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Yiatrosofia yia ton Anthropo: Indigenous Knowledge of Medicinal, Aromatic and Cosmetic (MAC) Plants in the Utilisation of the Plural Medical System in Pirgos and Praitoria for Community Health Development in Rural Crete, Greece

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Chapter VI THE PLURAL MEDICAL SYSTEM IN RURAL CRETE

Following a rather detailed presentation of the two research communities and the study population, as well as an outline of the everyday life of community members, the present chapter introduces the plural medical system available in Pirgos and Praitoria. As Blum & Blum (1965: 20) argue: '*Health beliefs and practices must be viewed within the context in which they occur, since focusing on them in isolation distorts or detracts them from their meaning and function*'. Following a brief description of the historical development of the plural medical system in this part of Crete, the different medical systems available in the research area are presented in further detail. In this respect, the traditional medical system is introduced on the basis of the local concept of '*Yiatrosofia*', 'Medical Wisdom', which encompasses people's knowledge of the traditional medical system. As Clark (2002: 343) explains: '[…] [*Residents*] *have long relied for much of their medical treatment on their own extensive traditional healing knowledge, on the plant and animal resources of their landscape, and on the particular skills of certain "experts" in the community*'. Subsequently, the components of the traditional medical system, which include MAC plants and other traditional home remedies as well as religious and spiritual forms of medicine, are highlighted. Although traditional medicine is nowadays primarily applied through practices of self-care, community members not only recall the integral position traditional health care providers occupied until recently, but also continue to consult traditional providers, namely wise women and religious specialists, to this day (*cf.* Van de Kerk 1993; Hagoort 1998; Legel 1998; Van den Akker 2002; Dijkstra 2005). In order to adequately characterise the traditional medical system, the different types of traditional health care providers are analysed. In addition to the traditional medical system, the transitional medical system and the modern medical system available in rural Crete are specified on the basis of historical processes, current developments, medical components, as well as health care institutions and providers. Overall, a detailed description of the plural medical system operating in this part of Crete highlights local systems of knowledge, practice and belief, which provide a sound basis for the subsequent analysis of local ideas of health and illness, as well as patterns of transcultural health care utilisation behaviour.

6.1 A Historical Perspective on Medicine in Crete

6.1.1 Early Forms of Medical Practice

In line with the different dimensions of daily community life presented in the previous chapter, forms of medical treatment, either practiced by the population of rural Crete itself or administered by health care professionals, are rather diverse. Particular features of the natural landscape and specific processes of history have favoured the development of a pluralistic configuration of medical treatment in rural Crete. Since the earliest days of human settlement, population groups have administered certain forms of medical treatment on the basis of their knowledge of: plant utilisation; nutrition and sleep; practices of agriculture, animal husbandry and bee-keeping; spiritual signs, spells and charms; weather conditions; astrology; and earthquake predictions. Furthermore, healing practices have since ancient times been undertaken by a variety of lay and professional health care providers. Archaeological remains of the civilisations of Minoan Crete and Mycenaean Greece, for example, shed light on patterns of domestic self-treatment, whereby the population residing outside the palaces in mostly rural areas reportedly applied a combination of natural and magical methods to treat illness. Furthermore, health care is provided to the population by a number of religious specialists, who treated the rich and poor, as well as by medical practitioners, who have been part of the social elite and limited their practices to the rich. Both groups of practitioners learned their profession through observation of the wounded whereupon they accumulated a repertoire of skills and knowledge of locally available remedies, including a number of native plants, which have been

used for medical purposes. Archaeological findings of certain instruments suggest that the skills of the Minoan and Mycenaean practitioners went beyond the knowledge of bone-setting and included practices of dental extractions as well as preparations of natural remedies (*cf*. Clark 2011).

The rather practically oriented knowledge of medical treatment, which has been shared by rural population groups as well as by medical specialists during the early periods of human settlement in Crete, has been primarily transferred orally from generation to generation. On several occasions, however, a number of mostly anonymous, male writers collected the knowledge of medical treatment in a way to make it available to the wider population in the form of specialised medical manuscripts (*cf*. Arnott 1996). As Papadopoulos (2009: 109) notes: '*Most of the manuscripts were written by a variety of individuals in an effort to provide practical therapeutic guidance to a community frequently deprived of easy access to academic physicians and lacking the financial means for professional medical treatment*'. Used as practical handbooks or manuals, the manuscripts generally contained references to popular knowledge and to the works of outstanding medical scholars of humoural medicine, such as Hippocrates, Dioscorides or Galen. In Byzantine Crete, the skills of medical treatment have been learned on the basis of individual experience as well as upon consultation of historical texts, which had been preserved, copied and edited in accordance with the medical standards of the time. To a certain extent, the Byzantine medical texts have been written by clerics, whereby a number of documents have been preserved in monasteries for the purpose of teaching even after the fall of Constantinople. In the same fashion, the practical handbooks have been secured in libraries or private collections housed by individual families and hereby served as significant sources of medical knowledge particularly during the Venetian and Ottoman occupation of Crete. Following the period of the Renaissance, which commenced under the Venetian rule, Byzantine medical texts have been copied extensively, whereas exile scholars, who had returned to Crete, introduced new, adapted versions of historical medical manuscripts. In this way, theories of medical treatment went beyond a mere interpretation of the works of historical scholars, such as Hippocrates and Galen, but incorporated topical sources of professional medical knowledge. Post-Byzantine medical manuscripts contained references to historical scholars as well as to the medical doctrines taught in Europe, particularly Italy, at the time. In the same fashion, indigenous knowledge systems of medicine, primarily of plant-based remedies, fell under the influence of the spread of historical texts, such as the work of Dioscorides, as well as of the emergence of contemporary medical specialists (*cf*. Papadopoulos 2009; Clark 2011).

In Crete, knowledge, practice and belief of medical treatment have moreover been significantly influenced by the doctrines of the Greek Orthodox Church and people's adherence to the religious canon. As noticed by Papadopoulos (2009: 114): '*In mutual intellectual support, Hippocrates and Galen stand shoulder to shoulder with the people's Christ and His saints* […]'. Throughout history, representatives of the Greek Orthodox Church engaged in preserving, copying and editing as well as authoring medical manuscripts, which in response to the involvement of religious representatives gained widespread credibility. In this way, the religious contribution to medical treatment is both theoretical and practical, as individuals have either applied medical treatment on the basis of information retrieved from the church or have received medical treatment from the clerics directly. The interplay between religion and medicine has strengthened the relationship between the representatives of the Greek Orthodox Church and the local faithful people, which grew particularly strong during periods of foreign occupation, such as the Ottoman rule in Crete. Although medical manuscripts have been preserved and copied in various Cretan monasteries and households during the period of Ottoman occupation, a substantial amount of medical knowledge is lost at that time not at least because of the large-scale emigration of medical scholars and students (*cf*. Papadopoulos 2009; Clark 2011).

Following the independence of Greece and the foundation of modern medical schools during the 19th century, forms of medical treatment came under the influence of modern medical doctrines taught at universities established elsewhere in Europe. Ideas of modern medicine

reached Crete through trading activities, through literary resources and eventually through forms of medical treatment administered by specialists, who have been educated abroad. Hereafter, long-established doctrines of medical treatment have been gradually revised and occasionally abandoned in favour of new pharmaceutical and technological discoveries whereupon the significance of prevailing systems of medical knowledge, practice and belief, including the content of medical manuscripts, is minimised. On the basis of a law, which was passed in Greece in 1939 and required that any provider of medical treatment obtained an official permission to practice medicine, the activities of medical specialists, who operated outside the scope of modern medicine, became largely illegal. Nevertheless, local, particularly rural, population groups have remained largely illiterate until the 20th century and have therefore continued to rely on popular systems of medical knowledge, practice and belief, as well as on the medical knowledge of local health care providers, such as traditional healers, religious healers or teachers. Traditional health care providers have moreover been consulted for the treatment of a number of illnesses, which have not been defined by official medical doctrines, such as the 'evil eye' or the bad pimple (*cf*. Blum & Blum 1965; Arnold 1986; Van der Hoeven 1992; Van de Kerk 1993; Hagoort 1998; Papadopoulos 2009; Clark 2011) (6.1).

6.1.2 The Development of the Plural Medical System

In view of the historical processes involved in the development of systems of medical knowledge, practice and belief in Crete, activities of medical treatment have been characterised by the interplay of traditional plant-based, spiritual, humoural, religious and modern medicine, as well as lay and professional health care delivery. In other words, examples of medical treatment practiced in Crete incorporate, as Clark (2011: 2) concludes: '[*The*] *honour accorded to great names of Greek medicine and the fragmentary remnants of their work, a deep respect for education and experience, a long familiarity with a landscape abounding in medicinal plants [and] strong oral traditions of healing charms and folk remedies*'. On the basis of these cultural-historical features, patterns of medical treatment shown by the population of rural Crete involve a pluralistic configuration of medicine, namely a plural medical system, which is composed of three different interacting and changeable medical systems (*cf*. Table 6.1).

Table 6.1 The Plural Medical System in Rural Crete (*cf*. Slikkerveer 1990; Fieldwork 2010; 2011).

Plural Medical System	
Traditional Medical System	Local Medical System of MAC Plants and Other Home Remedies as well as Forms of Religious and Spiritual Medicine
Transitional Medical System	Medical System of Commercial Pharmaceutical Medicines
Modern Medical System	Medical System of Modern Health Care Provision

Table 6.1 presents a simplified interpretation of the plural medical system operating in rural Crete, of which the components are presented in detail within Paragraphs 6.2, 6.3 and 6.4. In brief, the traditional medical system is identified on the basis of its local originality, its historical continuity, its non-commercial applicability and its cultural adaptability. Its components comprise systems of popular, indigenous knowledge of medical treatment, which have primarily been transferred orally and have occasionally been noted down in medical handbooks. In particular, the traditional medical system incorporates examples of medical treatment, which is applied in the form of MAC plants and other traditional home remedies as well as religious and spiritual forms of medicine. Components of the traditional medical system have been applied by the population of Crete since the earliest days of human settlement in the island and have been taught outside the scope of modern medical schools. In this respect, the traditional medical system includes practices of self-treatment as well as the activities undertaken by traditional

health care providers, such as wise women or religious healers. On the other hand, the transitional medical system is distinguished on the basis of its commercial orientation, as it encloses forms of medical treatment, which are administered through the sale of pharmaceutical medicines. In general, the components of the transitional medical system include practices of self-treatment as well as the provision of medicines by transitional health care providers, particularly pharmacists and pharmacy assistants. Finally, the modern medical system is identified on the basis of forms of medical treatment, which are taught at modern medical schools and are administered through the network of modern medical institutions. The components of the modern medical system refer exclusively to the activities undertaken by modern health care providers. In view of the distinction of the different medical systems available in rural Crete, traces of humoural medicine may be found in the traditional as well as the modern medical system.

6.2 The Traditional Medical System

6.2.1 Traditional Medicine and *Yiatrosofia*

The abundance of natural resources in Crete and continuous patterns of human settlement in remote areas of the island have not only established a long-standing tradition of farming and shepherding, but have also provided a sound basis for an enduring application of components of the traditional medical system by the local population. As Greger (1985: 74) observes: '[*People's*] *knowledge seems to be, quite literally, built upon their landscape*'. The rich diversity of the natural environment, in which plants grow and mature in relation to a variety of other species and natural elements, offers an optimal ground for the identification and utilisation of medicinal, aromatic and cosmetic (MAC) plants (*cf*. Legel 1998; Clark 2002; 2011). As Clark (2002: 343) shows: '*Such diversity of topography and concomitant agricultural activities also means that the inhabitants of this region are familiar with and traditionally use, both as foodstuffs and as medicines, a great diversity of wild plants*'. Archaeological remains of the Minoan Civilisation suggest that the population has been widely familiar with the preparation and use of plants, such as Opium (*Papaver somniferum*), which has been known in Crete at least since 1250 B.C., for medical purposes, as well as with the production of essences and cosmetics on the basis of aromatic plants in remote laboratories. Natural resources as well as people's knowledge of MAC plants have been to a certain extent subject to the two-way trade between the civilisations of Minoan Crete and Ancient Egypt. The Minoans reportedly applied an array of religious and spiritual forms of medicine, which have been directed at the treatment of certain illnesses caused by supernatural agents. In this way, the civilisation worshipped a number of peak sanctuaries, which have been visited in order to establish a relationship with the deities and have been commonly decorated with votive offerings (*cf*. Arnott 1996; Liolios *et al*. 2010).

In Byzantine Crete, practices of traditional medicine have been to a certain extent identified as '*Yiatrosofia*', 'Medical Wisdom', a concept, which is still used in contemporary Crete in a way to define forms of traditional medicine (6.2). '*Yiatrosofia*' originally referred to the writings of a group of scholars in early Byzantine times, who have been known for their medical expertise and had acquired a certain level of medical knowledge and skills in discovering healing recipes and in applying MAC plants, charms and spells as well as other practices, such as bone-setting (*cf*. Clark 2011). As Clark (2011: 4) elaborates: '*By calling it* [*Yiatrosofia*] *it earned a special cachet; it took on weight, dignity and the value of ancient tradition*'. In the same fashion, '*Yiatrosofia*' moreover described collections of texts or healing recipes, which have been written by medical professionals and laymen alike and contained practical knowledge of medical treatment, as it is derived from a variety of sources. The medical handbooks made extensive reference to the historical texts of scholars, such as Hippocrates or Dioscorides, who continued to form an integral source of healing expertise for medical specialists in Byzantine Crete. In addition to historical references, the texts incorporated examples of popular healing knowledge,

as well as excerpts of the personal experience, observations and belief of the author. In general, '*Yiatrosofia*' combined historical, at times adapted, sources of medical knowledge with collective as well as personal accounts on healing practices (*cf*. Vokou *et al*. 1993; Clark 2002; 2011). As Clark (2002: 351) indicates: '*These works came to include not merely medical, astrological, magical, and religious lore (like their immediate sources), but also household and farmyard hints and veterinary advice*'. In an attempt to administer medical treatment, traditional health care providers at the time, as they included traditional healers, midwives, priests and monks, frequently consulted the medical manuscripts. Following the return of scholars, who had received medical education at universities established elsewhere in Europe, to Crete during the 17th century, '*Yiatrosofia*' has been refined with, at times newly interpreted, historical doctrines of healing lore (*cf*. Vokou *et al*. 1993; Clark 2002; 2011). As noticed by Clark (2002: 349): '*Through historical contact with other cultures, whether because of trade, education, or military occupation, the pharmacopeia of Cretan* [*Yiatrosofia*] *demonstrates a long history of selective accretion and expansion*'. In order to widen the applicability of medical texts among the population of Crete, changes in language and style, notably reflecting the social status and education of the writer, have been introduced to the historical sources of medical knowledge on several occasions. In view of its cultural adaptability and ability to provide the wider population with access to medical care, '*Yiatrosofia*' continued to enjoy great popularity, which increased particularly during the Ottoman occupation of Crete in the 18th and 19th century (*cf*. Clark 2011). As Clark (2011: 22) highlights: '*Crete's unique history provided conditions that worked ideally to encourage a rich iatrosophic condition*'.

In view of the development of '*Yiatrosofia*' in Crete, the concept has since not only been used to refer to historical manuscripts of healing lore but also to encompass people's knowledge of the traditional medical system. In 2010, the open care centre for the elderly (KAPI) in Kharakas, for example, issued a calendar entitled '*Yiatrosofia yia ton Anthropo*', 'Medical Wisdom for the Human', which contains information on various MAC plants and other home remedies in relation to their application to the treatment of certain illnesses, as it had been gathered from the visitors to the KAPI. In general, '*Yiatrosofia*' is defined as traditional medical knowledge, which serves the purpose of finding solutions for everyday health problems or small accidents and is nowadays mainly shared by older community members. Among the population of the two research communities, '*Yiatrosofia*' is similarly used to describe people's knowledge of MAC plants and other traditional home remedies whereupon the concept forms a vivid component of the traditional medical system operating in the research area. In general, the traditional medical system contains traces of historical healing doctrines and systems of popular, indigenous medical knowledge as well as components, which have been derived from the personal experience of the local inhabitants. The traditional medical system, which is identified in rural Crete, however, extends the focus of '*Yiatrosofia*' to include systems of knowledge, practice and belief in relation to the use of MAC plants and other traditional home remedies as well as religious and spiritual forms of medicine. While the traditional medical system operating in the research area contains a number of historical components, it circumscribes a dynamic, rather than static, system, which is subject to continuous processes of change throughout history. In the contemporary setting, the traditional medical system falls under the constant influence of certain outside factors, such as environmental degradation, tourism, socio-political events, governmental policies or mass media. Around one third of the inhabitants of Pirgos and Praitoria state that advertisement, for example, has a high impact on patterns of MAC plant-utilisation behaviour shown by the population (*cf*. Illustration 6.1). In this respect, the villagers perceive the impact advertisement exerts on behavioural patterns as very positive. Overall, these findings are in line with the results gained from research conducted elsewhere in rural Crete, which demonstrated that the local inhabitants have a rather positive perception of the influence mass media, including the internet, have on patterns of MAC plant-use (*cf*. Van Bommel 1993; Dijkstra 2005; De Vries 2007).

