



Universiteit
Leiden
The Netherlands

Yiatrosafia yia ton Anthropon: Indigenous Knowledge of Medicinal, Aromatic and Cosmetic (MAC) Plants in the Utilisation of the Plural Medical System in Pírgos and Práitoria for Community Health Development in Rural Crete, Greece

Aiglsperger, J.

Citation

Aiglsperger, J. (2014, November 18). *Yiatrosafia yia ton Anthropon: Indigenous Knowledge of Medicinal, Aromatic and Cosmetic (MAC) Plants in the Utilisation of the Plural Medical System in Pírgos and Práitoria for Community Health Development in Rural Crete, Greece*. Retrieved from <https://hdl.handle.net/1887/29757>

Version: Corrected Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/29757>

Note: To cite this publication please use the final published version (if applicable).

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/29757> holds various files of this Leiden University dissertation.

Author: Aiglsperger, Judith

Title: Yiatrosafia via ton Anthropon: Indigenous Knowledge of Medicinal, Aromatic and Cosmetic (MAC) Plants in the Utilisation of the Plural Medical System in Pírgos and Práitoria for Community Health Development in Rural Crete, Greece

Issue Date: 2014-11-18

Chapter VII COMMUNITY HEALTH CARE IN CRETE

Following a detailed description of the different medical systems available to the population of Pirgos and Praitoria, this chapter deals with the health profile and prevalence of disease, as well as with the general patterns of transcultural health care utilisation behaviour developed by the sample population. On the whole, Crete has since the second half of the 20th century formed an environment, which is rather attractive to scholars studying the health and disease profile of particularly rural inhabitants. The remarkably low rates of heart disease, which have been recorded among the population of Crete during research conducted in the mid-20th century, have stimulated successive research on local patterns of health and healing. In this respect, the present chapter identifies the prevalence of disease in Crete from a historical perspective and relates past findings to current features. In particular, this chapter gives an overview of local practices adopted by the inhabitants in Pirgos and Praitoria today in a way to promote health and presents local ideas about the causes of illness as well as a classification of illnesses, which are reported by the target population at the time of the surveys.

Hereafter, the general health status of the respondents and the prevalence of disease in the research area, which are measured over a recall period of 12 months preceding the surveys, are illustrated. The data provide a sound basis for the subsequent description of patterns of transcultural health care utilisation behaviour reported by the local inhabitants. In particular, this chapter assesses the overall utilisation rate of the plural medical system among all household members of the sample and in this way identifies not only patterns of multiple utilisation and practices of 'non-action' but also 'internal' and 'external' action and the role played by the illness management group. In addition, the patterns of utilisation of each medical system available in the research area are described. On the whole, this chapter focuses on the prevalence of disease in the research area and on the relation between perceived morbidity and the illness behaviour of all 'patients' of the sample. Although the present research accumulate a vast amount of data on the patterns of transcultural health care utilisation behaviour shown by all household members, findings on the local prevalence of disease are not sufficient for an overall explanation of the variations in people's behaviour. As Slikkerveer (1990: 232) notes: '*The variation in the extent to which patients use the plural medical system indicates [...] that illness behaviour cannot solely be explained by an analysis of perceived morbidity and that other factors play a key role in addition to the nature and perception of illness*'. In this way, the present chapter provides a solid foundation for the subsequent analysis of patterns of illness behaviour on the basis of the multivariate model of transcultural health care utilisation.

7.1 Health and Illness in Rural Crete

7.1.1 General Profile of Health and Disease

In Greece, the average life expectancy at birth is estimated to be at 81 years for both genders, namely 79 years for men and 83 years for women, in 2011. The same year, the crude death rate per 1.000 inhabitants reportedly amounted to an average of 9.2 deaths, whereby the adult mortality rate, that is the probability of dying between 15 and 60 years of age, per 1.000 inhabitants is estimated to be at the medium of 73 for both genders. In particular, the average adult mortality rate for men amounted to 102 cases, while the medium rate for women is determined at 43 cases in 2011. The average child mortality rate, which refers to the probability of death per 1.000 live births, came to an under-five mortality rate of 5, an infant mortality rate of 4 and a neonatal mortality rate of 3 in 2012. While infant mortality has decreased significantly in Greece over the past 30 years, the causes of death of children under the age of five have primarily been associated with certain perinatal conditions. The maternal mortality rate per 100.000 live births are estimated to be at a medium of 3 in 2010. The crude birth rate reportedly stood at an average of 10.02 births in 2011, whereby the fertility rate amounted to a medium of

1.51 the same year. In line with the statistical data reported for Greece, the average life expectancy of the population of Crete at birth is measured at 81.4 years for both genders in 2011, whereby men and women reportedly reached an average age of 79.0 and 83.9 years respectively. Furthermore, the crude mortality rate for the population of Crete is ranked at a medium of 8.9 deaths per 1.000 inhabitants in 2009, whereby the mortality rate for men stood at 4.79 deaths and the mortality rate for women amounted to 4.11 deaths. The same year, the average child mortality rate per 1.000 live births for Crete totalled an infant mortality rate of 1.89 deaths and a neonatal mortality rate of 0.88 deaths. The data recorded for the population of Crete in 2009 moreover revealed that the number of life births per 1.000 inhabitants came to a medium of 13.01 births, notably the highest in Greece. In 2011, the average fertility rate in Crete is estimated to be at 1.7 (*cf.* Economou 2010; Eurostat 2013; *Iyionomikos Khartis tis Elladas* 2013; WHO 2013a; 2013b; 2014a).

In view of the average rates of life expectancy and mortality, which have been recorded for the population of Greece, as well as Crete in particular, an analysis of the main causes of death identified in Greece between 1990 and 2008 has shed light on the disease profile of the country (*cf.* Table 7.1).

Table 7.1 Main Causes of Death in Greece between 1990 and 2008 (standardised mortality rates/100 000 population).

Cause	1990	1995	2000	2005	2008
All Causes	739.87	719.01	704.65	641.96	595.53
Infectious and Parasitic Diseases	4.63	4.62	3.45	4.51	5.79
Tuberculosis	1.25	0.77	0.60	0.54	0.45
Malignant Neoplasm	158.85	163.74	163.34	160.49	157.18
Trachea/Bronchus/Lung Cancers	39.31	39.15	39.40	38.29	38.65
Malignant Neoplasms - Female Breast	21.26	22.74	21.63	21.70	21.67
Mental and Behavioural Disorders	6.63	9.40	9.92	8.30	8.69
Diseases of the Circulatory System	370.84	353.84	338.38	293.57	258.83
Ischaemic Heart Disease	95.59	91.71	87.45	78.78	67.28
Acute Myocardial Infarction	63.60	64.00	58.10	49.00	47.00 ^a
Cerebrovascular Diseases	134.41	128.01	118.99	99.11	81.18
Diseases of the Respiratory System	39.35	39.78	51.84	48.37	53.45
Diseases of the Digestive System	17.89	18.29	17.69	15.46	14.56
External Causes	40.37	39.23	36.77	33.70	29.64
Transport Accidents	21.30	21.46	18.99	16.45	14.09

^a Data for Year 2007.

Source: Economou (2010).

