services, which are unfortunately more expensive.

***Health insurance***

As previously discussed in Chapter IV, the National Health Insurance program, namely Jaminan Kesehatan Nasional (JKN), has been recently implemented in Indonesia. In view of the national health insurance JKN which is operated by BPJS, inhabitants in the research area also acknowledge and participate in public health insurance. Table 5.15 presents the distribution of health insurance participation of the patients in the research area.

In the research area, only a minor percentage of inhabitants have private insurance. Most of the members are insured by BPJS. In the national health insurance program, all residents who are members of the public insurance are allowed to visit *puskesmas* without prior appointment. However, patients cannot seek health services directly at the hospital without any referral from *puskesmas*, except in emergency conditions. Patients with BPJS are also able to obtain health services free of charge. Nevertheless, out-of-pocket expenditure is sometimes unavoidable in cases where patients need medicines which are not listed on the BPJS catalogue. The enlisted drugs for BPJS are selected by the National Formulary Committee according to the current evidence and treatment standards. As for households without insurance, respondents reported that they have to settle their health bills from personal savings. Consequently, uninsured patients prefer self-medication because it is considered cheaper.

Table 5.15. Distribution of Health Insurance Participation in the Research Villages (N = 360)

| Knowledge | Lamajang | | Sukaluyu | | Cipanjalu | | Ciporeat | | Katapang | |
|---|---|---|---|---|---|---|---|---|---|---|
| | N | % | N | % | N | % | N | % | N | % |
| No insurance | 23 | 23.7 | 14 | 23.7 | 18 | 25.7 | 4 | 11.4 | 10 | 10.1 |
| BPJS | 62 | 63.9 | 42 | 71.9 | 50 | 71.4 | 30 | 85.7 | 86 | 86.9 |
| Private | 2 | 2.1 | 2 | 3.4 | 0 | 0.0 | 1 | 2.9 | 1 | 1.0 |
| Others | 10 | 10.3 | 1 | 1.7 | 2 | 2.9 | 0 | 0.0 | 2 | 2.0 |
| Total | 97 | 100.0 | 59 | 100.0 | 70 | 100.0 | 35 | 100.0 | 99 | 100.0 |

*Source:* Household Survey 2017

Being financially affordable does not necessarily mean BPJS provides easily accessible health services. Long waiting times to obtain health services in public hospitals, a limited number of hospitals which have collaborations with BPJS, and long distances to access hospitals become barriers in using the services covered by BPJS. In order to obtain health services covered by BPJS, most patients have to arrive very early at the hospital only to get a registration number. Afterwards, they have to wait a long time to have a consultation with the physician. In addition, patients are generally offered a limited choice of treatment in the public health sector. This condition is triggering patients to make out-of-pocket payments to contact private practitioners.

In general, out-of-pocket payments are a common phenomenon in the research area, as well as in many other locations. In many cases, patients who are prepared to pay themselves will receive some privileges: they can go directly to a hospital or specialist without any referral from primary health care providers; there is a shorter waiting time to get to the service and use facilities such as MRI or CT scan; and they are prioritised for hospital inpatient beds which are usually rather limited for patients with BPJS.

***Aid from Governments***

In addition to public health insurance (BPJS), the Ministry of Health also elaborated the health insurance scheme for the very poor, poor, and underprivileged communities, namely the Community Health Insurance Program (*Jamkesmas*). Furthermore, based on Government Regulation Number 38 in 2007, regency and municipality levels also provide a Regional Health Insurance Program (*Jamkesda*) as an alternative for the poor and underprivileged communities outside the quota of *Jamkesmas*. However, the criteria and quota for underprivileged people are decided by the Ministry of Health (central government), resulting in the unregistered *underprivileged* communities in the district levels.

For example, the quota of *Jamkesmas* membership from the Ministry of Health is 5000 persons, while in some districts the number of underprivileged people is more than 5.000. Consequently, there are impoverished families which are not covered under the *Jamkesmas* nor *Jamkesda* (*cf.* Fieldnote 2017).

Notes.

1. Geographical access – the distance which must be travelled in order to use health services.
2. Regarding distribution, the Ministry of Health classified pharmaceutical forms into four categories: Firstly, free drugs (*obat bebas*), marked with a green circle label. Secondly, limited free drugs (*obat bebas terbatas*), marked with a blue circle label, consisting of all pharmaceutical dosage forms which contain active pharmaceutical ingredients from List W. Thirdly, prescription-only drugs (*obat keras*), marked with a red circle label, consisting of all pharmaceutical dosage forms which contain active pharmaceutical ingredients from List G. Fourthly, psychotropic and narcotics drugs (Minister of Health 2000).
3. Regulation of the sale of certain types of pharmaceuticals has been stipulated in the Decree of the Minister of Health No. 1331 in 2002. The green circle and blue circle labelled drugs can be obtained without the use of prescriptions in pharmacies or registered drug stores. In contrast, pharmaceuticals which are in the category of prescribed, psychotropic and narcotic drugs can only be obtained with a prescription from a registered physician in registered pharmacies or pharmacy installations in hospital.