As Clark (2011: 356) concludes: '*And now, in part because of the omnipresent media, and in part because of changing attitudes in the medical establishment, people in Amari, as elsewhere in Greece, are beginning to look again, with revitalized attention at their environment, and especially at the health-giving aspects of the traditional foodstuffs and medicines it provides*'.

Illustration 6.1 Book on MAC Plants offered with an Edition of the TiVo Magazine. Photograph by J. Aiglsperger (2011).

The study carried out in Kastellos moreover showed that villagers mostly disagree with the assumption that the local government discourages the use of MAC plants (*cf*. De Vries 2007). Hereafter, the majority of inhabitants of Pirgos and Praitoria report that local government policies have a low impact on patterns of MAC plant-utilisation behaviour, thereby expressing a negative attitude towards this non-involvement. Concurrently, the majority of respondents state that current economic developments in Greece exert a low impact on practices of MAC plant-utilisation. Community members, however, perceive the low impact of the current economic circumstances on behavioural patterns as very positive. In view of the influence of certain external factors on the traditional medical system, the inhabitants of rural Crete generally attach considerable significance to the preservation of systems of knowledge, practice and belief of traditional medicine, which is usually coupled with a widespread acknowledgement of the importance of environmental conservation. The calendar issued by the KAPI in Kharakas, for example, pays particular regard to locally available natural resources and provides a significant contribution to the collection and distribution as well as preservation of traditional medical knowledge (*cf*. Clark 2002). As Clark (2002: 352) points out: '*The overall impression given is that there exists at the same time in Cretan* [*Yiatrosofia*] *both a strong traditional core of knowledge and a creative attempt to maintain this body of knowledge in the face of changing circumstance*'.

The inhabitants of rural Crete have commonly attached considerable significance to the study, preservation and transfer of indigenous knowledge systems and have hereby contributed to the persistence of traditional healing practices, which have been followed since the earliest days of human settlement in the island. Villagers generally speak highly and proudly of the profound knowledge and expertise of traditional medicine, which is shared by older generations, and are concerned about an increasing disappearance of such knowledge systems (*cf*. Van de Kerk 1993; Molenaar 1999; Clark 2002; Van den Akker 2002; Clark 2011). In this way, the sample population of Pirgos and Praitoria commonly entertains a positive opinion on the traditional medical system (*cf*. Table 6.2). The vast majority of community members in Pirgos (55.2%, n=273) and Praitoria (70.2%, n=113) have a positive attitude towards the traditional medical system and hereby widely acknowledge its effectiveness and pleasantness in providing medical treatment.

Similar results have been found during previous research conducted in Spili and Katellos in the Prefecture of Rethymnon as well as in Pirgos, whereby the local population demonstrated a strong belief in the effectiveness of the traditional medical system (*cf.* Van Beelen 1990; Palstra 2003; De Vries 2007).

Table 6.2 Distribution of the Opinion on the Traditional Medical System of the Household Members of the Sample over the Two Research Communities (N=656).

Opinion	Pirgos		Praitoria		Total	
	N	%	N	%	N	%
negative opinion	20	4.0	9	5.6	29	4.4
between negative and positive opinion	197	39.8	20	12.4	217	33.1
positive opinion	273	55.2	113	70.2	386	58.8
no opinion	5	1.0	19	11.8	24	3.7
Total	495	100.0	161	100.0	656	100.0

In addition to adopting a predominantly favourable opinion on the traditional medical system, the respondents share a rather profound knowledge of traditional medicine, namely of the components of the traditional medical system, which include MAC plants and other traditional home remedies as well as religious and spiritual forms of medicine is rather profound (*cf.* Table 6.3). As Clark (2002: 339) explains: '*Three characteristics of Cretan traditional medicine are the key to its resilience: a respect for the authority of tradition, an ability to experiment and innovate, and an intimate knowledge of the resources of the local landscape*'.

Table 6.3 Distribution of the Knowledge of the Traditional Medical System of the Household Members of the Sample over the Two Research Communities (N=656).

Knowledge	Pirgos		Pretoria		Total	
	N	%	N	%	N	%
little knowledge	31	6.3	30	18.6	61	9.3
average knowledge	32	6.5	19	11.8	51	7.8
much knowledge	432	87.3	112	69.6	544	82.9
Total	495	100.0	161	100.0	656	100.0

The vast majority of inhabitants of both Pirgos (87.3%, n=432) and Praitoria (69.6%, n=112) demonstrate considerable knowledge of the identification, preparation and application of locally available MAC plants and other traditional home remedies as well as religious and spiritual forms of medicine. People's knowledge of the traditional medical system is integrated into the routines of everyday life to such an extent that villagers are frequently unaware of its extension and validity. Although a number of books, which contain information on the application of MAC plants and other traditional home remedies as well as written prayers are available in several household and may be exchanged among inhabitants, the knowledge of the traditional medical system shared by the local population is primarily transferred orally (6.3). In this way, local inhabitants learn the lore of plant collection, preparation and utilisation mainly from their parents and grandparents as well as, notably less commonly, from friends or through personal observation. In rural Crete, the transfer of knowledge of traditional medicine appears to lie primarily in the hands of female community members, who pass their knowledge on to their daughters. While the majority of local inhabitants are familiar with the medicinal uses of a limited number of MAC plants, several community members demonstrate a rather detailed knowledge of traditional medicine, particularly with regard to the recitation of prayers or the application of practices directed at the treatment of certain illnesses, such as the 'evil eye' (*cf.*

Paragraph 7.1.3). By consequence, people's knowledge of the traditional medical system can be distinguished between different forms of common and expert knowledge, whereupon the latter is shared by mostly female community members of advanced age. The common knowledge of the traditional medical system, notably of MAC plants, is determined by the geographical location and topography of the research area, which to a certain extent confine the local availability of MAC plants and people's familiarity with such plants. Although respondents in the present as well as previous research conducted in Crete frequently referred to the expert knowledge of older, female inhabitants, no statistically significant differences in people's knowledge of the traditional medical system are found between the gender groups of the inhabitants of Pirgos and Praitoria. Nevertheless, the highest percentage of respondents, who reportedly have a low level of knowledge of the traditional medical system, belongs to the age category of 21 to 27 years. The difference between common and expert knowledge of the traditional medical system, however, becomes rather indistinct upon people's application of traditional medicine. The respondents largely disagree over the modes of applying commonly cited MAC plants. Furthermore, expert knowledge does not account for a greater variety in the application of traditional medicine as villagers, who reportedly demonstrate a more detailed knowledge of the traditional medical system, apply mostly commonly mentioned, locally available MAC plants (*cf*. Arnold 1986; Van Beelen 1990; Van de Kerk 1993; Legel 1998; Molenaar 1999; Clark 2002; Van den Akker 2002; Palstra 2003; Dijkstra 2005; De Vries 2007).

6.2.2 Between *Votana* and *Yities*: The Traditional Medical System

In the research area, MAC plants and other traditional home remedies form the most commonly applied components of the traditional medical system. In general, a number of locally available wild and cultivated herbs, vegetables and fruits as well as other home remedies are known for having a beneficial effect on health and longevity. In addition to being esteemed for their antioxidant properties, MAC plants and other traditional home remedies are widely renowned for their affordability, their general availability, their easily manageable application, their tendency to cause no side effects, as well as their embeddedness in the local landscape and the socio-cultural context of the community (*cf*. Van Beelen 1990; Kain Hart 1992; Koutis *et al*. 1993; Hagoort 1998; Lionis *et al*. 1998b; Molenaar 1999; Clark 2002; Van den Akker 2002; Palstra 2003; Mazokopakis *et al*. 2005; De Vries 2007). The inhabitants of Pirgos and Praitoria differentiate between MAC plants known as '*Votana*', 'herbs', and a variety of other traditional, and at times MAC plant-based, home remedies, which can be specified with the generic term '*Farmaka*', 'medicines'. In addition to making a differentiation between MAC plants and other traditional home remedies, community members moreover distinguish MAC plants on the basis of their applications and hereby assign plants to a number of traditionally labelled categories. In an attempt to summarise all categories used by the local population, Table 6.4 offers an emic classification of MAC plants and other traditional home remedies for the research area (6.4).

While all categories identified within the emic classification of MAC plants and other traditional home remedies include elements, which are known for their health beneficial effects, only the category of '*Votana*' refers exclusively to plants used for medical purposes. The categories of '*Aromatika*', '*Bakharika*' or '*Karikevmata*' as well as '*Mirodies*' and '*Aromatika Fita*' contain MAC plants, which not only serve the purpose of alleviating illness but also of providing taste, aroma and food. In this respect, any plant, which is categorised as spice, fragrance or aromatic plant within the classification also belongs to the category of '*Votana*'. In this way, the categories of '*Aromatika*', '*Bakharika*' or '*Karikevmata*' as well as '*Mirodies*' and '*Aromatika Fita*' can be interpreted as subcategories of the overall group of '*Votana*'. The categories of '*Aromatika*', '*Bakharika*' or '*Karikevmata*' and '*Mirodies*' contain MAC plants, which are primarily applied in their dried form. On the other hand, the category of '*Aromatika Fita*' comprises mostly fresh components, whereas the elements of the category of '*Votana*' are applied in both their dried and fresh form. Nevertheless, the first four categories within the emic

classification of MAC plants and other traditional home remedies are by no means exclusive, whereby one single plant can have a variety of uses and can consequently be assigned to more than one category. All MAC plants, as they belong to the first four categories within the classification, refer to crude plants. On the other hand, the category of '*Farmaka*' encloses various, mostly processed, compounds, which are generally available in a rural household and are known for having health beneficial effects. The term '*Farmako*', 'medicine', is rather descriptive and can be used to specify any product, which is applied for medical purposes. '*Farmako*' may characterise pharmaceutical medicines as well as forms of traditional medicine, such as MAC plants or other traditional home remedies. As Clark (2002: 356) indicates: '*"Ola ta votana ine farmaka." ("All* [*MAC*] *plants are medicines.")*'. Since the category of '*Votana*', however, implies that any crude plant, which belongs to it, is used for medical purposes, any household product, which is not specified as '*Votano*' and is applied as remedy within the traditional medical system, is identified as '*Farmako*'. In this way, the category of '*Farmaka*' refers to, mainly processed, traditional home remedies, which are derived from MAC plants as well as animals and other materials. Although the category of '*Farmaka*' is rather exclusive, all components, which are included within the emic classification, can be used in combination during practices of disease treatment (*cf*. De Vries 2007). Overall, the specifications of the emic classification are largely overshadowed by the distinction local inhabitants make between MAC plants, '*Votana*', and other traditional home remedies, '*Farmaka*'. In this way, the following paragraphs present a number of elements of the traditional medical system on the basis of distinguishing between MAC plants and other traditional home remedies.

Table 6.4 Emic Classification of MAC Plants and other Traditional Home Remedies (*cf*. Kain Hart 1992; Van Bommel 1993; Van den Akker 2002; De Vries 2007).

Local Name	English Name	Application
Votana	herbs	MAC plants used internally and externally as infusion, spice, food, decoction, embrocation, compress, poultice, extract, balm, steam, bath, wash and incense as well as during rituals and as decoration
Aromatika Bakharika Karikevmata	spices	MAC plants used internally as spice
Mirodies	fragrances	MAC plants used internally as spice and externally as incense
Aromatika Fita	aromatic plants	MAC plants used internally as spice and food
Farmaka	medicines	Traditional home remedies used internally and externally as beverage, spice, food, decoction, embrocation, compress, poultice, extract, balm, steam, bath, wash and incense as well as during rituals and as decoration

MAC Plants

Table 6.5 presents an overview of the 20 most commonly reported plant species, which have been identified by the local population as MAC plants, '*Votana*' (6.5). The plants are listed numerically according to their frequency of reference in a declining fashion, whereby the most commonly mentioned plant is named on the top. In the first column to the left, the local name of each plant is presented under reference to possible name alternatives, which are arranged in alphabetical order. Local plant names may not only have a distinguishable equivalent within the official Greek language, but may also differ locally from region to region as well as from village to village (*cf*. Clark 2002). Provided the local plant name is Cretan, it is highlighted in Table 6.3. In the same fashion, plants, which are endemic to Crete, as well as species, which are not found in Crete, are accentuated accordingly.

Table 6.5 List of Names of the 20 most frequently reported MAC Plants in the Area.

	Local Name	Latin Name	English Name
1	-Khamomili -Khamomilo	-*Chamomilla recutita* (L.) Rauschert -*Matricaria chamomilla* L. -*Matricaria recutita* L.	-Chamomile
2	-Faskomilia -Faskomilo	-*Salvia fruticosa* Mill. -*Salvia triloba* L. -*Salvia pomifera* L.	-Sage
3	-Dhiktamos[b] -Erondhas[a] -Stamatokhorto -Stomakhokhorto	-*Origanum dictamnus* L.	-Cretan Dittany
4	-Aghriomandzurana -Antonaidha -Mandzurana -Matzurana	-*Origanum majorana* L. -*Origanum microphyllum* (Bentham) Boiss.	-Marjoram
5	-Rigani	-*Origanum onites* L. -*Marjorana onites* (L.) Bentham or -*Origanum vulgare* L.	-Oregano
6	-Thimari -Thimos	-*Coridothymus capitatus* (L.) Rechenb. fil. -*Thymus capitatus* (L.) Hoffmans. & Link	-Thyme
7	-Abarsamos[a] -Barsamos[a] -Dhiosmos -Menda	-*Mentha longifolia* (L.) Hudson -*Mentha spicata* L.	-Spearmint
8	-Malotira -Tsai tu Vunu	-*Sideritis syriaca* L.	-Mountain Tea
9	-Arismari[a] -Dhendhrolivano	-*Rosmarinus officinalis* L.	-Rosemary
10	-Almbaroriza -Amberosa[a] -Armbaroriza	-*Pelargonium graveolens* L'Her.	-Rose Geranium
11	-Menda	-*Mentha piperita* L. -*Mentha pulegium* L.	-Peppermint
12	-Thrimba -Thrumba -Thrumbi	-*Satureja thymbra* L.	-Summer Savory
13	-Aghria Molokha -Molokha	-*Malva sylvestris* L.	-Mallow
14	-Luïza	-*Aloysia tripfylla* Britton -*Lippia citriodora* Kunth.	-Lemon Verbena
15	-Aloi	-*Aloe vera* (L.) Burm. fil.	-Aloe Vera
16	-Dhafni	-*Laurus nobilis* L.	-Laurel -Sweet Bay
17	-Efkaliptos	-*Eucalyptus globulus* Labill.	-Eucalyptus
18	-Tsuknidha	-*Urtica pilulifera* L.	-Nettle
19	-Vasilikos	-*Ocimum basilicum* L.	-Basil
20	-Gharifallo[c] -Kariofili[c]	-*Caryophyllus aromaticus* L. -*Eugenia aromatica* (L.) Baill. -*Syzygium aromaticum* (L.) Merrill & Perry	-Clove

[a]: Plant Name Cretan; [b]: Plant endemic to Crete; [c] Plant not found in Crete

The middle column highlights the corresponding Latin plant names, as they are accepted by official doctrines. The last column to the right in the table shows the English name of each plant, which is hereafter used in the text (*cf*. Vokou *et al*. 1993; Watrous *et al*. 1993; Simopoulos 2001; Clark 2002; MEDUSA Network 2002; Stamatis *et al*. 2003; Allen *et al*. 2006; Skoula & Johnson 2006; Botanic Garden and Botanical Museum Berlin-Dahlem 2007; Karousou *et. al* 2007; Pollio *et al*. 2008; Alibertis 2009; 2010; Bazeu 2011; Clark 2011; Kew Royal Botanic Gardens 2014).

Cretan Dittany (*Origanum dictamnus* L.), Marjoram (*Origanum majorana* L. / *Origanum microphyllum* (Bentham) Boiss.) and Oregano (*Origanum onites* L. or *Marjorana onites* (L.) Bentham / *Origanum vulgare* L.) belong to the genus *Origanum*, the species of which occur naturally in the mountainous zones of the Mediterranean Region (6.6). The name of the genus makes a literal reference to the Greek word for 'mountain', '*Oros*', and the Ancient Greek word for 'joy' or 'brightness', '*Ganos*'. Of the plants listed in Table 6.3, Cretan Dittany is the only species endemic to Crete. In the research area, the local names of Marjoram and Oregano moreover each encompass different plant species. Spearmint (*Mentha longifolia* (L.) Hudson or *Mentha spicata* L.) and Peppermint (*Mentha piperita* L. / *Mentha pulegium* L.) belong to the genus *Mentha*, which generally occurs in temperate zones and is known for its diverse smells. Mints have been used as medicine, spice and food since antiquity and have been included in a number of myths, stories and proverbs. In particular, mints contain the volatile oil menthol, which is known to be anti-spasmodic and antiseptic and to have a beneficial effect on human health. Menthol is moreover used as disinfectant, as massage oil and as ingredient in toothpaste and chewing gums as well as candies soothing the throat. Of the plant species listed in Table 6.5, one is furthermore endemic to Crete. Some plants appear to have been known in the research area for an extended period of time, as they are mentioned in ancient sources of medical knowledge. As Strataridaki (1988: 212) demonstrates: '*Epimenides' reputation as a seer and sage and his long life enable us to appreciate his expertise in plants and herbs, and their healing qualities*'. Various plants have presumably been introduced at a later stage, thereby demonstrating the adaptive nature of the traditional medical system operating in this part of Crete Hereafter, plants, such as Clove (*Caryophyllus aromaticus* L. / *Eugenia aromatica* (L.) Baill. / *Syzygium aromaticum* (L.) Merrill & Perry), for example, are not found in the research area but are known and used by the local population for their medicinal properties, notably as components of the transitional medical system, whereby they are mostly purchased from local shops (*cf*. Kain Hart 1992; Rackham & Moody 1996; Simopoulos 2001; Clark 2002; Van den Akker 2002; De Vries; Karousou *et al*. 2007; Liolios *et al*. 2010).