The population of Greece shares rather distinct patterns of morbidity, which are characterised by the prevalence of specific medical conditions, such as diseases of the circulatory system, malignant neoplasm, cerebrovascular diseases or ischemic heart diseases. Cases of tuberculosis and rates of mortality from HIV/AIDS have dropped significantly over the past decades although an increase in HIV/AIDS infections among injecting drug users has recently been reported. While traffic accidents have remained the primary cause of premature mortality, recent economic developments in Greece, which have created a rather poor and unstable living environment, have stimulated the prevalence of psychological conditions, such as depression. In this respect, a variety of studies have demonstrated that the inhabitants of Greece exhibit an overall rather excessive behaviour, which relates to an extensive consumption of tobacco and alcohol, as well as to unhealthy dieting habits. Unsound patterns of nutrition are the result of an increasing abandonment of the Mediterranean Diet, which is provoked by the recent socio-economic developments and has further been aggravated by the current financial crisis. In view of particular cultural habits and socio-economic developments, the Greek population has recently experienced an increment in health risk factors, such as high levels of cholesterol, hypertension

and obesity, which have come to shape the general profile of health and disease in urban as well as rural, high-altitude areas. By consequence, the inhabitants of Greece have become increasingly prone to diseases of the circulatory system, cerebrovascular diseases and ischemic heart diseases (*cf.* Blum & Blum 1965; Koutis *et al.* 1993; Bertsias *et al.* 2003; Mossialos *et al.* 2005; Lionis *et al.* 2009; Economou 2010; Tyrovolas *et al.* 2011; European Centre for Disease Prevention and Control 2013).

In line with the morbidity profile of Greece, the population of Crete has recently encountered an increase in health risk factors, which cumulated in an overall prevalence of diseases of the circulatory system. Prior to such developments, the inhabitants of Crete have, however, long provided a striking example of a population group, which shares healthy patterns of living and dieting and demonstrates a comparatively high rate of longevity. The disease profile of the Cretan population has throughout history been subject to numerous changes, whereby regionally distinguished patterns of disease have been identified as early as during Minoan and Byzantine times. Although the archaeological evidence, which had been gathered from human skeletal remains, had its limitations, it has nevertheless shed light on nutritional habits, as well as on regional patterns of health and disease shared by the Minoan and Byzantine civilisation of Crete. More recently, remarkably low rates of mortality from ischemic heart disease and cancer have been recorded in Crete, notably in comparison to other population groups in Europe, and have attracted great scholarly interest (*cf.* Arnott 1996; Fioretos & Schersten 1991; Kafatos *et al.* 1991; Lindholm *et al.* 1992; Simopoulos 2001; Bourbou 2003; Karalis *et al.* 2007; Bourbou 2010; Papandreou 2012). As Lindholm *et al.* (1992: 291) conclude: *'The population of Crete is of great interest from a public health point of view, since their mortality from ischaemic heart disease has been shown to be very low'*. The lowest rates of mortality and morbidity from heart disease, which have been analysed during a study carried out among seven countries between 1957 and 1960, have been recorded among a sample of men living in rural Crete. Possible reasons for the low prevalence of heart disease have been related to: the generally low level of cholesterol concentration among the population of Crete; the high physical activity of the majority of research subjects, who have the occupation of farmer, notably without receiving mechanical assistance; and the adherence of respondents to the traditional Cretan diet, which is low in saturated and high in mono-unsaturated fat, includes the intake of antioxidant plants and incorporates a number of fasting periods and days. Following the results gained from the Seven Countries Study, the patterns of living and dieting, which have been shared by the Cretan sample, have since been advocated as ideal methods of disease prevention and health promotion. Moreover, the population of Crete has become subject to further research conducted on the prevalence of diseases of the circulatory system, whereby significant changes in the health and disease profile of the inhabitants of Crete have since been identified (*cf.* Kafatos *et al.* 1991; Lindholm *et al.* 1992, 1993; Lionis *et al.* 1993; Voukiklaris *et al.* 1996; Kafatos *et al.* 1997; Lionis *et al.* 1998b; Moschandreas & Kafatos 1999; Simopoulos 2001; Sarri *et al.* 2004; Karalis *et al.* 2007; Vardavas *et al.* 2009; 2010; Papandreou 2012; Hatzis *et al.* 2013).

Recent socio-economic, cultural and scientific developments, which have led to an overall growth in prosperity, advancing competitiveness and materialism and creating a general shift from employment in the agrarian sector towards employment in business, notably the tourist sector, have introduced an increase in health risk factors. As Lindholm *et al.* (1992: 296) observe: *'[...] [The] dietary pattern and lifestyle in general have changed in Crete in a negative way possibly linked to the economic development of Crete and Greece'*. Patterns of physical activity, which have been stimulated by farming practices as well as by walks over considerable distances, have gradually been replaced by a more sedentary lifestyle, not at least advocated by the advance of motorised vehicles. Moreover, the inhabitants of Crete have come to consume rather large quantities of tobacco and alcohol. Furthermore, the traditional Cretan diet has to some extent been abandoned, whereupon local dieting habits have changed into a high consumption of saturated fat in the form of meat and cheese, and a low energy intake. Research has also shown that younger inhabitants are more likely to abandon the traditional dieting habits.

The recent change in patterns of behaviour has amounted to an increase in health risk factors, such as high levels of cholesterol, hypertension and diabetes, as well as to a prevalence of a high body mass index and obesity. Several studies demonstrate that hypertension and diabetes increased with age and commonly occurred among population groups aged 45 and older. High rates of diabetes have similarly been observed among female inhabitants in particular. In the same fashion, a high body mass index is observed among the female population of rural Crete, as women continue to look after their children and households and are as such less exposed to intense physical activity. Geographically, the highest rates of obesity and overweight in Greece have been recorded among the farming population living in the Mesara Plain in Central Crete in close vicinity to the research area. In view of the widespread occurrence of health risk factors, the health and disease profile of the Cretan population has recently deteriorated and has come to be characterised by a high prevalence of diseases of the circulatory system. As Lionis *et al.* (1993: 302) highlight: '[...] *[It] seems as if the incidence of ischaemic heart disease is increasing and that the Cretan population is no longer "immune" to this disease*'. Patterns of co-morbidity, in which a high body mass index reportedly forms the strongest predictor of developing hypertension and in which patients suffering from diabetes are more likely to contract hypertension and ischemic heart disease, have been observed. While the occurrence of health risk factors has been associated with a growing mortality from diseases of the circulatory system among the population of Greece, mortality rates have been comparatively low in Crete although events of death have occasionally been ascribed to the prevalence of diseases of the circulatory system (*cf.* Van Beelen 1990; Kafatos *et al.* 1991; Lindholm *et al.* 1992; Van der Hoeven 1992; Lindholm *et al.* 1993; Lionis *et al.* 1993; Renaud *et al.* 1995; Lionis *et al.* 1996; Tzimis *et al.* 1996; Voukiklaris *et al.* 1996; Kafatos *et al.* 1997; Hagoort 1998; Molenaar 1999; Moschandreas & Kafatos 1999; Bouma 2000; Lionis *et al.* 2001; Van den Akker 2002; Bertsias *et al.* 2003; Karalis *et al.* 2007; Panagiotakos *et al.* 2008; Vardavas *et al.* 2009; Lionis *et al.* 2010; Vardavas *et al.* 2010; Papandreou 2012).