In the research area, a number of MAC plants, such as Spearmint (*Mentha longifolia* (L.) Hudson or *Mentha spicata* L.), Rose Geranium (*Pelargonium graveolens* L'Her.), Peppermint (*Mentha piperita* L. / *Mentha pulegium* L.), Aloe Vera (*Aloe vera* (L.) Burm fil.) or Basil (*Ocimum basilicum* L.), are commonly grown in home gardens. Nevertheless, it is standard practice among the population of rural Crete to gather certain plants from the mountains and lowlands surrounding the villages at specific times of the year whilst adhering to particular collection techniques. The inhabitants of Pirgos and Praitoria frequently search the southern slopes of the Asterousia Mountains, including the areas surrounding the settlements of Murnia and Prinias as well as the fertile Mesara Plain, and the riverbed of the Yeropotamos River in particular, for MAC plants. While places of collection are frequently kept secret in order to ensure the availability of plants, women tend to gather plants in pairs in order to ensure their safety. Studies conducted in rural Crete have shown that plants collected from the wild and particularly those, which are picked from the highest part of the mountain, are believed to be more effective than the ones cultivated at home (*cf*. Kain Hart 1992; Van de Kerk 1993; Legel 1998; Dijkstra 2005; De Vries 2007).

Although the time of collection during the year naturally depends on the flowering season of the plant, most plants are gathered during the mornings and afternoons of the spring and early summer months. The doctrines of Dioscorides emphasised the correct forms of collection and storage upon which MAC plants need to be observed throughout their stages of growth in order

to be able to collect them or extract their properties at the right moment. Healing properties are said to be enhanced when plants are collected in clear and dry weather conditions, at full moon, in the absence of shadow and particularly when the flowers are open. Plants are commonly cut with a knife, a practice, to which specific attention is paid in order to minimally disturb the plant's ecosystem and to ensure its continuing growth (6.7). In the research area, the part of the plant most frequently cut for further use refers to the leaves. Other parts used encompass the leaves and stems in combination, the flowers of the plant and the leaves and flowers in combination, as well as the plant as a whole. Plants are generally carried home in small plastic bags and are, on several occasions, subsequently filtered through a sieve for further preparation.

Illustration 6.2 Dried Chamomile (*Chamomilla recutita* (L.) Rauschert / *Matricaria chamomilla* L. / *Matricaria recutita* L.).
Photograph by J. Aiglsperger (2012).

While fresh plants are used immediately, plants, which are applied in their dried form, are generally spread and dried as long as needed on cotton sheets in the shadow, as the sun would have a negative effect on their essence and colour (*cf.* Illustration 6.2). Eventually, dried plants or plant parts are stored in air-impermeable and lightproof containers or pots. Within the writings

of Dioscorides, the shape and material of such repositories, which needed to be appropriate for each plant, are discussed in considerable detail (*cf*. Van der Hoeven 1992; Vokou 1993; Rackham & Moody 1996; Legel 1998; Molenaar 1999; Van den Akker 2002; Beck 2005; Dijkstra 2005; De Vries 2007).

In the research area, MAC plants are most commonly applied internally in the form of an infusion, which is made from dried plants or plant parts and is locally known as '*Vrastari*' or '*Rofima*'. Infusions are usually prepared using one single MAC plant or a combination of different MAC plants in their dried form, which are either brewed with water or are added to boiling water and are left to soak for a certain period of time. Subsequently, the water is strained from the plant or plant parts, thereby producing the infusion, which is generally drunk hot and frequently sweetened with honey or sugar. In addition to infusions, dried MAC plants are used internally as spices, namely as aromatic additives, which are applied as seasoning to local dishes, such as cooked vegetables, meat or fish. Fresh MAC plants are frequently consumed as aromatic plants, most commonly in the form of so-called '*Khorta*', 'wild greens' or 'wild vegetables', which are generally gathered from surrounding areas, such as riverbeds. '*Khorta*' usually refer to green, leafy plants, such as Parsley (*Petroselinum crispum* (Mill.) Fuss), Dill (*Anethum graveolens* L.) or Fennel (*Foeniculum vulgare* Mill.), which are boiled in water and seasoned with olive oil, lemon, salt and pepper (*Piper nigrum* L.) whereupon the plants, and at times their brew, are consumed as a main or side dish or as a main salad.

Apart from '*Khorta*', a variety of MAC plants, which are for the most part cultivated in the research area, are locally consumed fresh as food. Examples of such food-plants refer to: different types of vegetables, including onions (*Allium cepa* L.) and garlic (*Allium sativum* L.); a variety of fruits, such as olives (*Olea europaea* L. *sylvestris* Brot. / *Olea europaea* L. *oleaster* (Hoffmanns. & Link) Negodi), grapes (*Vitis vinifera* L.), lemons (*Citrus medica* L.), oranges (*Citrus sinensis* (L.) Osbeck) or wild strawberries (*Fragaria vesca* L.); a number of legumes, including broad beans (*Vicia faba* L.) and carob pods (*Ceratonia siliqua* L.); different kinds of nuts such as almonds (*Amygdalus communis* L.) and walnuts (*Juglans regia* L.); and several types of seeds, including mustard seeds (*Brassica nigra* (L.) Koch / *Sinapis alba* L.) (6.8). In this way, garlic, for example, has reportedly been applied in Greece during practices of treatment of disease and promotion of health since ancient times. Garlic found ample use as a medical substance among the lower classes of Ancient Greece, whereby it became associated with physical strength, as well as with human working and fighting capacities. The ripe pods of carob, for instance, are known for their nutrient-rich properties and are used in the research area, notably after having been pulverised in carob mills, as a substitute for chocolate and as animal fodder. While onions and wild strawberries are reportedly applied in a way to, for example, induce menstruation, oranges and mustard seeds have found use as means to counteract sterility (*cf*. Blum & Blum 1965; Arnold 1986; Van Bommel 1993; Vokou 1993; Hagoort 1998; Rivlin 2001; Simopoulos 2001; Van den Akker 2002; Fielding *et al*. 2005).

Apart from finding internal uses, MAC plants are furthermore applied externally, whereby they are generally placed on the affected body part. Dried MAC plants or plant parts can be boiled or soaked in liquids, such as water or alcohol, in order to produce a decoction, '*Afepsima*'. As Alibertis (2009: 9) elaborates: '*If we boil a plant or a part of one in alcohol we can speak of a tincture and if we boil it with sugar, of a syrup*'. The liquid obtained from a decoction can be used as an embrocation, in which the liquid is poured and massaged on the affected body part, or as a compress, in which a piece of cloth is soaked in the liquid and subsequently placed on the affected body part, such as the eyes, for example. In the same fashion, dried MAC plants or plant parts, at times wrapped in thin gauze, are placed as a poultice directly on the body. Fresh MAC plants, such as laurel (*Laurus nobilis* L.), for example, are moreover stored in glasses or ceramic jars, which are filled with a binding material, such as almond or olive oil, in order to produce plant extracts. Specific parts of the plant, such as the flowers, are cut with a kitchen machine and inserted in glasses filled with oil, which rest in the sun for several weeks and are shaken regularly whereupon the plants dissolve and ultimately produce a plant-based oil, which is

commonly used as a balm. Furthermore, dried MAC plants are boiled in water until half of the original amount of liquid remains and are used as steam, bath or wash. Finally, dried MAC plants are burned and used as incense, while fresh MAC plants are often used during rituals and as decoration. In particular, MAC plants form an integral element within the annual religious canon and the socio-economic calendar of the local population and are furthermore frequently sung about in traditional folk songs (*cf.* Arnold 1986; Van Beelen 1990; Kain Hart 1992; Van der Hoeven 1992; Van de Kerk 1993; Legel 1998; Molenaar 1999; Van den Akker 2002; Palstra 2003; Dijkstra 2005; De Vries 2007). As Kain Hart (1992: 237) observes: '*Every housewife grows basil for its aromatic and ritual uses: the purificatory connotations of herbs have secured for them a strategic place in Orthodox ritual, and they remain an essential link between the church and the home*. […] *Herbs, like incense, are not foods but substances that mediate (between house and church, sacred and mundane) and cure: they are compatible with fasting*'.

MAC plants are applied to the treatment of a variety of conditions, including headache, the common cold, cough, ailments of the stomach, indigestion, allergy, ailments of the nerves and high blood pressure as well as external wounds and skin infections. While certain plants are used for the treatment of one specific illness, the majority of MAC plants are known for their ability to treat multiple ailments. Particular types of disease, such as the common cold or Hepatitis A, for example, are often treated upon applying a combination of MAC plants rather than one specific plant alone. In addition to having curative features, MAC plants are generally regarded as exerting an overall positive effect on human health, particularly on the health of new-borns and babies. The population of the research area widely acknowledges the application of MAC plants for the purposes of disease prevention and health promotion. Furthermore, MAC plants are held in high esteem for their ability to generate energy and warmth, particularly during the winter months, as well as to enhance pleasant taste and beauty. In this respect, herbal infusions are drunk regularly during the day, notably during the morning and evening hours, as well as periodically during the year, particularly during the winter months. Apart from exerting a positive effect in human health, MAC plants are applied as veterinary medicine during practices of animal husbandry (*cf.* Van Beelen 1990; Kain Hart 1992; Van der Hoeven 1992; Van Bommel 1993; Van de Kerk 1993; Vokou 1993; Molenaar 1999; Bouma 2000; Clark 2002; Van den Akker 2002; Palstra 2003; Dijkstra 2005; De Vries 2007).

Other Traditional Home Remedies and Related Practices

Traditional home remedies refer to a number of mostly processed, and at times MAC plant-based, products, which are generally available in a rural Cretan household and are applied during practices of illness treatment, disease prevention and health promotion. In detail, a considerable number of traditional home remedies are consumed internally in the form of food and beverages, whereby the compounds are either consumed directly or are used as spices, which are added to local dishes. Traditional home remedies encompass various plant-based products, such as olive oil, wine, raki, vinegar and bread, as well as a number of products, including honey, milk, butter, eggs and salt, as they are derived from animals and other materials. In general, olive oil is cherished for its antioxidant properties and its nutritional benefits, whereby the oil is considered to significantly contribute to the promotion of people's health and longevity. Olive oil can be drunk with water every morning in a way to counteract constipation. The beneficial effects of olive oil have, however, not only been related to the overall positive effect the oil has on human health, but have also been linked to the central position the oil holds within the Cretan diet, in which it is associated with a large consumption of raw and cooked vegetables. While wine and raki are similarly consumed mostly cold during meals, the beverages are at times boiled and drunk hot during practices of medical treatment. Furthermore, a glass of wine drunk during meals is believed to counterbalance the heat of the day, while the consumption of boiled wine reportedly serves the purpose of cleaning the reproductive organs. As Damer (1988: 299) indicates: '*Local (draught) wine is regarded as being good for one's general health, for promoting a ripe old age, and healthy body functions*'. Raki is generally perceived to have an

overall beneficial effect on the human body and is consumed particularly when suffering from nausea or the common cold. Boiled with honey and pepper (*Piper nigrum* L.), raki is moreover consumed as so-called '*Rakomelo*', 'raki-honey', in a way to alleviate throat ache or to treat the common cold. In addition to plant-based products, traditional home remedies, such as honey or milk, which have long been esteemed for their medical properties and are a frequent subject in Greek mythology, are derived from materials other than plants. Honey and its by-products, namely the dark propolis and the rather transparent royal jelly, for example, are generally collected during the spring and summer months and are consumed directly, whereas honey is frequently added as sweetener to MAC plant-based infusions. While honey is usually applied during the treatment of disorders related to the throat and airways, as well as against the common cold, propolis and royal jelly are both renowned for their overall antibiotic properties. Furthermore, the honeycombs and bee pollen are eaten for their overall health beneficial effects. Milk is commonly used during the treatment of particular illnesses, such as dyspepsia (*cf.* Allbaugh 1953; Arnold 1986; Trichopoulou & Lagiou 1997; Legel 1998; Rivlin 2001; Bouma 2000; Riley 2002; Dijkstra 2005). Reminiscent of humoural doctrines, internally applied traditional home remedies are at times categorised according to their hot and cold qualities, as well as following their ability to treat illnesses on the basis of the principle of opposition. Illnesses, which are caused by hot or cold weather conditions, are treated on the basis of the principle of opposition. Furthermore, cold food and beverages, for example, have been interpreted as being able to treat hot illnesses, such as fever or vomiting. On the other hand, raki, which is generally regarded as offering 'hot' qualities, is applied during the treatment of 'cold' illnesses, such as nausea. In the same fashion, garlic (*Allium sativum* L.) is known to have 'hot' characteristics and is used for cleansing and purgation, for the treatment of pulmonary conditions and abdominal growths, as well as for the alleviation of constipation (*cf.* Arnold 1986; Van de Kerk 1993; Van Bommel 1993; Molenaar 1999; Rivlin 2001; Palstra 2003; De Vries 2007).

In addition to internally applied medicines, a number of traditional home remedies, such as almond oil and other products, which are primarily consumed as food or beverage, find use in external applications. Raki, for example, can be inhaled or massaged on the neck or chest when suffering from the common cold and can moreover be used to wash infants. In combination with onions (*Allium cepa* L.) and soap, raki is moreover used to treat a spraining. In the same fashion, vinegar is applied externally in a way to reduce fever, whereby a towel is soaked in a liquid made of vinegar and water and subsequently placed on the patient's forehead. Furthermore, olive oil can be rubbed on skin irritations, while yolk can be mixed with salt and placed on painful body parts. Traditional home remedies moreover enclose a variety of products, which are derived from animals or other materials and are commonly applied externally on the affected body part. These remedies include *i.a.* eggs, beeswax, the unwashed wool of a sheep, the wax of a candle, incense and petroleum. Forms of alcohol, such as raki, or oil furthermore find use in the locally rather widespread practice of '*Ventuzes*', which refers to the attachment of cups to affected body parts in a way to remove excess blood or other fluids. Evidence of an early use of '*Ventuzes*' by Hippocratic physicians, notably in a way to treat 'cold' illnesses, suggests that the practice of this type of 'Cupping' is one of the oldest forms of medical treatment in Crete. In general, 'Cupping' is administered by an intermediary, who attaches round cups or glasses to the skin of the patient, most commonly on the back, whereby up to 20 cups may be applied at once. In order to ensure that the cups stick to the skin, a flax or cotton is wrapped around a fork, dipped in a liquid, such as alcohol or oil, and burned inside the glass, which is then attached to the skin, thereby creating a vacuum. On several occasions, the skin of the patient is massaged with raki before the cups are applied, which are left on the body between 20 and 30 minutes. Nevertheless, it is rather standard practice during the application of '*Ventuzes*' to make a small incision into the skin of the patient prior to applying the cups and to hereby allow the cups to extract blood and other fluids from the body. In this way, the cups are left on the skin until they are filled with liquid, whereby the turning of the skin into a dark-red colour has locally been interpreted as an indicator of a serious illness. In the same fashion, difficulty in separating the glasses from the body reportedly suggests

that the illness is rather serious , whereas an easy separation of cups implies that the illness is less severe. In general, cups are believed to be able to extract 'unhealthy' fluids and to move body structures and are applied to a variety of conditions, including a sore throat, earache, swellings, overall pain and infertility. Apart from the application of '*Ventuzes*', traditional forms of medical treatment applied by the population of rural Crete include the cutting of parts of the skin, such as the lips or the head, presumably to treat Hepatitis A, as well as a number of practices, which commonly involve the use of traditional home remedies, and the recitation of prayers (*cf*. Arnold 1986; Van der Hoeven 1992; Hagoort 1998; Bouma 2000; Van den Akker 2002; Christopoulou-Aletra & Papavramidou 2008).