Apart from diseases of the circulatory system, growing rates of mortality from cancer, primarily affecting the gastrointestinal, the urinary and the respiratory system, have been recently recorded among the population of Crete. Disorders of the bones, joints and muscles have commonly occurred in rural Crete, where they have been associated with the harsh working hours and intense physical activity of farming practices. Archaeological evidence suggests that the male population of Byzantine Crete has similarly been exposed to a demanding lifestyle, which is based on difficult working conditions, environmental stress, hard work to be carried out inside and outside the household, as well as on the experience of violent attacks, thereby provoking a high prevalence of joint diseases. Although the Byzantine civilisation adhered to a diet, which is high in plant tissue and low in carbohydrates, notably exerting a positive effect on oral hygiene, unhealthy nutritional patterns and dental conditions reportedly caused a number of diseases, such as scurvy (*cf.* Molenaar 1999; Simopoulos 2001; Bourbou 2003; Vardavas *et al.* 2009; Bourbou 2010; Vardavas *et al.* 2010; Papandreou 2012; Hatzis 2013).

Archaeological remains indicate that infectious diseases, such as dysentery, hookworm and tetanus, have been present among the civilisations of Minoan and Byzantine Crete. The population of Minoan Crete reportedly suffered from unhealthy living conditions, including overcrowding, poor sanitation and contaminated drinking water, which emerged from the high concentration of people living in small but densely populated urban areas outside the ancient palaces. Trading activities overseas may moreover have contributed to the spread of infectious organisms imported from abroad to the Minoan civilisation. With the exception of the inhabitants, who resided in the ancient Minoan palaces and enjoyed rather high standards of health and sanitation at the time, it is assumed that the population living in rural areas was considerably healthier than the inhabitants of urban centres. In Byzantine Crete, the population has reportedly been faced with poor standards in health, nutrition and hygiene, as well as with inadequate care and a restricted access to medical treatment. Also, poor maternal health and improper management of complications during pregnancy and delivery, for example, resulted in

rather high rates of child and infant mortality. More recently, reports of travellers, who visited the region during the 18th century, shed light on the presumably endemic prevalence of malaria in various parts of Greece, including Crete, whereby cases of malaria reportedly occurred well until 1947. In the same fashion, leprosy remained common in Crete until the mid-20th century, whereby the Island of Spinalonga off the north coast of Crete next to the town of Elunda was used as a leper colony for patients from Crete and Greece as well as beyond between 1903 and 1957. The island not only had one of the last active leper colonies of Europe, but has since its closing also become an attractive tourist destination and a popular subject in modern Cretan culture. From the different infectious diseases, including malaria, leprosy or anthrax, also referred to as ‘the bad pimple’, which have affected the population of Crete since the earliest days of human settlement, gastroenteritis has continued to present a common medical condition among particularly rural inhabitants. Furthermore, a high prevalence of Hepatitis A is recorded among younger age groups living in Southern Crete. The elevated levels of Hepatitis C antibodies, which are likely to have contributed to the growing number of hospital discharges of patients suffering from liver diseases, have been observed among older age groups (*cf.* Arnott 1996; Rackham & Moody 1996; Lionis *et al.* 1997; Bourbou 2003; Lionis *et al.* 2005; Papadopoulos 2009; Bourbou 2010).

The prevalence of certain diseases of the digestive system, such as dyspepsia or irritable bowel syndrome has, however, been relatively low among the population of Crete. The rather uncommon occurrence of these conditions is related to the beneficial effect of people’s socio-cultural environment and nutritional habits on their health. The female inhabitants of Crete have reportedly been exposed to a number of diseases, including conditions related to pregnancy and childbirth, urinary incontinence and sexually transmitted diseases, which are frequently contracted by the generally older husbands during their previous relationships. Since the inhabitants of rural Crete to some extent marry within the community, the population has been exposed to a number of hereditary disorders. In the same fashion, mental disorders, such as depression, which are rather common among the population of Greece at large, have also been recorded among the inhabitants of Crete and have been related to the loneliness, which people experience after the loss or absence of family members. Furthermore, the population of rural Crete has suffered from feelings of stress, general tiredness and exhaustion, which to some extent are caused by the harsh working hours and intense physical activity involved in farming practices. As the result of the current difficult economic development in Greece, the Cretan population has recently been confronted with a growing prevalence of certain mental conditions, such as anxiety, depression and stress, which are caused by the general fear of inability to secure one’s income and personal future. While accidents are reportedly a rather common cause of death among the civilisation of Byzantine Crete, the inhabitants of contemporary Crete continue to be exposed to mortality and morbidity from external causes, including traffic accidents (*cf.* Van de Kerk 1993; Molenaar 1999; Bouma 2000; Lionis *et al.* 2001; Bourbou 2003; Dijkstra 2005; Lionis *et al.* 2005; 2009; Bourbou 2010).

7.1.2 The Perception and Promotion of Health

In the Greek language, the term ‘Health’, ‘*Iyia*’, is commonly used colloquially during the exchange of greetings and the giving of compliments (7.1). Usage of the term ‘health’ in ordinary language implies a rather broad understanding of the concept of health, which goes beyond the mere explanation of feeling physically well. The doctrines of humoral medicine have defined the concept of health as an entity of a fully satisfied and balanced life. Hippocrates viewed every human as a psychosomatic unit, whereby a state of health depends on not only physical but also on social and environmental factors. As Chliaoutakis *et al.* (2002: 429) note: ‘*In this view, a physician’s intervention aims at restoring the order of the universe rather than removing unpleasant symptoms*’. In the same fashion, the Greek Orthodox Church adopts a rather holistic interpretation of the concept of health, upon which the human body has great

significance, as every organ and its function relate to a particular spiritual condition. In this way, the female menstruation, for example, is associated with a state of pollution. Religious doctrines furthermore link a state of health to people's active participation in local community matters. In the research area, 'being healthy', '*ime kala*', is associated with a state of physical, '*fisikos*', also referred to as biological, '*viologyikos*', or somatic, '*somatikos*', and psychological, '*psikhologyikos*', well-being. In this respect, a psychological state of health is related to the 'healthy' and 'balanced' relationship, which people maintain with their family members and fellow community members, as well as with the natural and spiritual environment. A state of health appears to be influenced by the physical characteristics of each individual, as well as by the social and cultural characteristics of the community at large. In this way, the human body not only forms an aggregate, in which physical health is derived from the successful control of body boundaries, but it also forms a microcosm of the family and the community, in which boundaries must be similarly protected and controlled in order to promote psychological health. As a result, the concept of health has locally been defined as an accumulation of different components, which constitute an all-encompassing notion of being healthy (7.2). Research conducted elsewhere in rural Crete has shown that 'health' is widely acknowledged as the primary of all human needs, whereby the experience of a state of health is considered to be not only 'good' but also 'right'. Community members discuss 'health' rather openly and include the promotion of a state of health, both consciously and unconsciously, in a number of local habits and customs (*cf.* Arnold 1986; Hagoort 1998; Bouma 2000; Chliaoutakis *et al.* 2002).