Religious and Spiritual Forms of Medicine

In Crete, religious faith has since antiquity had a rather strong influence on the healing practices of local inhabitants, whereby representatives of the Greek Orthodox Church have played a crucial role in the provision of medical treatment. Overall, having faith not only interferes with the mental state of people in terms of reinforcing willpower and positive thinking, which is particularly viable during episodes of illness, but it also involves a direct belief in the healing power of the Greek Orthodox Church. As Koutis *et al*. (1993: 57) note: '*Most of the* […] *respondents* [*believe*] *that religion could protect their health and that faith was able to cure their diseases*'. In general, a number of practices, which are mostly adopted by women, are perceived to be sources of power capable of alleviating pain, curing disease and restoring as well as promoting health. Incorporated in annual religious canon, such practices include: the invocation of God by means of signing the cross; saying of regular prayers; lighting of candles and burning of incense; offering of the '*Artos*'; fasting; as well as receiving the sacraments of Confession and the Holy Communion. Furthermore, the anointment with the Holy Oil on Holy Wednesday before Easter is said to have a beneficial effect on health and the human body. Overall, prayers either ask for a cure directly or invoke the healing powers of particular Saints, notably a namesake, the patron saint of a particular church or a saint known for having healing skills, in order to effect a cure for oneself or a beloved one. Within the Greek Orthodox Church, Saint Panteleimon, Saint Cyrus, Saint Cosmas and Saint Damianos are venerated as so-called 'Unmercenary Physicians', '*Anargiri*', as they administered medical treatment without accepting payment. In addition to practices, which are incorporated in the annual religious canon, patients or their relatives may moreover go on a pilgrimage or visit holy places, such as Mount Athos, in order to release religious healing powers. The inhabitants of Crete furthermore adhere to forms of religious medicine by means of placing jewellery and other votive offerings next to the icon of particular Saints (*cf*. Illustration 6.3).

Small metal plates, '*Tamata*', which either depict the illness-affected body part, such as a leg or an ear, or show the whole body of an adult or child, frequently adorn the icons in churches. In this way, the small metal plates are reminiscent of offerings, which have been made in Ancient Greece out of clay or stone and similarly resembled body parts (*cf*. Blum & Blum 1970; Vikan 1984; Arnold 1986; Van der Hoeven 1992; Koutis *et al*. 1993; Van Bommel 1993; Van de Kerk 1993; Duffin 1999; Chliaoutakis *et al*. 2002; Van den Akker 2002; De Vries 2007; Papadopoulos 2009). As Kain Hart (1992: 148) describes: '*Cures are sometimes enacted by bringing a token from the icon at church and placing it on the household* [*altar*] *and then returning it along with a new token; or by "tying" the sickness onto the saint*'. In case that the patient recovered, community members frequently continue to attend church on specific name days or to place offerings in the form of bread, flowers or '*Tamata*' next to the icon of the respective saint in order to express gratitude. As Vikan (1984: 67) explains: '[…] [*These*] *simple, anonymous votives acknowledge a successful healing by showing that part of the body which was formerly diseased*'.

Illustration 6.3 Votive Offerings in the Ayios Titos Cathedral in Iraklion. Photograph by J. Aiglsperger (2010).

To a certain extent, forms of religious medicine have come to absorb pagan, namely spiritual, belief systems and practices of medical treatment. Although the doctrines of the Greek Orthodox Church have continued to differentiate between sacred and locally applied, natural and magical, healing practices, a number of religious incantations and rituals have come to involve local belief systems. The phenomenon of the 'evil eye', for example, is locally interpreted as a manifestation of the devil or as God's punishment for sins (*cf.* Greger 1985; Kain Hart 1992; Van der Houven 1992; Koutis 1993; Van den Akker 2002; De Vries 2007; Papadopoulos 2009). As Kain Hart (1992: 111) reports: '*An exorcism is required when "a person has a demon, the evil eye, or magic in him"*'. Hereafter, the Greek Orthodox Church has begun to acknowledge the skills of both men and women in performing rituals aimed at the treatment of the 'evil eye' (*cf.* Greger 1985; Kain Hart 1992) (6.9). As Greger (1985: 66) shows: '[*Rituals*] *of both established religion and more "fringe", possibly more ancient, practices relating to* [*the evil eye*]*, are used to "contain" ordered existence and to protect* […] *from chaotic and dangerous "outside" forces only partly comprehended*'.

The population of Crete adopts forms of spiritual medicine, namely a variety of prayers and practices, which are generally applied outside the scope of the Greek Orthodox Church but to a certain extent overlap with examples of religious medicine. Spiritual forms of medicine are locally known as '*Yities*', 'charms', and '*Ksorkia*', 'incantations'. Apart from overlapping with religious doctrines, spiritual forms of medicine frequently invoke elements within the spheres of astrology, flora and fauna. Combined forms of plant-based and spiritual medicine are occasionally specified as '*Mantzunia*', which is defined as 'Practical Medical Preparation' (*cf.* Mandala 1993). As a symbol of rebirth and renewal, snakes, for example, have been linked to a variety of spiritual and religious practices of healing. The ancient God of medicine and healing, Asclepius, is usually depicted with a rod entangled by a serpent, thereby presenting an image, which is to this day used as a symbol of medicine. Paying tribute to the medical significance of the snake, the inhabitants of Pirgos make use of the so-called '*Liokurno*', namely a small wooden pipe, which symbolises the horn of a snake (*cf.* Illustration 6.4). The '*Liokurno*' serves the purpose of detecting the presence and severity of the 'evil eye', whereby the pipe is placed in water in a way to generate bubbles. Hereafter, a considerable number of bubbles indicate that the patient is severely affected by the 'evil eye'. Overall, a substantial quantity of spiritual prayers and practices, which are adopted by the study population, are directed at the identification and alleviation of malignant spirits, such as the ''evil eye'' (*cf.* Paragraph 7.1.3).

Illustration 6.4 The '*Liokurno*' flanked by two branches of (*Origanum majorana* L. / *Origanum microphyllum* (Bentham) Boiss.)
Photograph by J. Aiglsperger (2011).

6.2.3 The Provision of Traditional Health Care

In rural Crete, traditional medicine in the form of MAC plants and other traditional home remedies as well as religious and spiritual forms of medicine is nowadays principally applied through practices of self-care. To a lesser extent, components of the traditional medical system are administered through the intermediary of local specialists. In contrast to the nowadays rather minor role played by traditional specialists, traditional health care has since ancient times long been provided by a variety of professional practitioners, whose activities have been held in high esteem among the inhabitants of rural Crete. As Clark (2011: 14) argues: '*The historical functions of such healers are deserving of far more scholarly attention than they have received*'. Traditional health care providers held a rather influential position in rural communities, although their practices have been throughout history, and particularly under the Ottoman rule, often subject to prosecution. '*In times of great social distress - wars, revolutions, plague, famine, earthquake - healers outside the medical profession proper seem to have been not only tolerated, but highly valued*' (*ibid*.: 17). More recently, the advancement of modern medicine and the arrival of modern physicians and pharmacists in rural Crete, which accelerated particularly during the second half of the 20th century, have nevertheless created a general desire for assimilation to modern standards and a trend of retirement among traditional specialists. While traditional health care providers co-existed with modern physicians well until 1960s, health care providers, who have been educated in modern medical schools, have since gained considerable importance, particularly in urban areas.

Although the profession of the traditional health care provider is nowadays widely extinct, traditional specialists have at times remained a vital source of medical treatment for many rural Cretans beyond the 20th century. The inhabitants of the research area not only continue to consult a number of traditional health care providers about receiving medical treatment, but also appear to recollect the functionality of a variety of traditional practitioners, including practical doctors, bone-setters, traditional midwives, wise women as well as religious and spiritual healers. As Blum & Blum (1970: 50) highlight: '*If you take someone who has been hit by the exotica to the doctor they will not be cured, but if you take them to a priest they can be cured*'. Apart from offering specific types of medical treatment, the practices of traditional health care providers have long been held in high esteem for their general pleasantness and affordability. The providers have moreover been widely respected for taking time during consultation and for

showing a sense of familiarity, in which they share the language and social status of the patient (*cf*. Blum & Blum 1965; Van de Kerk 1993; Hagoort 1998; Clark 2002; Van den Akker 2002; Dijkstra 2005; Clark 2011).

The practical, empirical doctor, who is locally known as '*Praktikos Iatros*', '*Praktikos*' or '*Embirikos*' and whose profession is nowadays nearly extinct, has long occupied a rather formally established position as traditional specialist at the top of the community hierarchy of health care provision. The '*Praktikos Iatros*' has dealt primarily with the practical aspects of health care and has provided functional treatment, including herbal medicine, bone-setting or surgery, to conditions such as fractures or skin infections. Although the majority of the mostly male and sometimes female practical doctors had received a rather informal medical training, notably outside modern medical schools, these practitioners have continued to incorporate personal knowledge and experience within their medical routines. To a certain extent, practical doctors offered their services in hospitals, which have reportedly been present in Crete since Byzantine times. One of the earliest health care facilities, which offered not only medical treatment but also the teaching of medical doctrines, was established in the city of Gortyn during the Byzantine Era, whereas at least four hospitals have been available in Crete during the Venetian occupation of the island. Practical doctors have largely relied on an informal network of clients and on their professional reputation, whereby they have often played a decisive role in matters of local governance. In view of the long-established economy of gift exchange in rural Crete, it has moreover been standard practice among practical doctors to abstain from charging any fee for their services and to refuse any sort of compensation if the treatment is not successful. Until the 19th century, the profession of the practical doctor has been held in high esteem and remained an integral source of health care particularly for the inhabitants of rural, lowland communities. In urban areas, however, practical doctors soon co-existed with the emerging group of formally trained physicians, whereby traditional specialists and modern practitioners soon began to treat the same illnesses. At the beginning of the 20th century, advances in technology, education and international knowledge exchange effected a change in medical doctrines whereupon the services of traditional specialists gradually became subject to legal constraints. Since doctors hereafter had to obtain a permit for practicing medicine and patients had to sign an agreement prior to receiving any treatment, the profession of the practical doctor eventually made way for the profession of the modern physician physician (*cf*. Blum & Blum 1965; Arnold 1986; Hagoort 1998; Clark 2002; 2011). As Clark (2011: 21) indicates: '*Evidently, however, the austerity of the restrictions and the tensions between the two groups* […] *softened from time to time for the very practical reason of necessity in the wake of disastrous events*'.

In addition to the practical doctor, the profession of the '*Komboyiannitis*', 'bone-setter', which refers to a group of empirical and mostly male doctors, who are able to treat the patient with the sole use of their hands, is nowadays widely extinct. Although various explanations about its origin have been offered, the occupational title is most likely to originate from a combination of the words '*Kombos*', 'root', and '*Yiano*', 'to cure'. The profession is widely associated with male practitioners, who have been active during the time of the Ottoman rule in Crete. Following the itinerant nature of the profession and the more recent appearance of bone-setters, who attempted to make money on the basis of people's ignorance, the '*Komboyiannitis*' has since been viewed rather pejoratively as quack doctor or charlatan, who lacks medical knowledge (*cf*. Blum & Blum 1965; Arnold 1986; Mandala 1993; Vokou *et al*. 1993; Clark 2011).

While the professions of the practical doctor and bone-setter have been primarily practiced by men, women have long followed the occupation of the traditional, untrained midwife known as '*Mami*'. Playing a crucial role in assisting women during periods of pregnancy and delivery, traditional midwives have usually developed an extensive repertoire of knowledge of MAC plants and spiritual forms of medicine. In order to counteract difficulties in conceiving, for example, the midwife may fill a selection of, notably stimulating, MAC plants into a cotton bag,

which is inserted into the womb of the woman and removed again once the plants dissolved. In the same fashion, the midwife may administer pills made out of honey and plants, which function as a type of aphrodisiac, to women, who experience difficulties in conceiving as a consequence of fatigue. The services of traditional midwives may furthermore include: the running of a herbal bath for mother and child immediately after delivery; the washing of mother and child on the fortieth day after delivery with a mixture of 40 MAC plants known as '*Sarantavotano*' or '*Sarantadendhri*'; and the chanting of aphorisms and incantations, which are directed at the treatment of various medical complaints. Although traditional midwives have long formed an integral source of traditional health care, their practices are nowadays absorbed by the profession of the paediatrician, the nurse and the medically trained midwife, known as '*Mea*', who emerged during the 1960s (*cf*. Arnold 1986; Legel 1998).

Similarly practiced exclusively by women, the profession of the wise woman, who is locally referred to as '*Yiayia*', 'grandmother', forms a surviving trace of traditional health care provision in rural Crete. The wise woman is commonly known in the community for her medical skills, which generally involve expertise in mostly plant-based and spiritual medicine. Wise women are usually consulted about the application of MAC plants and other traditional home remedies, as well as about spiritual forms of medicine in order to treat particular illnesses, such as the 'evil eye', for example. The wise woman frequently acts as a mediator between the spirit and the bewitched person, as she tries to transfer the illness from the patient to herself by means of saying specific prayers and applying certain practices. Having acquired the skill of administering a successful cure of the 'evil eye' frequently forms the point of transition upon which female inhabitants are recognised as wise women within the community. Although they are widely respected for their medical expertise within the borders of the community, wise women generally have the same social status as their fellow community members and hereby adhere to similar ways of behaviour and dressing. Highlighted by the occupational title of '*Yiayia*', 'grandmother', wise women are treated as a socially equivalent female relative, neighbour or fellow community member, whereby the relationship between the health care provider and patient is rather personal. Accordingly, wise women are usually consulted at home or at communal gathering points, such as the KAPI (*cf*. Lykiardopoulos 1981; Arnold 1986; Kain Hart 1992; Van den Akker 2002).

Apart from the activities of practical doctors, bone-setters, traditional midwives and wise women, traditional health care has in rural Crete also been provided by a number of religious and spiritual healers, such as monks, priests, magicians and sorcerers. Representatives of the Greek Orthodox Church have followed occupations as health care providers from antiquity to this day whereas monasteries have been used as clinics, which offered treatment for illnesses related to both the body and soul, well until the 19th century. Monasteries furthermore served as repositories, in which classical medical texts have been collected and subsequently made available to clerics and visitors interested in the study of medicine. Monks have frequently functioned as authors of medical manuscripts, in which they incorporate both classical and practical medical knowledge, and have long been renowned for their medical expertise (*cf*. Arnold 1986; Kain Hart 1992; Clark 2011). The inhabitants of Pirgos proudly recall the healing lore of a monk, who, born and raised in the community, resides in the Monastery of Odiyitria in the Asterousia Mountains and offers treatment in the form of MAC plants and other, notably self-made, home remedies as well as religious medicine to visitors in search for medical cures.

The village priest is similarly known and respected for his ability to guide community members through episodes of illness, thereby seeking cure either indirectly through mediation between the patient and God or directly through particular healing practices. On the one hand, the priest acts as a mediator and offers treatment on the basis of the faith of the patient, namely through prayers or incantations, which are directed at God. On the other hand, the priest moreover takes the role of a healer and seeks cure by means of reading the bible, saying prayers, burning incense, sprinkling holy water, administering Communion or applying the Anointing of the Sick. The priest may read from the main liturgical book, '*Efkholoyion*', which, as

Papadopoulos (2009: 115) shows: '[…] *recommends prayers for "every disease", for "the ill and unable to sleep", and "those in the agony of death"*'. In the same fashion, the village priest engages in practices, which advocate the cure of particular illnesses, such as the 'evil eye', notably at critical moments during the liturgy, by means of saying the Lord's Prayer and by crossing the patient's forehead (6.10). Community members moreover consult the priest after the liturgy, particularly upon receiving the Holy Communion as well as during the celebration of particular feasts within the religious year, such as Easter, Christmas or the Dormition of the Mother of God. The village church herewith is the only official institution available in the research area, which offers traditional health care. In general, the practices of the priest serve the treatment of a variety of conditions, including psychological disorders, as well as life-threatening episodes of illness, whereby the priest may visit the patient at home. Although the profession of the village priest, who acts as a provider of traditional health care, has recently been in decline, representatives of the Greek Orthodox Church continue to offer advice on medical matters. Consequently, religious health care providers are not only renowned for their medical expertise but also for their contribution to the application of religious principles, the maintenance of moral order and the strengthening of community relations. In contrast to religious healers, the profession of spiritual healers, such as magicians and sorcerers, who both administer medical treatment in the form of magical words and rituals, has to a certain extent evoked feelings of fear among the population. In contemporary Crete, the occupation of the spiritual healer has moreover disappeared almost entirely (*cf.* Blum & Blum 1965; Van der Hoeven 1992; Van de Kerk 1993).

In the research area, traditional medicine is primarily sought through practices of self-care as well as through the intermediary of a number of lay and professional specialists. The profession of the traditional health care provider, which is faced with extinction, is to this day not only practiced by a number of wise women and religious healers, but has also survived within the recollection of the local inhabitants. On the whole, a substantial number of community members share considerable knowledge of the activities of different traditional health care providers, thereby suggesting that the profession has in rural Crete been practiced until recently (*cf.* Legel 1998). Following the administration of traditional medicine across the research area, the inhabitants of Pirgos and Praitoria perceive the accessibility of institutions of the traditional medical system, namely its geographical approachability, to be rather easy (*cf.* Table 6.6). In view of the different providers of traditional health care active in the research area, institutions, which are linked to the traditional medical system, include private homes, communal gathering points, such as the KAPI and religious institutions.

Table 6.6 Distribution of the Accessibility of Institutions of the Traditional Medical System perceived by the Household Members of the Sample over the Two Research Communities (N=656).