In general, local practices, which are followed by the population of rural Crete in a way to maintain and promote health, also incorporate an overall principle of moderation, which may be reminiscent of the humoral doctrines. As such, a state of health is improved through various habits and customs, which are directed at the minimisation of extremes and include: dietary patterns, which are balanced in quality and quantity and involve the high intake of certain foods, such as vegetables and fruits, along with the low consumption of other products, such as red meat and sugar; the avoidance of an excessive consumption of tobacco and alcohol; adherence to considerate working hours; the prevention of stress; the escape of pollution and extreme weather conditions; the circumvention of negative emotional expressions; and the avoidance of an overall extravagant lifestyle. In addition to the avoidance of extremes, a state of health is enhanced through additional life-style factors, such as enough sleep, the maintenance of contact with the 'right' people, the regular saying of prayers and the participation in socio-religious rituals as well as the administration of vaccinations and regular health check-ups (*cf.* Blum & Blum 1965; Van der Hoeven 1992; Van Bommel 1993; Chatziarsenis *et al.* 1999; Molenaar 1999; Van den Akker 2002; Dijkstra 2005; De Vries 2007).

Traditional practices of food preparation and consumption adopted by the inhabitants of rural Crete largely pertain to the principles of the Mediterranean Diet and have as such a positive effect on human health. Overall, the beneficial influence of the Mediterranean Diet on health is documented by a number of studies on eating habits as well as on rates of mortality and longevity, which have been carried out among a variety of population groups after the Second World War. In 1948 the Greek government invited the American Rockefeller Foundation to conduct research on the nutritional habits of the Cretan population, notably in an attempt to improve the livelihood of the war-torn communities. The study demonstrates that the inhabitants of Crete maintained a dieting pattern, which was based on a high intake of quality fats, antioxidant vitamins, nutrients and fibres, and has eventually been interpreted as a fundamental cause for the remarkably good state of health reported among the Cretan population at that time. Subsequently, the 'Seven Countries Study', carried out during the 1950s and 1960s similarly demonstrates that the comparatively lowest prevalence of heart disease, which was reported for the sample population of Crete, is to some extent stimulated by local eating habits. As Koutis *et al.* (1991: 300) observe: '*It has been previously established that the disease panorama differs between countries in Northern and Southern Europe*'. Further research conducted during the second half of the 20th century revealed similar dietary patterns among population groups living

in the olive-growing areas surrounding the Mediterranean Sea, which came to constitute the so-called 'Mediterranean Diet'. As Willett *et al.* (1995: 1405S) elaborate: '*The Mediterranean diet constitutes a centuries-old tradition that contributes to excellent health, provides a sense of pleasure and well-being, and forms a vital part of the world's collective cultural heritage*'. Although the characteristics of the Mediterranean Diet differ throughout the region and more than one model of healthy eating have acknowledged that the traditional Cretan diet is identified as being particularly compatible with the maintenance and promotion of health. Local dieting habits reportedly contribute to a reduction of risk factors of cardiovascular diseases as well as to lowering rates of mortality and morbidity from conditions such as heart disease, cancer, allergies and wheezing (*cf.* Blackburn 1986; Lindholm *et al.* 1992; Van der Hoeven 1992; Van Bommel 1993; Renaud 1995; Willett *et al.* 1995; Trichopoulou & Lagiou 1997; Hagoort 1998; Molenaar 1999; Kafatos *et al.* 2000; Simopoulos 2001; Giugliano *et al.* 2002; Riley 2002; Van den Akker 2002; Sarri *et al.* 2003, 2004; Trichopoulou *et al.* 2003; Chatzi *et al.* 2007; De Vries 2007; Karalis *et al.* 2007; Lionis *et al.* 2010). As Lionis *et al.* (1998b: 1988) state: '[...] *[Epidemiological] evidence suggests that the association between a largely vegetarian diet and low incidence of cancer and cardiovascular disease, may be attributed to antioxidants*'.

Apart from these findings, the correlation between low rates of mortality and the close adherence to the traditional Cretan diet is reportedly more significant among the older inhabitants (*cf.* Molenaar 1999; Palstra 2003; Sarri *et al.* 2003; Trichopoulou *et al.* 2003). As Trichopoulou & Lagiou (1997: 384) point out: '[...] *[It is [...]] intriguing that most centenarians in the Mediterranean region have been inclined to attribute their longevity to diet in general and to olive oil and wine - two key ingredients in the Mediterranean diet - consumption in particular*'. Although a number of socio-economic, cultural and scientific developments have recently caused a gradual abandonment of traditional patterns of food consumption, whereupon the diet of mostly younger community members is characterised by a growing intake of saturated fats, the traditional eating habits have prevailed in several, primarily rural, areas (*cf.* Trichopoulou & Lagiou 1997; Kafatos *et al.* 2000, Sarri *et al.* 2004; Chatzi *et al.* 2007).

In addition to the health beneficial effects of its components, the positive influence the traditional Cretan diet has on human health has moreover been linked to various lifestyle factors, which accompany practices of food consumption. According to Willett *et al.* (1995: 1405), health is reportedly enhanced by: '*the social support and sense of community that accompanies sharing food with family and friends; lengthy meals that provide relaxation and relief from daily stress; delicious meals, carefully prepared, that stimulate enjoyment of healthy diets; and postlunch siestas (afternoon naps) that also provide an opportunity for rest and relaxation*'.

Furthermore, the rather widespread consumption of magnesium-rich water is identified as a factor, which may advance the well-being of the Cretan population. In the same fashion, the custom of playing with 'Komboloi', worry beads, which is traditionally maintained by men, may furthermore contribute to stress release and relaxation. Actually, the good state of health, which was recorded among the inhabitants of Crete during the 1960s, is associated with frequent physical activity, a minimal exposure to pollution and stress as well as with a then low unemployment rate. Although engagement in physical activity has since diminished and the exposure to stress has increased, not at least because of recent socio-economic developments, the inhabitants of Crete reportedly continue to recognize clear air as well as a steady involvement in intense physical activity as having a positive effect on health. Likewise, a state of health is reportedly advanced by the favourable weather conditions, to which the Cretan population is exposed. Nevertheless, extreme temperatures are considered to have a rather adverse effect whereupon it is common practice among the inhabitants of Crete to avoid extremes of heat and cold. Hereafter, people shield themselves from the sun by means of wearing hats or sitting in the shadow and generally stay inside between approximately 12 A.M. and 5 P.M. during the summer months. Concurrently, coldness is counteracted by appropriate ways of dressing as well as by means of consuming hot beverages and applying special skin balms. Overall, clothes are moreover changed on a regular basis in order to foster sanitation and promote health. Finally, the

maintenance of extended family relations and friendships, as well as participation in a tight social network, which includes the regular gatherings of men at local coffeehouses, have furthermore been identified as providing a positive contribution to the general health status of the Cretan population. As Koutis *et al.* (1993: 57) highlight: *'In fact, social support and the tightly knit social network has been suggested as one explanation for the low cardiovascular mortality in Greece.'* (cf. Blackburn 1986; Lindholm *et al.* 1992; Van der Hoeven 1992; Renaud *et al.* 1995; Willett *et al.* 1995; Trichopoulou & Lagiou 1997; Chliaoutakis *et al.* 2002; Van den Akker 2002; Karalis *et al.* 2007; Lionis *et al.* 2010).