Accessibility	Pirgos		Praitoria		Total	
	N	%	N	%	N	%
very difficult accessibility	5	1.0	2	1.2	7	1.1
difficult accessibility	3	0.6	5	3.1	8	1.2
average accessibility	4	0.8	0	0.0	4	0.6
easy accessibility	346	69.9	105	65.2	451	68.8
very easy accessibility	89	18.0	12	7.5	101	15.4
no institutions mentioned	48	9.7	37	23.0	85	13.0
Total	495	100.0	161	100.0	656	100.0

The vast majority of inhabitants in both research communities perceive the accessibility of institutions of the traditional medical system as easy (68.8%, n=451) or very easy (15.4%, n=101). Hereafter, 13.0% (n=85) of community members concluded that there are no institutions of the traditional medical system. While certain components of the traditional medical system,

such as MAC plants and other traditional home remedies, are generally available outside institutions, treatment in the form of religious or spiritual medicine, for example, may involve a visit to a traditional health care provider. In this respect, a number of, particularly older, inhabitants may encounter difficulties in undertaking visits to neighbouring houses or other institutions. The distribution of the perceived accessibility of institutions of the traditional medical system may moreover reflect the recent disappearance of the profession of the traditional health care provider in the research area. Components of the traditional medical system, such as MAC plants, are nowadays occasionally administered by modern and transitional health care providers. The modern physician may at times recommend the use of traditional medicine, notably on the basis of self-care, instead of or in addition to administering modern health care. Likewise, MAC plants can be bought at weekly markets, pharmacies, small grocers and supermarkets as well as at shops, which are specialised in the sale of MAC plants and other traditional home remedies (*cf.* Al-Windi *et al.* 2000; De Vries 2007) (*cf.* Illustration 6.5). In this way, the traditional medical system overlaps with the modern and the transitional medical system.

Illustration 6.5 Sale of MAC Plants at the weekly market in Iraklion.
Photograph by J. Aiglsperger (2012).

6.3 The Transitional Medical System

6.3.1 The Extension of the Transitional Medical System

Following the early discoveries of antibiotics at the beginning of the 20th century and the subsequent introduction of commercial pharmaceutical medicines in Greece, the majority of, particularly rural, population groups initially remained profoundly suspicious of the new medicines. To some extent, pharmaceuticals have been interpreted as foreign substances, which pollute the human body (*cf.* Blum & Blum 1965). As Blum & Blum (1965: 107) argue: '*One*

important factor in the refusal of prescribed medicines was the distrust of strange or 'foreign' substances. This distrust contrasts with the trust in natural and home-grown foods and drinks and in the recommendations made by trusted persons such as family or local folk healers'. Eventually, the establishment of the Greek National Health Care System in 1983, however, saw a rise in the national health expenditure on commercial pharmaceutical medicines. Concurrently, insurance coverage is extended, notably for agricultural employees, to include the use of medicines whereupon the consumption of pharmaceuticals in Greece increased significantly and has since become one of the highest in Europe. The rates of antibiotic prescription have been comparatively high, whereas the law in Greece allows clients to purchase antibiotics without prescription (*cf*. Skliros *et al*. 2010). Furthermore, a considerable number of medicines have been granted a status of over the counter-availability. Apart from experiencing an increase in the availability and accessibility of commercial pharmaceutical medicines, the Greek population has, however, had to cope with a variety of negative consequences, such as increased antibiotic resistance and adverse reactions to medicines, which have been largely caused by patterns of inappropriate self-medication and multiple medicine use. Adverse reactions to medicines, which have been provoked by the simultaneous intake of more than one medicine, have been identified as a frequent cause for admission to tertiary health care facilities in Greece. In addition to the health-related complications provoked by the wider availability of medicines, Greece has widely lacked a framework of regulation within the sector of commercial medicines, which has emerged as a lucrative market for pharmaceutical companies, thereby provoking an increase in the costs of medicines. In view of the current financial situation in Greece, economic adjustment programmes have stipulated a reduction in the expenses on pharmaceutical medicines, whereupon the price of certain generic medicines has been lowered considerably (*cf*. Hanepen 1997; Tzimis *et al*. 1997; Mossialos *et al*. 2005; Antonakis *et al*. 2006; Alexopoulou *et al*. 2007; Skliros *et al*. 2010; Kentikelenis & Papanicolas 2011; Kontarakis *et al*. 2011; Tsiligianni *et al*. 2012).

In Crete, the population has similarly been exposed to the ready availability of commercial pharmaceutical medicines and has to a certain extent developed patterns of improper use. The use of Over-the-Counter (OTC) medicines, for example, has frequently been accompanied by practices, which may have an adverse effect on human health, such as: the improper storage of medicines, which are not only accumulated during concurrent episodes of illnesses, but are also gathered in anticipation of future episodes of illness; the utilisation of medicines, which have remained from previous prescriptions; the application of medicines to conditions, which lay outside the medicines' primary area of treatment; the exchange of medicines between family members, neighbours and friends; the application of medicines, which have been issued to someone else, to conditions with similar symptoms; the intake of medicines with alcohol, coffee or tobacco; and discontinuity in the use of medicines, particularly once the symptoms have disappeared. In this way, the improper use of commercial pharmaceutical medicines is interpreted as a waste of financial resources. In addition to following patterns of improper usage, local inhabitants have occasionally shared the rather conflicting belief that non-prescribed medicines are safe because of their easy availability over the counter (*cf*. Van Bommel 1993; Van de Kerk 1993; Tzimis *et al*. 1996; Hanepen 1997; Antonakis *et al*. 2006; Skliros *et al*. 2010; Tsiligianni *et al*. 2012).

In line with the rather ambivalent nature of commercial pharmaceutical medicines, the inhabitants of the research area appear to have a primarily mixed opinion on the transitional medical system (*cf*. Table 6.7). The vast majority of community members in Pirgos (84.8%, n=420) and Praitoria (90.1%, n=145) entertain a rather mixed opinion on the transitional medical system. Concurrently, 12.2% (n=80) of inhabitants have a positive opinion on the transitional medical system, while only 1.2% (n=8) of respondents entertain a negative opinion on the transitional medical system.

Table 6.7 Distribution of the Opinion of the Household Members of the Sample on the Transitional Medical System over the Two Research Communities (N=656).

Opinion	Pirgos		Praitoria		Total	
	N	%	N	%	N	%
negative opinion	6	1.2	2	1.2	8	1.2
between negative and positive opinion	420	84.8	145	90.1	565	86.1
positive opinion	66	13.3	14	8.7	80	12.2
no opinion	3	0.6	0	0.0	3	0.5
Total	495	100.0	161	100.0	656	100.0

On the one hand, the study population enjoys a ready and largely unregulated availability of commercial pharmaceutical medicines, which is supported by favourable reimbursement policies. The application of pharmaceutical medicines is largely perceived to be effective whereupon the inhabitants of rural Crete to a certain extent follow a passion for the newest kind of medicines. Nevertheless, the effectiveness of medicines has at times wrongly been linked to their price, whereby local inhabitants have reportedly perceived the medicine to be more effective the more expensive it is. On the other hand, the respondents, however, widely regard forms of commercial medicines as unpleasant and voice concern about the side effects the use of certain pharmaceuticals can have. In this respect, a previous study conducted in Greece has shown that respondents generally report a high degree of satisfaction with the transitional medical system although a percentage of, particularly chronically ill, clients have been dissatisfied with the medicine costs. Furthermore, research conducted in Crete has demonstrated that women may refuse to use contraceptives because of feelings of shame, fear of unknown substances or religious doctrines (*cf*. Arnold 1986; Van Bommel 1993; Van de Kerk 1993; Clark 2002; Geitona *et al*. 2008). In addition to expressing a rather mixed opinion, the sample population, however, has a fairly extensive knowledge of the transitional medical system (*cf*. Table 6.8).

Table 6.8 Distribution of the Knowledge of the Transitional Medical System of the Household Members of the Sample over the Two Research Communities (N=656).

Knowledge	Pirgos		Pretoria		Total	
	N	%	N	%	N	%
little knowledge	8	1.6	18	11.2	26	4.0
average knowledge	184	37.2	60	37.3	244	37.2
much knowledge	303	61.2	83	51.6	386	58.8
Total	495	100.0	161	100.0	656	100.0

Overall, a slight majority of community members in Pirgos (61.2%, n=303) and Praitoria (51.6%, n=83) demonstrate much knowledge of the transitional medical system and its components. In other words, a substantial number of inhabitants of the research area recognize different forms of commercial pharmaceutical medicines. Hereafter, a minor 4.0% (n=26) of respondents reportedly have little knowledge of the transitional medical system.

6.3.2 Local Examples of Commercial Pharmaceutical Medicines

In the research communities, the components of the transitional medical system refer primarily to forms of commercially available, *i.e.* prescribed and non-prescribed medicines. Prescribed medicines are generally issued by a medical doctor, who writes the prescription in a personal patient booklet, which the client then presents to the transitional health care provider in order to receive the medicines. Prescribed medicines can be obtained from a hospital or a pharmacy in

exchange for a fee, which is set at 25% of the price by the social insurance funds and is paid by the client. Exceptions to the 25% fee relate to the severity, namely the chronicity of diseases, as well as to the socio-economic status, namely the indigence, of the client, whereby medicines can be obtained for free or in exchange for a lower fee of 10% of the price. On several occasions, prescriptions are filled by an intermediary third person (*cf*. Hanepen 1997). Non-prescribed medicines are usually sold by the personnel employed at pharmacies as well as by retailers, who sell OTC medicines at weekly markets, small grocers, supermarkets, tobacconists or stores specialised in the sale of MAC plants. Furthermore, non-prescribed medicines include types of medicines, which have are stored at home in a way to make them available for future medical disorders. As Tsiligianni *et al*. (2012: 7) elaborate: '*Even when* [*medicines*] *were obtained on a past prescription they were considered to be "OTC" because the intention was to use them in the future without medical advice to treat similar symptoms* […]'. In the same fashion, non-prescribed medicines also encompasses medicines, which are obtained from lay people and non-professional health care providers, such as family members, friends or other community members, and may originally have been issued on prescription. In the research area, non-prescribed medicines are frequently specified as 'Depon', notably a reference to the brand name of an acetaminophen, which is immensely popular in Greece. In addition to Depon, the inhabitants of Pirgos and Praitoria reportedly buy a number of medicines, including Aspirin, over the counter. Aspirin is not only used internally as a treatment against the common cold, headache and general malaise, but is also applied externally to the skin. Apart from conventional OTC medicines, such as Depon or Aspirin, the sale of non-prescribed medicines also encloses a number of MAC plants, which are most commonly sold in their dried form as packaged goods. The availability of MAC plants on sale indicates that the transitional medical system to some extent overlaps with the traditional medical system available in the research area (*cf*. Arnold 1986; Van Beelen 1990; Tzimis & Kafatos 1999; Geitona *et al*. 2008; Tsiligianni *et al*. 2012).

6.3.3 The Provision of Commercial Pharmaceutical Health Care

To a certain extent, forms of commercial pharmaceutical medicines available in rural Crete are administered on the basis of self-care. The application of non-prescribed medicines, which are purchased over the counter, have been stored at home or have been obtained from fellow community members, involves both practices of self-treatment as well as the intermediary of lay people. Nevertheless, the components of the transitional medical system are primarily distributed through a network of providers, which encompasses the activities of pharmacy employees, shopkeepers, salesmen and retailers. The staff employed at local pharmacies, which commonly include the pharmacist as well as one or more pharmacy assistants, are the chief distributors of pharmaceutical medicines in the two research communities (*cf*. Illustration 6.6). In the research area, it is standard practice among inhabitants to fill any prescription issued by the medical doctor at the community pharmacy and to obtain the prescribed medicines primarily from the local pharmacist. In addition to forming the primary point of distribution of commercial pharmaceutical medicines, pharmacy employees have also come to play a decisive role in the administration of medical treatment. Local pharmacists not only provide the client with information and advice on the use of certain pharmaceuticals, but also offer medical consultation and even adopt minor medical procedures, such as measuring blood pressure or taking the pulse. Previous studies have shown that clients may at times feel less ashamed and find it more comfortable to confide medical complaints to the community pharmacist. Pharmacists usually maintain a rather close relationship with the physicians practicing in the community, which is not at least stimulated by the fact that pharmacists and medical doctors employed widely serve the same clientele (6.11). In this way, the close relationship between pharmacists and medical doctors, as well as the substantial role played by pharmacy employees in the distribution of prescribed medicines indicates that the transitional medical system to a certain extent overlaps with the modern medical system.

Illustration 6.6 The Pharmacy at the western edge of the Market Street in Pirgos. Photograph by J. Aiglsperger (2011).

In addition to having close ties with the community physicians, pharmacists moreover entertain a rather formal relationship with the representatives of pharmaceutical companies, who visit pharmacies at a regular basis in order to set the price of the medicines provided. The significant role played by the staff employed at local pharmacies in the context of health care provision is furthermore reflected in the widespread availability of pharmacies in Greece at large. The ratio of Greek pharmacists, as they are organised under the Panhellenic Pharmaceutical Association, '*Panellinios Farmakeftikos Silloghos (PFS)*', is one of the highest among the countries of the European Union. In the research area, two pharmacies are available in Pirgos, both of which are situated in the centre of the village at the eastern and western end of the market street respectively (*cf*. Map 5.2). While no pharmacies are available in Praitoria, the inhabitants of the community commonly visit the pharmacies established in surrounding villages, such as Pirgos, Asimi or Kharakas (*cf*. Arnold 1986; Tzimis *et al*. 1996; Hanepen 1997; Davaki & Mossialos 2005; Mossialos *et al*. 2005; Antonakis *et al*. 2006; Lionis & Philalithis 2008).

Apart from pharmacy employees, transitional health care in the form of commercial pharmaceutical medicines is moreover administered by a number of retailers. In the research area, conventional OTC medicines, such as Depon or Aspirin, are offered in Pirgos at various local supermarkets and tobacconists. Forms of CAM, including MAC plants, which are available on sale, are similarly offered at weekly markets and are provided by several small grocers and supermarkets in Pirgos as well as by both pharmacies in the village.

Specific types of CAM are moreover obtained from stores, which are specialised in the sale of particular commercial medicines and are generally available in urban areas. MAC plants, for example, can be purchased at several specially designed shops in Iraklion, which sell a substantial number of plants, most commonly in their dried form, and may additionally offer products derived from plants, such as beverages, food, dietary supplements, essential oils and cosmetics (*cf*. Illustration 6.7).

Illustration 6.7 A shop specialised in the sale of MAC Plants in Iraklion.
Photograph by J. Aiglsperger (2010).

The inhabitants of the two research communities moreover recall the availability of a local herbalist shop, which is located in the village of Kuses, southwest of the city of Mires, and offers a variety of dried MAC plants as well as beverages, food products and cosmetics (*cf*. Van de Kerk 1993; Dijkstra 2005).

In view of the different types of transitional health care providers and institutions, which are available in the wider research area, the inhabitants of Pirgos and Praitoria perceive the accessibility, namely the geographical approachability, of institutions of the transitional medical systems as rather easy (*cf.* Table 6.9). On the whole, the majority of community members in both Pirgos and Praitoria perceive the accessibility of institutions of the transitional medical system as easy (77.3%, n=507) or very easy (16.6%, n=109). Although commercial pharmaceutical medicines are readily available in both pharmacies and various shops in Pirgos, local inhabitants may occasionally encounter difficulties in reaching the institutions, particularly when on foot or when coming from Praitoria. All shops, which are locally known for their specialisation in the sale of MAC plants, are found in urban areas or in villages situated at a considerable distance from the two research communities.

Table 6.9 Distribution of the Accessibility of Institutions of the Transitional Medical System perceived by the Household Members of the Sample over the Two Research Communities (N=656).

Accessibility	Pirgos		Praitoria		Total	
	N	%	N	%	N	%
very difficult accessibility	2	0.4	0	0.0	2	0.7
difficult accessibility	11	2.2	4	2.5	15	2.3
average accessibility	8	1.6	15	9.3	23	3.5
easy accessibility	386	78.0	121	75.2	507	77.3
very easy accessibility	88	17.8	21	13.0	109	16.6
no institutions mentioned	0	0.0	0	0.0	0	0.0
Total	495	100.0	161	100.0	656	100.0

6.4 The Modern Medical System

6.4.1 The Greek National Health Care System

Although the advance of modern medicine has to some extent varied across communities, the development of the modern medical system operating in rural Crete clearly overlaps with the emergence of modern medicine in Greece at large. In general, the first schools of higher medical education, such as the first Greek medical college, which was founded in Corfu in 1802, have been established during the 17th century. In addition to the creation of medical institutions, the return of medical students, who had received education elsewhere in Europe, to Greece around the same time laid the groundwork for the formation of a group of scholars, who have been educated in modern medicine. Initially, the services, which have been provided by the newly trained scholars, have been restricted to urban areas, whereby the first health centres have been established in the major cities of Crete in 1947, notably in order to meet requirements of immunisation against the spread of cholera. During the 19th and 20th century, modern health care has moreover been provided by occupational funds, which served a small proportion of inhabitants and favoured certain population groups, such as military officers and civil servants. In a first attempt to counteract the inequalities in the provision of modern health care, the Ministry of Hygiene and Welfare was established in Greece in 1922. In the same fashion, the first social insurance fund, namely the Social Insurance Organisation, '*Idrima Kinonikon Asfaliseon (IKA)*', which aimed at the coverage of employees in the private sector, was founded in 1932. Hereafter, additional funds, which covered certain professional groups, have been created during the 1940s. Socio-political events, such as the Second World War and the Greek Civil War, which occurred during the first half of the 20th century, however, not only aggravated socio-economic disparities, but also created a process of political polarisation among the Greek society. In view of the continuing disagreement between the centre-right and socialist party, attempts to reform the national health care system remained rather fruitless, while newly emerging client relations between the state and certain population groups led to an unequal distribution of privileges and funds, including social insurance payments (*cf.* Allbaugh 1953; Clark 2002; Davaki & Mossialos 2005; Mossialos & Allin 2005; Economou 2010; Clark 2011).

Although the first rural health posts have been established in Greece during the 1950s, the provision of modern health care remained largely ineffective due to shortages in personnel and supplies (*cf.* Davaki & Mossialos 2005). As Allbaugh (1953: 161) notes: '*Local health committees usually existed only on paper, and there were no local expenditures for health* […]. *Even the private village physicians were few and ill equipped, while the midwives were untrained*'. In a way to make use of modern health care providers and facilities, the rural population had to face high expenses and long travel distances as well as forms of social discrimination and anxiety, as visits to urban areas commonly evoked feelings of fear and disorientation (*cf.* Blum & Blum 1965). In 1961, the Agricultural Insurance Organisation,

'*Orghanismos Yeoryikon Asfalieson (OGA)*', which offered basic care and a pension scheme to the rural population, was created in an attempt to reduce regional inequalities in the provision of modern health care. Likewise, the Greek National Health Care System, '*Ethniko Sistima Iyias (ESI)*', was founded in 1983 as part of a national social reform, which aimed at the improvement of primary health care delivery across the country. In general, the ESI addresses the principles of equity, equal access and social cohesion as well as cost-effectiveness and efficiency in health care delivery. The reform saw the establishment of a universal health care system, which is free at the point of use and rooted in the principles of equity and efficiency, while offering greater access to the public hospital sector. Primary health care and hospital services were to be covered by a number of social insurance funds, while the delivery of primary health care services in rural areas fell under the authority of the Ministry of Health. Concurrently, modern health care delivery was to be supervised by Regional Health Councils among ten health regions in a way to prioritise the development of health infrastructure in rural areas and to reduce inequalities. Since priority has been given to the improvement and advancement of modern health care provision in rural areas, a system of referral has been created, which is based on the collaboration between the employees of urban hospitals as well as rural health centres and health posts (*cf*. Van de Kerk 1993; Bouma 2000; Davaki & Mossialos 2005; Mossialos & Allin 2005; Mossialos *et al*. 2005; Lionis *et al*. 2009; Oikonomou & Mariolis 2010). As Mossialos & Allin (2005: 424) indicate: '*In addition, a system of referral based on family doctors and a network of rural and semi-urban health clinics was meant to represent a first step towards organising a comprehensive system of primary care*'.

Nevertheless, the health care reform of 1983 has only partially been implemented, as it has largely been hindered by a lack of political will and consensus as well as by a number of factors, which aimed at meeting individual rather than universal needs, such as: a limited availability of funds; the slow training and shortage of general practitioners (6.12); the excess of medical doctors, who are specialised otherwise and whose practices are not subject to any regulation controlling the quality of their services; the serious shortage of qualified nurses; the lack of continuous medical education; the growing number of private, unregulated services; the tendency of medical doctors to accept bribes and gifts, upon which the allocation of funds in the public health care sector is influenced by political power relations; the fragmentation and unequal coverage of social insurance funds; the absence of a needs assessment mechanism; the absence of a national vaccination schedule; the concentration of high technology in the private sector coupled with strict regulations on the purchase of equipment in the public sector; the general shortage of technical capacities and expertise; the lack of management and planning; the overwhelming and weak bureaucratic administration; practices of tax evasion and informal payments; a heavy reliance on external inputs; and a poor national economy. Furthermore, the national health care system has lacked a well-functioning system of information transfer, which leads to a loss of continuity, incomplete medical records and a repetition of tests and prescriptions, while prohibiting an assessment of the quality of care and services provided. Furthermore, regional differences in modern health care delivery have continued to exist, whereby access to services as well as medical personnel and supplies have remained limited in rural areas leaving local health care facilities largely understaffed and malfunctioning. Owing to these differences, medical performance is reportedly better at urban hospitals than at rural health centres , whereas the efficiency of health centres is highest in centres located in the vicinity of hospitals. As a result, a fully operating system of referral has never been implemented whereupon the delivery of primary health care in Greece has remained largely unorganised (*cf*. Lionis *et al*. 1996; Mossialos 1997; Lionis *et al*. 1998a; Rovithis *et al*. 2001; Liangas & Lionis 2004; Lionis *et al*. 2004; Davaki & Mossialos 2005; Mossialos & Allin 2005; Mossialos *et al*. 2005; Constantinides & Barrett 2006; Xilomenos *et al*. 2006; Oikonomidou *et al*. 2010; Oikonomou & Mariolis 2010; Kentikelenis & Papanicolas 2011; Oikonomou & Tountas 2011a; 2011b; Sbarouni *et al*. 2012). As Kentikelenis & Papanicolas (2011: 4) argue: '*The combination of an absence of a functioning referral system and irrational pricing and reimbursement*

*mechanisms leads to poor coordination of care, large out-of-pocket payments and a sizeable black economy, impeding the system's ability to deliver equitable financing and access to service*s'. Resources have long been allocated on the basis of historical precedent and political negotiation rather than demand whereupon the provision of modern health care has been characterised by the unequal distribution of funds and services, which favour high-income, urban population groups (*cf*. Davaki & Mossialos 2005; Mossialos & Allin 2005; Mossialos *et al*. 2005).

During the decade after the health care reform, the focus of modern health care delivery shifted from primary health care to an expansion of the hospital sector. Subsequently, a second health care reform adopted between 2000 and 2002 aimed at improving the quality of modern health care delivery in rural areas. Communal units have been organised under a so-called 'Regional Health and Welfare Authority', '*Periferiako Sistima Iyias ke Pronias (PESIP)*', while 17 Regional Health Systems, '*Periferiaka Sistima Iyias (PESI)*' have been established in Greece, thereby shifting certain responsibilities of health care management from the centralised ESI onto the regional level. In 2006, the Regional Health and Welfare Authority was renamed the 'Health Region Administration', '*Diikisi Iyionomikis Periferias (DIPE)*', and was reorganised into seven regional units. Hereafter, Crete has been categorised as the seventh Health Region, '*Iyionomiki Periferia (IPE)*', which is responsible for the distribution of modern health care via a network of hospitals, health centres and health posts. Nevertheless, any implementation of national health care reforms has continued to be hindered by factors, which are tailored to meet individual needs, such as the interference of interest groups, whereupon attempts to improve the health care system and to integrate services by means of introducing regional health and welfare systems have been quickly abandoned (*cf*. Lionis *et al*. 2004; Mossialos & Allin 2005; Mossialos *et al*. 2005; Lionis *et al*. 2009; Economou 2010; Notara *et al*. 2010; Oikonomidou *et al*. 2010). As Lionis *et al*. (2009: 8) conclude: '*Thus, the* [*Primary Health Care*] *policy initiative in the region of Crete was short-lived, without any imitators*'. Furthermore, the fragmentation of the Greek National Health Care System has recently been exacerbated by the financial crisis, which saw austerity measures, financial regulations and economic adjustments (*cf*. Souliotis & Lionis 2004; Davaki & Mossialos 2005; Mossialos *et al*. 2005; Kentikelenis & Papanicolas 2011; Dervenis *et al*. 2013). While Greece spent approximately 10% of its gross domestic product on health care in 2006, health care expenses have been reduced to 9.3% of the gross domestic product in 2014. In this way, Greece went from being among the countries within the Organisation for Economic Co-operation and Development (OECD) with the highest spending on health care to being a country with an average quantity of expenses (*cf*. Geitona *et al*. 2007; OECD 2014). As Panagiotakos *et al*. (2008: 154) moreover notice: '*It has also been suggested that the ageing population and continuous immigration will put increasing pressure on healthcare resources in the near future*'.

In this way, current attempts to improve the system of health care delivery in Greece are largely the result of economic adjustments and aim at the achievement of greater efficiency as well as lower expenditures in the health care sector. Recent measures, which have been adopted within the ESI, include: the full-time operation of hospitals; the charging of fees following outpatient treatment during the afternoon shift; the co-payment of five Euro for all outpatient services; the collection of monthly-updated reliable data on hospital activities and expenditures; and the centralisation of the purchase of medical supplies. Furthermore, the Ministry of Health re-established the so-called 'Health Procurement Committee', '*Epitropi Promithion Iyias (EPI)*', which exerts strict control over tender procedures and procurements, thereby reducing costs and improving the exchange and management of products. Financial contributions, which have been made to certain health care sectors, such as mental health, or to services including the prevention and therapy of substance abuse, have decreased rapidly as a result of austerity measures (*cf*. Kentikelenis & Papanicolas 2011; Petmesidou 2012; Dervenis *et al*. 2013; Polyzos *et al*. 2013).

In order to further enhance efficiency and to reduce costs within the national health care system, the four largest public social insurance funds available in Greece, where social insurance

is complementary, have been merged into the National Organisation for the Provision of Health Care Services, '*Ethnikos Orghanismos Parohis Ipiresion Iyias (EOPII)*' in 2010 in an attempt to establish a unified and proportionate system of social insurance. Although around 30 different social insurance funds, which covered approximately 97% of the population, have been available in Greece, 95% of inhabitants have been covered by the four largest public insurance companies, namely by: IKA; OGA; the Social Insurance Organisation for the Self-Employed Professionals, '*Orghanismos Asfalisis Eleftheron Epangelmation (OAEE)*', which covers primarily professionals, small businesses and merchants; and the Civil Servants Health Insurance Fund, '*Orghanismos Perithalpsis Asfalismenon tu Dimosiu (OPAD)*', which covers civil servants. IKA forms the largest of the social insurance funds and covers approximately 50% of the Greek population, notably employees in the private sector. OGA provides the second largest social insurance fund and covers around 20% of the population, particularly employees of the agricultural sector (*cf*. Hanepen 1997; Souliotis & Lionis 2004; Mossialos *et al*. 2005; Lionis & Philalithis 2008; Lionis *et al*. 2009; Economou 2010). In the research area, only a minor percentage of inhabitants (1.7%, n=5) have no social insurance, whereas the vast majority of community members are covered by OGA (*cf*. Table 6.10).

Table 6.10 Distribution of the Social Insurance Coverage of the Household Members of the Sample over the Two Research Communities (N=656).

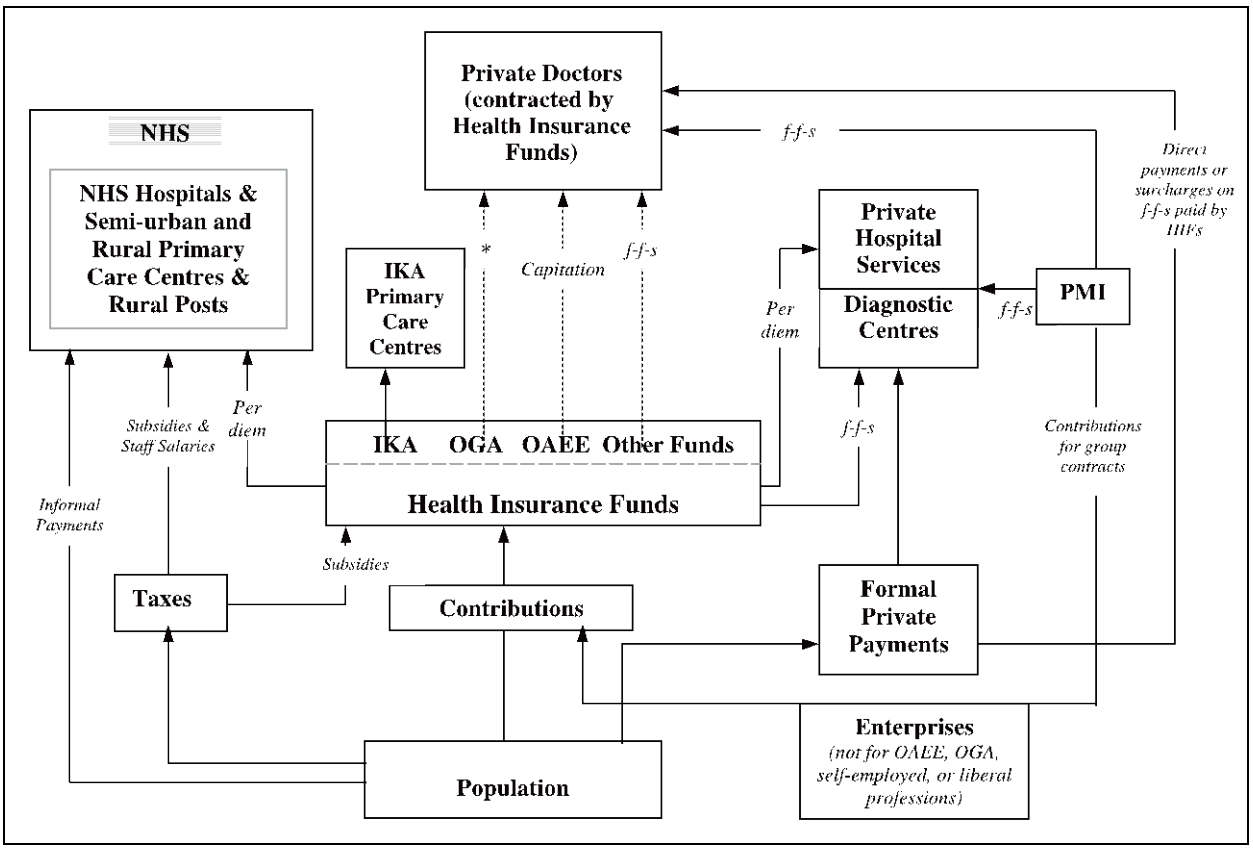
Insurance	Pirgos		Praitoria		Total	
	N	%	N	%	N	%
IKA	52	10.5	12	7.5	64	9.8
OGA	358	72.3	123	76.4	481	73.3
OPAD	75	15.2	10	6.2	85	13.0
OAEE	2	0.4	0	0.0	2	0.3
other	2	0.4	6	3.7	8	1.2
no insurance	6	1.2	10	6.2	16	2.4
Total	495	100.0	161	100.0	656	100.0

In view of the extension of agricultural activity in the research area, 73.3% (n=481) of inhabitants in both communities are insured with OGA. Hereafter, 13.0% (n=85) of community members are covered by OPAD, whereby the percentage of OPAD-insurants is slightly higher among the inhabitants of Pirgos. Furthermore, 9.8% (n=64) of respondents are insured with IKA. While contributions to IKA, OAEE and OPAD have been equalised during the reorganisation of insurance funds, contributions to OGA have largely remained unchanged. Apart from public insurance funds, around 8% of the Greek population are moreover covered by private social insurance, which is usually targeted at young inhabitants. Citizens, who have no insurance or who are illegal immigrants, are offered access to primary health care under the ESI (*cf*. Hanepen 1997; Davaki & Mossialos 2005; Mossialos *et al*. 2005; Lionis & Philalithis 2008; Lionis *et al*. 2009; Economou 2010; Notara *et al*. 2010; Petmesidou 2012; Polyzos *et al*. 2013).

Nevertheless, out-of-pocket expenditures, which are made in the form of direct, informal payments to both public and private health care providers, notably in the sectors of primary and dental care, have always played a vital role in the delivery of modern health care in Greece (*cf*. Mossialos *et al*. 2005; Geitona *et al*. 2007; Notara *et al*. 2010; Oikonomou & Mariolis 2010; Kentikelenis & Papanicolas 2011; Petmesidou 2012; Polyzos *et al*. 2013). As Mossialos *et al*. (2005: 154) highlight: '*Out-of-pocket payments, mostly in the form of direct and informal payments, are the highest in the European Union (EU)*'. The provision of modern health care by practitioners employed under the ESI has not been subject to any form of state regulation, thereby rendering it difficult to adjust the cost of services to the quality of care provided. As a result, modern health care providers employed under the ESI frequently demand extra fees for their work or offer their services illegally at private clinics for further compensation, while patients regularly make out-of-pocket payments to private practitioners. Hereafter, Geitona *et al*.