Apart from social participation, church membership and religious as well as spiritual faith can act as stimuli to the maintenance and promotion of people's health. Naturally, the majority of the Cretan population rather homogenously belongs to the Greek Orthodox Church, which has a considerable influence on the health behaviour of local, particularly rural, inhabitants. The annual canon of the Greek Orthodox Church observes a number of fasting periods, which involve the voluntary abstinence from particular foods. The fasting periods cumulate in a total of 180 to 200 fasting days per year, on which adherents consume a greater quantity of plant-based meals and abstain from primarily animal-based, oil-containing and heavily processed products, such as meat, cheese, milk, eggs and olive oil (7.3). Consequently, the observance of religious fasting periods reportedly stimulates low levels of cholesterol and obesity and has a generally positive effect on the human body (cf. Blackburn 1986; Lindholm *et al.* 1992; Van der Hoeven 1992; Van de Kerk 1993; Renaud *et al.* 1995; Willett *et al.* 1995; Trichopoulou & Lagiou 1997; Molenaar 1999; Chliaoutakis *et al.* 2002; Van den Akker 2002; De Vries 2007; Karalis *et al.* 2007; Lionis *et al.* 2010). As Sarri *et al.* (2004: 283) show: *'The Christian Orthodox diet is an important characteristic of the Mediterranean diet of Crete, which contributes greatly to the good health and nutritional status of the population'*.

In addition to fostering physical cleansing, practices of fasting enforce willpower and discipline among the respondents. In this way, having faith and holding religious belief have been identified as factors, which encourage resoluteness and patterns of positive thinking and are hereby able to contribute to the prevention of disease. Furthermore, religious rituals, such as praying, performing sacrifices, reading omens and making a pilgrimage, as well as the administration of the sacraments of the Confession and Holy Communion, have been specified as means of protection against evil spirits, who punish the irreligious with disease, infertility or famine (cf. Greger 1985; Kain Hart 1992; Chliaoutakis *et al.* 2002; Lazarou & Matalas 2010). As Blum & Blum (1965: 125) theorise: *'The villager is likely to contend that life proceeds more satisfactory if one has the blessing of God, and that failure to earn that blessing increases one's vulnerability to misfortune'*. Participation in socio-religious activities and events not only strengthens communal ties, but also regulates the everyday life of community members offering a daily routine, which may limit the development of unhealthy habits. Overall, active members of the Greek Orthodox Church reportedly gain a high level of physical and mental strength, which is reinforced by healthy dietary patterns, good personal hygiene, relaxation and life satisfaction as well as by low levels of stress and anxiety. In this respect, the religious faith shared by the population of Crete is known to promote a state of health and to lower rates of morbidity and mortality (cf. Blum & Blum 1965; Van Bommel 1993; Chliaoutakis *et al.* 2002; Van den Akker 2002; Sarri *et al.* 2003; De Vries 2007; Lionis *et al.* 2010). Nevertheless, a number of studies have claimed that adherence to religious belief and rituals is disadvantageous at times and not always contributes to the promotion of health. As Chliaoutakis *et al.* (2002: 434), however, indicate: *'The [Greek Orthodox Church], as do other religions in other populations, continues to play a vital role in the lives of many Greeks and its influence on health-promoting behaviour appears to be an issue that is worthy of further study'*.

7.1.3 Local Concepts of Illness

The different habits and customs maintained by the inhabitants of rural Crete in a way to prevent disease and to promote health shed light on a number of phenomena, which are locally identified as causes of illness. As Kain Hart (1992: 235) explains: *'Illness and death are often linked to the consumption of rotten foods or foods eaten under the wrong circumstances (consumed too quickly, or at the wrong time of day, eaten cold when they should have been hot, or warm when they should have been cool)'*. To some extent, local ideas of the particular causes of illness are rooted in the doctrines of humoral medicine. Cited in Schiefsky, Hippocrates (2005: 79) concludes: *'[If] foods that are too strong are ingested, the human constitution will be unable to overcome them, and from these foods themselves will come suffering, diseases, and death, while from all those foods that the human constitution can overcome will come nourishment, growth, and health'*. Likewise, the intake of heavy liquors, which stands in contrast to the rather regular consumption of beverages, such as wine, raki or beer, is believed to increase health risks. In this way, the experience of extreme feelings, such as boredom or stress, is interpreted as probable cause of health disorders, including alcoholism (*cf.* Van der Hoeven 1992; Hagoort 1998; Molenaar 1999; Van den Akker 2002). Overall, causes of illness are frequently related to an excessive lifestyle as well as to non-participation in socio-religious activities and the consequent violation of, particularly sacred, doctrines. Furthermore, particular groups of community members, such as young mothers as well as spiritual agents, are believed to be able to cause great harm or to bring death to others. Illness can, however, also be stimulated by external crises, which interrupt daily routines and cause anxiety about the future (*cf.* Blum & Blum 1965; Van Bommel 1993). In brief, the following phenomena have been identified as potential causes of illness among the study population:

1. Environmental and local living conditions, including extreme weather conditions and changes, insufficient heating or lighting, a lack of furniture, bare floors, external bathrooms and exposure to harsh working hours;
2. Age and heredity;
3. Poor personal hygiene and failure of taking care of oneself;
4. Bad smells and the consumption of unhealthy beverages or food (7.4);
5. Addictions;
6. Extreme feelings, such as stress or anxiety as well as boredom;
7. Negative emotions, which are evoked by personal difficulties, such as family enmities;
8. Accidents and harmful actions by others, including sorcery;
9. Confrontation with feelings of jealousy, envy or competitiveness on the part of others (7.5);
10. Supernatural powers, namely the harmful intervention of religious and spiritual agents (7.6);
11. Socio-economic developments, as they advance hunger and poverty
(*cf.* Blum & Blum 1965; Van Beelen 1990; Van der Hoeven 1992; Van den Akker 2002) (7.7).

Clearly, the different causes of illness identified by the local inhabitants refer to both naturalistic and personalistic phenomena. With the exception of harmful actions by others, feelings of jealousy, envy or competitiveness on the part of others and the intervention of supernatural powers, the majority of elements cited describe naturalistic concepts of illness. Following an identification of the different phenomena, which are locally believed to offer causes of illness, the population of rural Crete distinguishes between different, notably naturalistic and personalistic, concepts of illness. As Blum & Blum (1965: 136) highlight: *'[...] [Villagers] may express a scientifically accepted doctrine while at the same time, on another level, they continue to hold and act on a strong and widespread magical belief'*. The inhabitants of the research area maintain ideas about different types of illness, which are embedded in the natural and cultural environment of the community and only to some extent overlap with the diseases identified in modern medical doctrines (*cf.* Van den Akker 2002).

In addition to the formulation of locally defined concepts of ill-health, events of illness reportedly inspire an array of culturally specific feelings among the inhabitants of Crete. The prevalence of mental and behavioural disorders, including hereditary conditions, such as congenital paralysis, for example, evokes a general feeling of shamefulness among the local population. In the same fashion, gynaecological conditions, including menstruation, are commonly considered to be 'dirty'. Overall, 'shameful' or 'dirty' illnesses can threaten the family honour and can stimulate social distrust and rejection as well as commitments of suicide among individuals, who suffer from these illnesses. Studies conducted elsewhere in rural Crete have indicated that the indigenous knowledge of the nature of 'shameful' disorders is, however, rather limited. The experience of leprosy, for instance, which has long been incurable and widely believed to be contagious, has been regarded as 'shameful' and prompted communities to expel the sufferers. The introduction of new therapies, as it has been the case with a number of diseases, eventually altered local perceptions. As Blum & Blum (1965: 66) argue: '*[One] of the most important ways for public-health authorities to overcome the many damaging social customs and dangerous health practices associated with the 'shameful' ills [...] [has been] to educate villagers on the nonhereditary nature of most of these disorders and their treatability*'. To this day, villagers have nevertheless remained reluctant to discuss certain 'shameful' illnesses with their fellow community members or with the local physician whereupon the conditions to some extent lack adequate medical treatment. Furthermore, sufferers may travel considerable distances to health care facilities in order to conceal the nature of the illness from their fellow community members (cf. Blum & Blum 1965; Arnold 1986; Bouma 2000).

In Crete, older people, infants and women, who are pregnant or have recently given birth, as well as inhabitants, who suffer from stress or anxiety or who, for the most part, have an overall bad character, are furthermore believed to be at a greater risk of becoming ill (cf. Dijkstra 2005). In particular, infants and women, who have recently given birth, are widely considered to be unclean and to be particularly exposed to a number of illnesses, such as contaminations, infections and fever, as well as to be prone to the harm of evil spirits. Surely, children's diseases, for instance, are caused by both naturalistic and personalistic phenomena, which include: extreme weather conditions; exposure to cold, dirty places as well as to aggressive cleaning products; the consumption of bad food or cold, dirty water; environmental pollution in the form of both physical and mental pollution; feelings of fear and stress, which are usually inspired by the troubled relationship between the mother and her husband; and negative energies generated by others, such as the 'evil eye' (cf. below) (7.8). In this way, the sudden death of an infant can be the result of environmental pollution or of the consumption of unhealthy beverages or food or can be caused by the possession of the child by evil spirits (cf. Blum & Blum 1965; Van Bommel 1993).

In view of the local ideas about children's diseases, the Greek Orthodox Church plays a rather significant role in the protection and medical care of infants and children. In order to enhance health and protection, it is rather common for infants and mothers in, mainly rural, Crete, to introduce the child to the community only after having received the blessing of the priest and to hereby stay inside the house until the fortieth day after delivery. During the 40 days, women may decide to wear sachets filled with plants attached to their body in a way to protect the reproductive organs from harmful influences. On the fortieth day, the child is taken to church, where it is cleaned and blessed by the priest through a practice known as '*Sarantizo*', which eventually prepares the child for social interaction. Traditionally, the mother hereby kneels in the narthex of the church holding the child, while the priest says a lengthy prayer. In case that the infant is male, it is subsequently taken to the sanctuary and carried around the altar by the priest, who continues to say prayers. In case that the infant is female, however, the priest remains at a distance from the sanctuary and altar. Elsewhere in Crete, the male child moreover kisses the holy table, while the female child kisses an icon, as it is not allowed to kiss the holy table (cf. Arnold 1986; Kain Hart 1992; Van Bommel 1993).

In an attempt to further prevent children's diseases, such as contaminations and infections, which are caused by naturalistic elements, water from the tap, as it widely perceived to be unhealthy, is boiled before given to the child. Moreover, a relatively high percentage of children in Crete are vaccinated against infectious diseases, such as diphtheria, tetanus and polio. Research has, however, shown that vaccinations against pertussis or whooping cough are administered less frequently, presumably out of fear of possible side effects, whereupon only a minor percentage of children receive the required dosage of vaccines against pertussis. The number of vaccinations against measles, mumps and rubella has reportedly been very low mainly following the parents' belief that children would be better immunized once they had suffered from the disease (*cf.* Lionis *et al.* 1998a). As Blum & Blum (1965: 53) elaborate: '*These illnesses are considered "compulsory diseases"; children are purposely exposed to them*'. Apart from the fear of possible side effects and the belief in 'compulsory' children's diseases, compliance with a rather extensive and complex vaccination schedule and a lack of opportunities to administer vaccinations during consultations with the physician have stimulated an immunisation profile among the population of Crete, which has remained rather inadequate despite continuous improvements. Nevertheless, rates of immunisation have recently demonstrated that the number of vaccinations administered against diseases such as diphtheria, tetanus, pertussis and measles, has increased in Greece over the past 25 years (*cf.* Arnold 1986; Kain Hart 1992; Van Bommel 1993; Lionis *et al.* 1998a; Economou 2010; WHO 2013b).

In view of the locally specific concepts of illness, as well as the different examples of 'shameful' and children's diseases, Table 7.2 introduces a classification of local illnesses, which incorporates the different types of illnesses recalled by the inhabitants of Pírgos and Práitoria over the course of fieldwork carried out in the area. The illnesses are arranged alphabetically in accordance to the respective disease categories, which have been designed by the World Health Organisation (WHO) in its 10th revision of the International Classification of Diseases (ICD) (*cf.* WHO 2014b).

The first category of certain infectious and parasitic diseases comprises the conditions of the intestinal infectious gastroenteritis and the bacterial whooping cough. Since whooping cough has locally been referred to as '*Vikhas*', 'cough', the illness needs to be distinguished from the condition of cough included in the category of symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified. In the research area, neoplasms are commonly defined as '*Karkinos*', 'Cancer'. Containing a reference to the shape of skin moles, the term '*Elies*', 'olives', is locally used to describe the benign melanocytic nevi. The subsequent category of endocrine, nutritional and metabolic diseases comprises several disorders of the thyroid and pituitary gland, including goitre, as well as a number of metabolic disorders, such as hypercholesterolemia and hypocalcaemia, whereby the latter is circumscribed as a lack of calcium, '*Asvestis*', in the body. While mental and behavioural disorders are commonly identified with the generic term of '*psikholiyiko*', 'psychological', the category furthermore includes the individual conditions of anxiety, depression and stress. Medical conditions, which are related to nervousness, nerve pain or paralysis and include disorders of the brain as well as specified diseases, such as Parkinson's disease and migraine, are classified as diseases of the nervous system. Furthermore, the category of diseases of the eye and adnexa comprises a number of specific disorders, such as conjunctivitis, optic nerve damage, strabismus and skin irritations caused by a sty. In this way, diseases of the eye and adnexa are frequently identified with the generic term of '*Mati*', 'eye', and hereby need to be distinguished from the condition of the 'evil eye', similarly referred to as '*Mati*', which is included in the category of unspecified diseases. Similarly, diseases of the ear and mastoid process are frequently circumscribed with the collective term '*Afti*', 'ear', and relate to the experience of hearing loss and earache. To a considerable extent, diseases of the circulatory system refer to heart diseases also known as 'cardiovascular diseases', namely to the incidence of a heart attack, as well as to the prevalence of tachycardia and valvular heart disease. In addition to specific heart diseases, the category comprises the conditions of high blood pressure or hypertension, thrombosis and hemorrhoids, as

well as the incidence of a stroke. The subsequent category of diseases of the digestive system includes a considerable variety of illnesses, such as allergies, asthma, bronchitis, the common cold, cough, the flu and pneumonia. Diseases of the digestive system not only relate to disorders of the bowel and gall, thereby including constipation and stomach ulcers, but also enclose conditions of the oral cavity, salivary glands and jaws, namely gingivitis and toothache. Illnesses associated with skin abnormalities, such as acne, furuncles, psoriasis and sunburn, are categorised as diseases of the skin and subcutaneous tissue.