(2007: 144) elaborate that: '[*possible*] *reasons for the high private spending are the fragmentation in the provision of primary healthcare, the lack of comprehensiveness in the social insurance coverage, limited access to healthcare provision, regional inequalities in resource allocation, and undersupply of technological equipment in the public sector*'. Likewise, it is rather common among patients to consult a specialist without the referral from a primary health care physician or to visit a private health care provider in addition to a contracted practitioner. In particular, a recent study indicated that a mere 20% of the rural population in Greece contact the ESI in a way to receive primary health care , whereas the majority of patients choose to use private and urban primary health care services (*cf*. Lionis *et al*. 2005; Oikonomidou & Tountas 2011b). The underlying reasons of such behaviour relate to, *i.a.* the wish to get a second opinion, a general dissatisfaction with the public health care system and a lack of financial resources available under the ESI and among social insurance funds. As Geitona *et al*. (2007: 149) theorise: '*Moreover, it is worth noting that healthcare provision in the country is structured and financed in a way that forces patients to use both public and private services concurrently* […]'. Patients, particularly insurants of IKA and OGA, are generally presented with limited possibilities regarding the choice of treatment in the public health care sector. In view of a shortage of public funds, the private sector has recently made substantial investments in outpatient care whereupon numerous private diagnostic centres have been established in Greece (*cf*. Souliotis & Lionis 2004; Mossialos *et al*. 2005; Geitona *et al*. 2008; Oikonomou & Mariolis 2010). According to Mossialos *et al*. (2005: 162): '*Although there is limited evidence on how informal payments affect access and utilisation of health services, it is clear that patients who cannot afford to pay cannot access the same level of services or have to wait longer for care*'. In general, voluntary payment for modern health care services is a widespread phenomenon in Greece, whereby the country has come to establish one of the most privatised health care systems among the countries of the European Union (*cf*. Lionis *et al*. 2009). Following the current financial situation, private services have not only become increasingly difficult to afford, but adjustment programmes have also given priority to the overall reduction of out-of-pocket expenditures, notably by means of introducing state regulations. Davaki & Mossialos (2005: 150), however, state: '*Paying the doctor directly is an embedded cultural practice in Greece, and the transfer of money to a third party may be seen as an unnecessary erosion of the patient-doctor relationship and as reducing the assurance of quality of care*'.

Although processes of reorganisation following the national financial crisis currently shape the structure of the Greek National Health Care System, Figure 6.1 presents an adequate overview of the flows of financing and delivery of modern health care, which are maintained in Greece. Despite several attempts to shift power onto regional units, the Greek National Health Care System, which provides primary and secondary modern health care free at the point of use, has to this day remained largely centralised and falls under the jurisdiction of the Ministry of Health. The ESI currently operates alongside a mandatory system of social insurance, which is structured according to employment, and a voluntary small-scale system of private insurance, as well as practices of out-of-pocket payments in the private sector. Overall, modern health care delivery in Greece is primarily funded by taxation, social and private health insurance money, as well as out-of-pocket payments. Concurrently, health care services are offered by the ESI and various public health organisations, which operate autonomously under the auspices of the Ministry of Health, as well as by social insurance funds and private practitioners. The majority of modern health care facilities and personnel operating in rural areas are provided by the ESI, while the services offered by public hospitals, which are mainly located in urban areas, are either offered by the ESI or by a social insurance fund, such as IKA. Furthermore, private health care services, of which the availability is largely restricted to urban and touristic areas, are even-handedly funded by public and private sources (*cf*. Hanepen 1997; Mariolis *et al*. 2008; Lionis *et al*. 2009; Notara *et al*. 2010; Kentikelenis & Papanicolas 2011; Petmesidou 2012; Polyzos *et al*. 2013).



* = OGA contracts Private Doctors for Repeat Prescriptions

Legenda:
HIF = Health Insurance Fund
f-f-s = Payment by fee-for-service
NHS = National Health System (ESI)
PMI = Private Medical Insurance

Figure 6.1 Flows of Financing and Delivery of Modern Health Care in Greece. Source: Mossialos *et al*. (2005: 153).

6.4.2 The Availability of Modern Health Care in Rural Crete

In the research area, modern health care services are offered by a network of rural health posts and rural health centres, which operate under the authority of the national health care system. The modern health care facilities, which are available to the population of rural Crete, have to some extent been established as units within the referral system of primary health care envisaged in 1983. Although the institutions nowadays adhere to a level of collaboration and referral, modern health care delivery in Greece has lacked a gate-keeping system whereupon patients largely engage in patterns of self-referral (*cf*. Oikonomou & Mariolis 2010; Oikonomou & Tountas 2011a; Sbarouni *et al*. 2012). On the whole, around 1.422 health posts, which offer only primary equipment, thus no transportation facilities, have been established in rural communities across Greece (*cf*. Van Beelen 1990; Van de Kerk 1993; Lionis & Trell 1999; Molenaar 1999; Palstra 2003; Dijkstra 2005; Oikonomidou *et al*. 2010).

Locally known as '*Aghrotiko Iatrio*', a rural health post is available in both research communities and hereby forms the primary contact point for inhabitants seeking modern health care. The health post established in Pirgos is located along the northern edge of the market street in a one-storeyed building (*cf*. Map 5.2). The health post provides a rather large waiting room area, two separate examination rooms and an extra bed, which is arranged in one of the corners of the waiting room, notably secluded behind a wall, for particular treatments, such as

administration of oxygen (*cf.* Illustration 6.8). While a basic amount of medical equipment, including personal computers, is stored in the examination rooms, the health post in Pirgos moreover offers sufficient space in the waiting room area for the display of health pamphlets and magazines.

Illustration 6.8 The waiting room at the Health Post in Pirgos.
Photograph by J. Aiglsperger (2011).

The health post in Praitoria is located at the centre of the villages next to the Church of Archangel Michael (*cf.* Map 5.3). The health post provides a fairly small waiting room area and a single, rather poorly equipped, examination room, which lacks not only basic medical supplies but also adequate lighting and heating systems as well as telephone mainlines (*cf.* Illustration 6.9). Previous studies conducted in rural Crete have shown that rural health posts, which are at times used for purposes other than health care delivery, such as holding community gatherings, for example, offer a familiar environment in which community members do not feel the need to comply with certain ways of dressing or communicating (*cf.* Hagoort 1998).

Health posts, which have been established across a particular geographical region, are to some extent tied as satellite units to a rural health centre, '*Kendro Iyias*', as it forms a larger entity within the network of health care institutions and offers primary and secondary health care. Provided by either the ESI or by OGA, approximately 200 health centres are currently available in Greece, of which 14 are found in various communities in rural Crete. The first rural health centre established in Crete was founded in 1986 in the mountainous community of Spili south of Rethymnon. The health centre of Spili is linked to five rural health posts and has since distributed modern health care to the inhabitants of 26 surrounding villages. In the same fashion, the health posts of Pirgos and Praitoria have been tied to the health centre established in the neighbouring community of Kharakas.

Illustration 6.9 The waiting room at the Health Post in Praitoria.
Photograph by J. Aiglsperger (2011).

In contrast to rural health posts, health centres usually offer a variety of examination rooms and a patient room, which allows overnight treatment, issue vaccination schedules, notably for children, and provide research facilities. In particular, previous research conducted in Crete showed that a considerable number of patients visit the rural health centre for the purpose of disease prevention (*cf*. Koutis *et al*. 1991). Furthermore, rural health centres function as research institutes, in which data are collected, notably digitally, evaluated and published on a variety of topics, such as: the general health status of the population living in the surrounding villages; the local prevalence of particular diseases; rates of mortality; patterns of utilisation of health care services; the implementation of new equipment and technology; the introduction of a computerised system of data collection; or improvement of the organisation and institutionalisation of medical facilities. The health centre located in Spili, for example, has since its establishment served as a centre for research, which has been conducted on a variety of topics, particularly in relation to primary health care delivery and as a place, in which medical students undergo training, thereby establishing links with health care facilities across Europe (*cf*. Van Beelen 1990; Fioretos & Schersten 1991; Koutis *et al*. 1991; Isacsson *et al*. 1992; Koutis *et al*. 1993; Van Bommel 1993; Van de Kerk 1993; Wondimu 1993; Hanepen 1997; Lionis & Trell 1999; Molenaar 1999; Bouma 2000; Van den Akker 2002; Belos *et al*. 2005; Davaki & Mossialos 2005; Mossialos & Allin 2005; Constantinides & Barrett 2006; Lionis & Philalithis 2008; Trigoni *et al*. 2008; Lionis *et al*. 2009; Oikonomidou *et al*. 2010; Polyzos *et al*. 2013).

Rural health centres, which are situated across a particular geographical region, have originally been specified as decentralised units of a regional hospital within the overall referral system whereupon the facilities have continued to adhere to a certain degree of collaboration. Overall, patterns of collaboration between rural health centres and public hospitals, which have occasionally been supported by electronic networks of information and communication technology, serve the referral of patients as well as the exchange of medical opinions. Hospitals, which offer modern health care, have reportedly been available in Greece since the onset of the

Greek War of Independence in 1821, whereby the first hospital in Athens was opened in 1836. Today, public hospitals provide primary, secondary and tertiary care and offer a variety of clinical specialisations, including internal medicine, cardiology and orthopaedics. Around 132 public hospitals, which fall under the authority of the ESI, are currently available in Greece, whereby eight facilities are found in Crete, notably in the vicinity of larger cities and rather evenly distributed among the four regional units. The inhabitants of the research area generally visit one of the two public hospitals available in Iraklion, namely the University Hospital, '*Panepistimiako Yeniko Nosokomio Irakliu (PAYNI)*' or the Venizelio Hospital, '*Yeniko Nosokomio Irakliu Venizelio-Pananio*'. In particular, the PAYNI is linked to the Faculty of Medicine of the University of Crete, which is actively involved in research and training of medical students since its foundation in 1984, thereby focussing particularly on the advance of primary health care delivery in Crete. In fact, a four weeks-long course on primary health care delivery is included in the undergraduate curriculum whereupon the Faculty of Medicine, notably the Clinic of Social and Family Medicine, has long worked in collaboration with rural health centres in order to carry out research and to train medical students (*cf*. Arnold 1986; Van Beelen 1990; Van de Kerk 1993; Hanepen 1997; Lionis & Trell 1999; Bouma 2000; Belos *et al*. 2005; Dijkstra 2005; Mossialos *et al*. 2005; Constantinides & Barrett 2006; Lionis *et al*. 2009; Oikonomidou *et al*. 2010; Sbarouni *et al*. 2012).

Apart from public hospitals, modern health care is in urban Crete moreover provided by a number of institutions, which are linked to IKA and offer care through specialists employed at health centres, hospitals and polyclinics. Around 100 IKA health centres, which offer primary health care in mainly urban areas, are available in Greece. In the same fashion, modern health care is provided by various privately owned institutions, including a growing number of diagnostic centres, which offer their services in urban and semi-urban areas across Greece and frequently adhere to an informal referral system between public and private physicians (*cf*. Bouma 2000 ; Souliotis & Lionis 2004; Davaki & Mossialos 2005; Mossialos *et al*. 2005; Lionis & Philalithis 2008; Lionis *et al*. 2009). As Davaki & Mossialos (2005: 152) observe: '[…] [*Patients*] *are sent from public institutions to private providers for diagnosis and then often back to public hospitals, IKA or* [*public*] *health centres, or contracted doctors for treatment*'. Albeit the general availability of modern health care facilities in mainly urban areas of Crete, local inhabitants may at times visit institutions in Athens or outside Greece, particularly in order to receive specialist care for particularly rare and serious conditions (*cf*. Van Beelen 1990; Oikonomou & Mariolis 2010).

In view of the modern health care facilities, which are available to the population of rural Crete, local inhabitants generally hold a mixed opinion on the modern medical system (*cf*. Table 6.11). The majority of community members in both Pirgos and Praitoria (79.0%, n=518) entertain a mixed opinion on the modern medical system. Concurrently, 18.3% (n=120) of inhabitants hold a positive opinion on the modern medical system, while a minor 1.2% (n=8) entertain a negative opinion on the modern medical system.

Table 6.11 Distribution of the Opinion of the Household Members of the Sample on the Modern Medical System over the Two Research Communities (N=656).

Opinion	Pirgos		Praitoria		Total	
	N	%	N	%	N	%
negative opinion	2	0.4	6	3.7	8	1.2
between negative and positive opinion	391	79.0	127	78.9	518	79.0
positive opinion	99	20.0	21	13.0	120	18.3
no opinion	3	0.6	7	4.3	10	1.5
Total	495	100.0	161	100.0	656	100.0

Previous studies conducted in Greece have shown that older inhabitants appear to have a more positive attitude towards the modern medical system. Nevertheless, the percentage of community members in Pirgos and Praitoria, who hold a positive opinion on the modern medical system, is rather equally distributed among age groups. As Kain Hart (1992: 139) indicates: '*Although there is prestige associated with hospitals, they are not viewed as a good place to die*'. In general, local inhabitants regard modern health care to be effective and hereby hold the services, which are offered at modern health care institutions, in high esteem. The reputation and medical expertise of the modern health care provider are generally held in high esteem and trusted, whereby villagers widely respect the education, knowledge and experience as well as confidence in diagnosis and treatment of the provider. In this way, the inhabitants of rural Crete to some extent share the belief that the results of medical treatment provided by the modern medical system are immediate. The payment of fees, particularly to private practitioners, may enforce people's trust in the effectiveness of modern health care. Villagers may at times consult local medical doctors outside visiting hours, notably on the street, in a way to ask questions about minor health complaints and general issues. In the same fashion, modern health care providers may at times receive small gifts, most commonly in the form of food or drinks, as a token of the patient's appreciation for their services.

To some extent, the modern medical system is, however, perceived to be unpleasant, as certain medical procedures evoke feelings of anxiety, namely of fear of pain, fear of the procedure itself or fear of a negative diagnosis, among the population. Previous studies conducted in Crete have shown that feelings of fear have been heightened in cases, in which local inhabitants or their close acquaintances had previously had a negative experience upon contacting the modern medical system. Since community members furthermore appear to attach considerable significance to the personality, social skills and ability to show personal interest of the modern health care provider, a state of dissatisfaction with the modern medical system has reportedly been related to people's concern about the inability of the provider to understand the importance of personal relationships and to establish personal contact with the patient. Furthermore, a negative opinion on the modern medical system is occasionally provoked by a lack of patient choice, inefficient opening hours, the frequent changing of health care providers and a general fear of strangers as well as large distances and long waiting times at modern health care institutions. Following a comparative study of the views of citizens on the modern medical system, Greece is among the countries, which showed the lowest level of satisfaction. In this respect, people have, however, positively acknowledged the limited waiting times at private institutions offering modern health care (*cf*. Blum & Blum 1965; Arnold 1986; Van de Kerk 1993; Mossialos 1997; Hagoort 1998; Lionis *et al*. 2004; Davaki & Mossialos 2005; Geitona *et al*. 2008; Mariolis *et al*. 2008; Trigoni *et al*. 2008; Oikonomou & Mariolis 2010; Kentikelenis & Papanicolas 2011; Oikonomou *et al*. 2011; Oikonomou & Tountas 2011b).

In contrast to holding a rather mixed opinion, the inhabitants of the two research communities appear to share a fairly polarised knowledge of the modern medical system (*cf*. Table 6.12.). While a slight majority of respondents demonstrate much knowledge of the modern medical system (35.8%, n=235), 34.1% (n=224) of inhabitants in both research communities share little knowledge of the modern medical system (*cf*. Koutis *et al*. 1991).

Table 6.12 Distribution of the Knowledge of the Modern Medical System of the Household Members of the Sample over the Two Research Communities (N=656).

Knowledge	Pirgos		Praitoria		Total	
	N	%	N	%	N	%
little knowledge	170	34.3	54	33.5	224	34.1
average knowledge	149	32.1	38	23.6	197	30.0
much knowledge	166	33.5	69	42.9	235	35.8
Total	495	100.0	161	100.0	656	100.0

6.4.3 The Provision of Modern Health Care

In the research area, modern health care is most commonly provided by the male or female general practitioner, locally known as '*Iatros*', 'physician', who is employed at rural health posts and health centres. General practitioners, who receive a formal medical training at institutes of higher education, as they have been available in Greece since the 17th century, initially practiced in primarily urban areas. The providers have been long ranked according to their social status, which included their financial capacities, their level of expertise and experience, as well as according to their professional responsibilities. Following the gradual expansion of modern health care delivery, general practitioners subsequently spread to rural areas and came to occupy an integral position as health care providers across communities. Nevertheless, medical graduates soon created a process towards clinical specialisation, which has been advanced by innovations in medical technology and required a new corpus of medical knowledge, whereupon the field of general practice experienced a decline in popularity. In this way, general practitioners began to leave rural areas in a systematic fashion after the Second World War, not at least because of a growing interest in urban life as well as in the prestige and money associated with clinical specialisation. Although general practice was established as a clinical specialty in 1987, medical graduates continued to demonstrate a profound lack of interest in pursuing a career in general practice in rural areas, as it involved remote medical facilities and low payment. Consequently, rural areas across Greece suffered from a severe shortage of modern health care providers, which was eventually met with a new legislation adopted during the 1960s. The new legislation saw that medical graduates had to fulfil a mandatory one-year duty of employment in one of the newly established rural health care facilities as part of their last year of medical training (6.13). Although a more recent legislation, which further prioritised the employment of general practitioners in rural areas, was introduced in 1997, the rate of medical doctors, who follow an occupation as a general practitioner, has remained rather low in Greece although the number of medical doctors active in Greece has reportedly been among the highest in Europe. To this day, medical graduates and physicians practicing in Greece have held the field of general practice in rather low esteem (*cf*. Van de Kerk 1993; Hagoort 1998; Bouma 2000; Liangas & Lionis 2004; Davaki & Mossialos 2005; Mariolis *et al*. 2008; Economou 2010; Oikonomidou *et al*. 2010).