Table 7.2 Local Classification of Illnesses (*cf.* WHO 2014b).

Disease Category	Local Name of Illness
Certain Infections and Parasitic Diseases	Ghastrenderitida, Vikhas
Neoplasms	Elia, Karkinos
Endocrine, Nutritional and Metabolic Diseases	Asvesti, Ipofisi, Kholisterini, Thireoidis, Vronkhokili
Mental and Behavioural Disorders	Ankhos, Katathlipsi, Psikhologyiko
Diseases of the Nervous System	Imikrania, Kefali, Nevro, Paralisi, Parkinson
Diseases of the Eye and Adnexa	Kritharaki, Mati
Diseases of the Ear and Mastoid Process	Afti, Varikoia
Diseases of the Circulatory System	Emorroides, Engkefaliko, Kardia, Kiklos, Piesi, Thromvosi
Diseases of the Respiratory System	Alleryia, Anapnefstiko, Asthma, Gripi, Krioma/Krioloyima, Pnevmonia, Vikhas, Vronkhitida
Diseases of the Digestive System	Diskiliotita, Dondi, Elkos, Endero, Kholi, Ulo
Disease of Skin and Subcutaneous Tissue	Derma, Engkavma, Kaloyeros, Psoriasi, Spiri
Diseases of the Muscoskeletal System and Connective Tissue	Afheniki Mielopathia, Arthritida, Ghonato, Kokkalo, Mesi, Osteoporosi, Plati, Podi, Revmatismos, Spondhilos, Tenontitida
Diseases of the Genitourinary System	Nefro, Prostatitis, Urolimoksi
Pregnancy, Childbirth and the Puerperium	Child Birth
Certain Conditions Originating in the Perinatal Period	Anapiria, Anapoda
Congenital Malformations, Deformations and Chromosomal Abnormalities	Nefro
Symptoms, Signs and Abnormal Clinical and Laboratory Findings, not elsewhere classified	Diarrhia, Emetos, Ilingos, Kefali, Kilia, Lemos, Piretos, Stomakhi, Vikhas, Zakhari
Injury, Poisoning and certain other Consequences of External Causes	Alleryia, Ematoma, Kapsimo, Pliyi
External Causes of Morbidity and Mortality	Atihima, Khtipos
Unspecified	Asvestis, Elkos, Iosi, Kistis, Mati

Hereafter, diseases of the muscoskeletal system and connective tissue are frequently identified with a reference to ailments of particular body parts, such as the back, the bones, the knees, the legs or the vertebrae. The fairly diverse category, however, also comprises individual conditions, including arthritis, cervical myelopathy, osteoporosis, rheumatism and tendinitis. While illnesses related to the kidneys, prostate and urinary tract are categorised as disease of the genitourinary system, conditions associated with childbirth are found within the category of pregnancy, childbirth and the puerperium. In the research area, conditions originating in the perinatal period refer to abasia as well as to certain types of disablement, whereas the prevalence of a solitary

kidney is identified as the only component within the category of congenital malformations, deformations and chromosomal abnormalities. The subsequent category includes any symptom, sign and abnormal clinical and laboratory finding, which has not been classified elsewhere, and hereby comprises the conditions of cough, diarrhoea, headache, high blood sugar or hyperglycaemia, fever, stomach ache, throat ache and throat disorders, vertigo and vomiting. Skin allergies and burns as well as wounds and bruises are hereafter categorised as injury, poisoning and certain other consequences of external causes, while percussions and accidents, including transport accidents, are similarly classified as external causes of morbidity and mortality. Finally, the last category of unspecified illnesses comprises a variety of conditions, which have not been specified within the 10th revision of the International Classification of Diseases and include processes of calcification, the incidence of colitis, the appearance of cysts and ulcers, viral infections and the ‘evil eye’ or ‘*Mati*’ presented in detail below.

The ‘Evil Eye’

The ‘evil eye’ refers to a type of human gaze, which is believed to be able to harm someone’s life and properties, and involves both a religious belief in the devil, as well as a non-religious belief in malignant human energy. Exposure to the ‘evil eye’, which generally follows the interaction with a person casting the ‘evil eye’, can result in a rapid decrease of health. In this respect, the ‘evil eye’ is both physically experienced and spiritually communicated, whereby the state of bodily distress caused by the ‘evil eye’ is interpreted as a crossing of boundaries and a subsequent state of ill-health of the body, ‘*soma*’, the spirit, ‘*pneuma*’ and the soul, ‘*psyche*’ alike. As Roussou (2011: 146) explains: ‘*Through practising the evil eye, they challenge the dichotomized stereotype that seems to stubbornly pursue the somatic and the spiritual. [...] By spiritually perceiving and somatically believing the evil eye, they transcend the obstacles that stand between body, soul and spirit*’. The symptoms of the ‘evil eye’ cover a wide range of conditions, such as headache, dizziness, growing pains, fatigue, yawning, insomnia, stomach ache, vomiting, loss of appetite, eye-related problems, fever and general malaise. Affliction of the ‘evil eye’ can moreover result in sterility, miscarriage, mental illness, accidents, disabilities, complete destruction and death. In addition to physical disorders, the sufferer can experience a weak spirit and a heavy soul or a sense of spirit- and soul-loss, which is caused by the devil or by the malignant human energy. The ‘evil eye’ can furthermore cause damage to personal properties, including animals, houses, plants, cars or commodities, such as homemade bread or cheese (cf. Lykiardopoulos 1981; Greger 1985; Arnold 1986; Van der Hoeven 1992; Van Bommel 1993; Molenaar 1999; Van den Akker 2002; De Vries 2007; Roussou 2011).

In view of its characteristics, the belief in the ‘evil eye’, as it is identified among a number of ancient as well as modern civilisations, including the early Greco-Roman and the present-day Greek population, is specified as one of the oldest components of local belief systems in numerous communities. The belief is rather widespread and while it incorporates an abundance of local varieties, the phenomenon of the ‘evil eye’, characterised as one common feature among the countries bordering the Mediterranean Sea. In Greece, the ‘evil eye’ is commonly associated with a form of demonic energy, which is connected with the devil but lies outside the socio-religious organisation of the community and can result in personal damage. As Greger (1985: 66) theorises: ‘*Outside the [community] lies the numinous, the mysterious, which must be controlled by the Church, through the office of a priest. Within the Church establishment it is generally agreed that *vascania* exists, and is dangerous*’. In the Greek language, the ‘evil eye’ is known as ‘*Vascania*’, notably a doctrinal term coined by the Greek Orthodox Church, which is almost exclusively used by religious healers. Concurrently, the ‘evil eye’ is referred to as ‘*Matiasma*’, namely a practical term applied by the local population, which derives from the Modern Greek word for ‘eye’, ‘*Mati*’, and is accepted by religious doctrines. Within the Cretan dialect, the ‘evil eye’ is occasionally described as ‘*Ftarmos*’ or ‘*Thiarmos*’. In the research area, community members colloquially defined the ‘evil eye’ as ‘*Mati*’ or ‘*Kako Mati*’, ‘bad eye’, whereby a state of suffering from the ‘evil eye’ is referred to as ‘*ekho mati*’, ‘to have the eye’.