In the research area, modern health care is offered at the rural health posts by two female general practitioners, who, living in Iraklion, take turns in visiting the community of Pirgos at least two times a week from Monday to Friday and the community of Praitoria once a week. The physicians practice single-handedly at the rural health post available in both communities and offer their services from approximately 9 A.M. until 2 P.M. on the respective days. In addition to visiting the communities of Pirgos and Praitoria, both general practitioners are employed at the rural health centre in Kharakas, thereby working afternoon and overnight shifts as part of a team of health care providers. In general, the village physicians offer primary health care to, mostly chronically ill, patients in the form of general check-ups, first aid, prescription medicine and vaccinations as well as referral to other health care facilities. The majority of patients, who arrive at the health post, undertake a follow-up visit whereupon there is not much variety in the number and sort of patients, who consult the general practitioner on the day of her visit to the respective community. Since patients generally visit the facility without having made a specific appointment, consultations at the health post are usually held in chronological order, namely on a first come-first serve basis. In this way, patients either wait for the general practitioner outside the yet closed health post or gather in the waiting room shortly after her arrival. Although patients are treated individually, family members or friends may at times accompany the patient, whereby it is standard practice among the companions to enter the examination room together with the patient and to take part in doctor-patient conversations. At the beginning of the consultation, the general practitioner typically embarks on a conversation with the patient on current medical complaints , whereas the medical doctor may address certain topics, such as

general health status, personal constitution and family relations, at any stage during the session. On several occasions, the general practitioner serves the sole purpose of a conversational partner, with whom the patient discusses personal feelings, particularly following distressing events, such as the disease or death of a family member.

Most commonly, the general practitioner, however, proceeds with a general check-up or with a more detailed examination of the patient. Subsequently, the physician commonly terminates the session by means of issuing a prescription, offering verbal recommendation or referring the patient to another health care facility. The general practitioner generally calls and informs the staff at the respective medical facility about the condition of the patient prior to the referral. At the end of each session, the general practitioner records the scope and nature of each visit by hand in the book of registration, which functions as a sort of data filing system and is brought to the health post by the physician. On several occasions, the general practitioner may undertake home visits to patients, who are unable to walk to the health post, or may visit community members at home after service hours, usually in response to invitations received from the patients, in order to maintain personal relationships. Community physicians have long been actively involved in family and village matters and have held an integral position as communal advisors. Although general practitioners active in rural Crete today are only to some extent obliged to conform to communal norms and values, they continue to have a high social status within the community, upon which they are treated with respect and honour as well as with a sense of distance (*cf*. Blum & Blum 1965; Koutis *et al*. 1991; Van der Hoeven 1992; Koutis *et al*. 1993; Van de Kerk 1993; Wondimu 1993; Hagoort 1998; Molenaar 1999; Bouma 2000; Palstra 2003; Liangas & Lionis 2004; Lionis 2004 *et al*.; Davaki & Mossialos 2005; Dijkstra 2005; Trigoni *et al*. 2008; Clark 2011; Oikonomou *et al*. 2011) (6.14). As Clark (2002: 356) observes: '*A pervasive mistrust of modern physicians and their methods exists paradoxically alongside enormous enthusiasm for them*'.

The general practitioner is the chief distributor of pharmaceutical medicines on prescription in Crete. Representatives of pharmaceutical companies regularly visit rural posts in a way to present new medicines to the practicing physician and to hereby expand their activity radius. General practitioners usually associate with particular pharmaceutical companies and hereby come to play a rather crucial role in the distribution of pharmaceutical medicines. In view of the economic dimension of medicine distribution, modern health care providers at times adopt patterns of prescribing, which are cost-effective rather than evidence-based. In general, the physician issues medicines by means of writing a prescription into a booklet, which the patients usually bring along to the consultation, commonly in a correspondent bag, and which contains information on the medical history, health condition and previous medicine use of the patient. In this way, it is rather common practice among patients to consult the general practitioner, at times through engagement of a third person, without being examined for the sole reason of receiving or renewing prescriptions. As Lionis & Philalithis (2008: 320) indicate: '[…] [*There*] *is empirical evidence from rural Crete that the bulk of the work of rural health centres is devoted to repeat prescriptions, often through a third person, usually a family member or a friend*'. Previous studies, which have been conducted in Crete, have moreover demonstrated that patients to some extent buy medicines in order to satisfy the physician, to whom patients are generally connected through a close social network. In the same fashion, general practitioners may at times engage in certain practices, which aim at reducing the financial burden the purchase of medicine occasionally places on, particularly older, patients by means of: deliberately issuing prescriptions for cheaper pharmaceuticals; prescribing medicine, which is otherwise available over the counter; or omitting a specific issuing date on the prescription, thereby allowing the patient to pay the fee when money is at hand (*cf*. Tzimis *et al*. 1996; Hanepen 1997; Hagoort 1998; Liangas & Lionis 2004; Davaki & Mossialos 2005; Mossialos *et al*. 2005; Antonakis *et al*. 2006; Alexopoulou *et al*. 2007; Lionis & Philalithis 2008; Oikonomou & Mariolis 2010; Skliros *et al*. 2010; Kentikelenis & Papanicolas 2011; Kontarakis *et al*. 2011; Sbarouni *et al*. 2012; Tsiligianni *et al*. 2012). Although guidelines for prescribing have recently been introduced, Kentikelenis &

Papanicolas (2011: 4) state that: '[…] *progress in adopting e-prescriptions has been slow, the publication of a recommended price list for medicine was postponed, pharmacy rebates are below target, prescribing guidelines are not yet adopted and generic prescribing is around 12.5%, well below the target of 50%*'.

Although general practitioners form the primary source of modern health care delivery in rural Crete, a number of contracted specialists, such as cardiologists, orthopaedists, dermatologists, gynaecologists and internal specialists, who are generally paid on a salaried basis, function as modern health care providers in Greece. While the number of general practitioners active in Greece is rather limited, the country reportedly has one of the highest ratios of specialised physicians per inhabitants among the countries of the European Union. Rural health centres are generally staffed by a team of physicians, who are specialised in fields such as general practice, surgery, paediatrics, midwifery or dentistry. The inhabitants of Pirgos, for example, commonly consult the paediatrician employed at the health centre in Kharakas whereas the inhabitants of Praitoria visit the health centres established in Kharakas and Mires for paediatric care. In the same fashion, dental care is frequently sought at the rural health centre, whereby at least two dentists are, in this case, active in the community of Pirgos. In this way, the availability of dentists in the research area may reflect the high rate of dentists, which has similarly been recorded for Greece. The majority of modern health care providers, who are specialised in fields other than general practice, however, follow their occupations in urban areas and are employed either full-time at public hospitals, part-time at primary care centres offered by social insurance funds or autonomously at office-based facilities. To some extent, modern health care providers offer their services at more than one public facility at once or sustain an additional employment in the private sector (6.15). Owing to the fragmentation of the National Health Care System in Greece, numerous specialists have multiple jobs or change jobs frequently, thereby causing a lack of continuity of care, which prompts patients to adopt practices of self-referral. As Mossialos *et al*. (2005: 161) show: '*There is limited professional satisfaction for doctors or patient satisfaction because of the lack of continuity of care, limited user friendliness and inconvenience* […]'. Modern health care providers, notably University physicians, can moreover have a rather powerful influence on political matters, such as government and health policies (*cf*. Van Bommel 1993; Davaki & Mossialos 2005; Symvoulakis *et al*. 2006; Mariolis *et al*. 2008; Lionis *et al*. 2009; Notara *et al*. 2010; Oikonomou & Mariolis 2010).

In contrast to the oversupply of medical doctors, who are specialised in fields other than general practice, the provision of modern health care in Greece furthermore involves a severe shortage of nurses. The nurse personnel are usually faced with reduced possibilities of continuous education, a lack of guidelines and management, as well as the absence of a centralised national unit, which is directed at the organisation of the nursing staff. While the staff employed at rural health centres commonly includes one or two nurses, the nursing personnel active in Crete form an almost exclusively female group of workers, who at times encounter difficulties in balancing employment with family obligations. In addition to nurses, the provision of modern health care in the research area moreover encloses the activities of social workers, psychologists, microbiologists, lab assistants and administrative personnel, who are employed at rural health centres as well as at urban health care institutions. In view of the brief description of modern health care providers active in the research area, the delivery of modern health care is to some extent based on the collaboration of providers, who manage a network of health care facilities and offer primary, secondary and tertiary care (*cf*. Bouma 2000; Lionis *et al*. 2004; Davaki & Mossialos 2005; Mossialos *et al*. 2005; Markaki *et al*. 2006; Trigoni *et al*. 2008; Lionis *et al*. 2009; Notara *et al*. 2010; Oikonomidou *et al*. 2010; Kentikelenis & Papanicolas 2011; Sbarouni *et al*. 2012).

In view of the different types of modern health care providers, who offer their services to the inhabitants of the research area, the community members perceive the accessibility, namely the geographical approachability, of institutions of the modern medical system to be rather easy (*cf*. Table 6.13).

Table 6.13 Distribution of the Accessibility of Institutions of the Modern Medical System perceived by the Household Members of the Sample over the Two Research Communities (N=656).

Accessibility	Pirgos		Praitoria		Total	
	N	%	N	%	N	%
very difficult accessibility	4	0.8	0	0.0	4	0.6
difficult accessibility	11	2.2	8	5.0	19	2.9
average accessibility	11	2.2	8	5.0	19	2.9
easy accessibility	416	84.0	117	72.7	533	81.2
very easy accessibility	53	10.7	28	17.4	81	12.3
no institutions mentioned	0	0.0	0	0.0	0	0.0
Total	495	100.0	161	100.0	656	100.0

The vast majority of inhabitants of both research communities perceive the accessibility of institutions of the modern medical system as easy (81.2%, n=533) or very easy (12.3%, n=81). The ready availability of a rural health post in both research communities as well as the relative vicinity of the rural health centre in Kharakas and the overall availability of modern health care facilities in Iraklion may stimulate the perception local inhabitants have of the accessibility of the modern medical system. In the research area, the local bus service, which connects the rural communities to Iraklion, moreover charges only half of the ticket price to passengers, who travel to Iraklion to visit the health care facilities. Additionally, a privately owned taxi services, which operates between Pirgos and Iraklion and stops in Praitoria on the way, offers inhabitants the possibility to travel to Iraklion.

The accessibility of the modern medical system has elsewhere been associated with the disease profile of particular population groups in Greece. Undersupply and inaccessibility of modern health care facilities reportedly contribute to the prevalence of particular conditions, such as hypertension or obesity, among the inhabitants of rural high-altitude areas (*cf*. Tyrovolas *et al*. 2011). Following the overall perception that the modern medical system is easily accessible, the modern health care services, which are provided to the population of rural Crete, are almost exclusively curative. Means of preventive health care delivery are mainly concentrated in urban areas and have remained largely unknown to patients, who seek care from rural health posts and health centres. The widespread absence of preventive modern health care is advanced by the isolation of rural health care facilities, as well as by the unequal distribution of transport facilities and clinical specialists, including nurses, between rural and urban areas. Although modern health care providers in Greece appear to actively engage in medical research, as evidenced by the collection of demographic data by the ESI every ten years, and hereby generate a considerable amount of information, which can be valuable for the expansion of preventive health care delivery, the modern medical system available in rural Crete emphasises primarily on curative medicine rather than on disease prevention, health promotion or home care (*cf*. Fioretos & Schersten 1991; Koutis *et al*. 1991; Isacsson *et al*. 1992; Bouma 2000; Liangas & Lionis 2004; Belos *et al*. 2005; Trigoni *et al*. 2008; Lionis *et al*. 2009; Oikonomou & Mariolis 2010; Oikonomou & Tountas 2011b; Sbarouni *et al*. 2012). Although they widely abstain from delivering preventive modern health care, modern health care providers, particularly community physicians, may occasionally acknowledge and recommend forms of transitional or traditional medicine. Modern health care providers are not only actively involved in the distribution of prescribed pharmaceutical medicines, but may occasionally also recommend an OTC medicine to the patient. In the same fashion, providers of modern health care may at times encourage the use of MAC plants for certain conditions (*cf*. Hagoort 1998).

Notes

(6.1) In the same fashion, the inhabitants of rural Crete have shared the common belief that modern health care providers have been unable to cure a number of modern diseases, such as cancer, HIV/AIDS, arthritis, diabetes, meningitis, hypertension and heart as well as psychological disorders (*cf.* Van der Hoeven 1992).

(6.2) The translation of '*Yiatrosofia*' or '*Iatrosofia*' into 'Medical Wisdom' is adapted from Clark (2002). The singular form '*To Yiatrosofi*' is defined as '*Praktiko Farmako*', 'practical medicine' by Mandala (1993).

(6.3) According to key-informants of both research communities, the work of Bazeou (2011) provides one of the most valuable sources of information on the application of MAC plants. In brief, the following books have reportedly been consulted by villagers upon seeking advice on the use of MAC plants: Alibertis, A. (2010). *Votana tis Kritis: Idiotites & Khrises ton Fiton*. Iraklion: Mystis Ekdhosis; Bazeu, K. (2011). *100 Votana 2000 Therapies*. Peristeri: Ekdhosis Bazeos; Sfikas, G. (1999). *Aghrioluluda tis Kritis*. Athens: Efastathiadis Group A.E.

(6.4) In this respect, it is crucial to mention that the present classification is not only restricted in its geographical sense, but is also limited in its general applicability as the categories have been constructed on the basis of information gathered individually from local key-informants rather than following a quantitative research approach.

(6.5) In addition to the 20 MAC plants presented in Table 6.4, Appendix V provides an overview of all 124 MAC plants, which have been reported by the local population during the time of the surveys. The plants are presented in a table, in which they are listed alphabetically in reference to their local name.

(6.6) The slightly different *Origanum heracleoticum* L. has occasionally been misapplied as a synonym to the species of Oregano mentioned here (*cf.* Rackham & Moody 1996; Alibertis 2009).

(6.7) Health promoting effects in the form of aromatherapy have been ascribed to the fluids of plants, which are released at the time of collection (*cf.* Legel 1998).

(6.8) While Blum & Blum (1965) report that the consumption of horse beans, '*Kukia*', reportedly has a rather positive effect on the health of pregnant women, a more recent study carried out in the Municipality oy Ayios Vasilios, Crete, has shown that the consumption of horse beans during pregnancy is perceived to be unhealthy (*cf.* Van Bommel 1993).

(6.9) Appendix VII offers an example of a prayer entitled '*Efhi kata tis Vaskanias*', 'Mercy on the Evil Eye', which is directed at the treatment of the 'evil eye'.

(6.10) At times, the patient may fall asleep during prayers, whereby it is said that cure can be found through dreams (*cf.* Kain Hart 1992).

(6.11) In this respect, a previous study carried out in Spili, Crete, on patterns of utilisation of commercial pharmaceutical medicines has shown that pharmacists occasionally use the relationship they entertain with the community physician in a way to help their clients, namely to reduce the financial burden the acquisition of medicines can bear for local inhabitants. In an attempt to lower the price of medicines, the pharmacist may ask the medical doctor to issue a prescription for a certain pharmaceutical, thereby referring the client to the physician or to prescribe a cheaper product. The study moreover indicated that a gap existed between official regulations and local patterns of medicine distribution. In view of these results, it is suggested that the provision of transitional health care in rural Crete would be hindered by social and economic inequalities if the rules of medical conduct have been applied. Transitional health care providers reportedly form part of a social network, in which their responsibility reaches beyond the mere issuing of medicines (*cf.* Hanepen 1997).

(6.12) The 'General Practitioner' refers to a physician, who is specialised in the field of general practice, elsewhere known as family practice or family medicine, which advances comprehensive primary health care delivery and specifically emphasises the family unit (*cf.* Britannica 2013). In other words, the general practitioner is '*a doctor based in the community who treats patients with minor or chronic illnesses and refers those with serious conditions to a hospital*' (*cf.* Oxford Dictionaries 2013).

(6.13) The quality of modern health care delivery in rural areas has hereby been affected by the lack of clinical experience of the practitioners. In this respect, a number of studies conducted in rural Crete have demonstrated that since they had to annually adjust to a new a mainly inexperienced physician, patients at times experienced difficulties in building trust in the general practitioner (*cf.* Van Bommel 1993; Hagoort 1998; Oikonomou & Mariolis 2010).

(6.14) Although the inhabitants of Pirgos and Praitoria have been fairly satisfied with the presence of the two general practitioners, they admitted to certain complications, which occurred when one of the physicians took maternity leave. Since no temporary position was created, the remaining physician had to cope with an increased workload, while visits to the community of Praitoria have been reduced to once every two weeks.

(6.15) Since employment at facilities offered by social insurance funds is usually poorly paid, physicians, who are under contract to these funds, may at times use their position to recruit patients for their private practices (*cf.* Davaki & Mossialos 2005).