In line with the term ‘*Mati*’, the processes of casting and curing the ‘evil eye’ are locally known as ‘*Matiazo*’, ‘to enchant’, and ‘*Ksematiazo*’, ‘to disenchant’, respectively whereupon the ritual healing process of disenchanting is described as ‘*Ksematiasma*’ (cf. Herzfeld 1981; Lykiardopoulos 1981; Gilmore 1982; Greger 1985; Arnold 1986; Hagoort 1998; Van den Akker 2002; Roussou 2011).

In general, possession of the ‘evil eye’ refers to both the casting of the eye by the giver and the suffering from the eye by the receiver. The belief in the ‘evil eye’ holds that the ability to possess the ‘evil eye’ as a giver can be inherited and can be interpreted as a flaw of character. Nevertheless, any person under the influence of envy, jealousy, meanness or generally bad feelings is assumingly capable to cast the eye and cause damage. Throughout the Mediterranean Region, people with blue or odd eyes, as it may refer to deep-set eyes or closely spaced eyebrows, as well as strangers or monks have had the reputation of being specifically prone to transfer the ‘evil eye’. Likewise, older, childless women as well as poor or physically deformed people are reportedly more likely to develop feelings of jealousy and to cast the ‘evil eye’. Furthermore, menstruating women, as they are possessed by spiritual powers, can be particularly prone to, notably unintentionally, transmit the ‘evil eye’. On the whole, any form of extensive praise or admiration, which is directed towards a person or object, can stimulate feelings of envy and jealousy and can invite the powers of the ‘evil eye’. In this way, the eye is usually transmitted through gazing, gossiping, hearing, smelling or tasting (cf. Herzfeld 1981; Lykiardopoulos 1981; Arnold 1986; Van der Hoeven 1992; Molenaar 1999; Van den Akker 2002; Roussou 2011). As Blum & Blum (1965: 42) indicate: ‘*The one who envies [...] is known to be dangerous. His admiration is a weapon in his hands, for it becomes the evil eye, a witchcraft force that visits illness or disaster upon the one admired*’. Although the process of casting the ‘evil eye’ usually involves the conscious wish of the giver to harm the other, beholders are not necessarily aware of their possession of the ‘evil eye’ and can fascinate others unconsciously or even unintentionally (cf. Blum & Blum 1965; Lykiardopoulos 1981; Greger 1985; Arnold 1986; Kain Hart 1992; Van der Hoeven 1992; Van Bommel 1993; Molenaar 1999; Roussou 2011). As Herzfeld (1981: 564) argues: ‘*In this way, one has the evil eye as an innate characteristic [...], but what gives this condition away to others is the “bad habit” [...] of exhibiting excessive curiosity*’. Overall, habits of casting the ‘evil eye’ violate social norms and boundaries and present a danger to the integrity of the community whereupon inhabitants, who knowingly transfer the ‘evil eye’, are to a certain degree stigmatised and avoided by their fellow community members. The belief in the ‘evil eye’ is embedded in the socio-cultural context of the community and hereby effectuates indigenous concepts of inclusion and exclusion (cf. Herzfeld 1981; Van der Hoeven 1992; Van Bommel 1993; Molenaar 1999; Van den Akker 2002; De Vries 2007). In view of the specific phenomena, which can provoke a transmission of the ‘evil eye’, certain population groups, such as infants, pregnant women, new mothers, prominent people as well as those, who are enjoying youth and beauty, a special quantity of luck and happiness or are in a rite-of-passage, are believed to be most vulnerable to the effects of the malicious eye. Following the vulnerability of children, young mothers greatly fear the eye and adopt a number of practices, which are aimed at the protection of their children from the powers of the ‘evil eye’. The practices of protection known across Greece include: the habit of strangers to spit on the face of the child in order to declare their harmless intentions, which is reminiscent of the custom of people to spit on anyone expressing admiration; smearing the blackening of a pan behind the ear of the child before it attends church in order to ward off the gaze of others; rubbing cold or lukewarm ashes on the child, while occasionally drawing a cross on its back; or attaching a blue bead to the body or clothes of the child. Showing a variation of the blue bead, the inhabitants of Greece and Crete, in particular, commonly make use of a blue-eyed amulet, which is similarly believed to enhance protection from the ‘evil eye’, by means of wearing it as a necklace or bracelet or by hanging it against the wall of a room or at the mirror of a car.

According to Lykiardopoulos (1981: 228), it is the aim of the eye amulet: *'to cause the harmful glance to expend its evil force on something which will be unaffected, or which may itself accept the potential harm in place of the person or thing needing protection'*. The amulet is regarded as something rather personal, whereby its protective effects are restricted to the individual. The blue colour, which is widely perceived to stimulate defensive powers against the harm of the 'evil eye', moreover finds use in the practice of painting the frames of doors and windows in blue in order to enhance protection. Apart from the blue-eyed amulet, a number of charms and items, which are commonly worn on the body or are attached to the clothes, are known in Greece and Crete for their protective nature against the 'evil eye'. In particular, these ornaments include: a range of religiously themed symbols or amulets, such as cross necklaces with mostly small, wooden pendants; particular wooden cross amulets, which are carved at monasteries out of specific types of wood, are folded, notably mixed with plants and incense, into a three-point shaped cloth and are worn underneath the clothes close to the heart, as frequently done by children; images of the Mother of God, which are attached to the clothes, as it is commonly applied to children; and small, vividly coloured pillows of a length of two centimetres in the shape of a heart with a stitched-on cross, which are made in monasteries and are worn among one's clothes.

Moreover, adults may wear the horn of a wild mountain goat as a symbol of protection from the 'evil eye'. In addition to wearing charms, the inhabitants of Greece and Crete, in particular, are familiar with a number of household products, which serve the means of protection from the 'evil eye'. These products include: salt; dormant bulbs, which symbolise the 'evil eye' but act as magic charms and are hung against the walls of houses or fences; and garlic (*Allium sativum* L.), which is similarly hung against walls or is worn among one's clothes, as frequently done by children. Resembling garlic, a white, ceramic hanger with wooden sticks attached at its bottom, of which the top symbolises the shape of the eye, can likewise be hung against walls or inside busses or cars in an attempt to ward off the 'evil eye' (cf. Lykiardopoulos 1981; Arnold 1986; Kain Hart 1992; Van Bommel 1993; Molenaar 1999; Van den Akker 2002; Fielding *et al.* 2005).

In addition to the different means of protection, an affliction of the 'evil eye' is commonly treated by a combination of religious and spiritual forms of medicine, which are known in Greece and Crete. Treatment practices usually involve the intermediation of one or multiple human mediators and serve, at times simultaneously, the detection and alleviation of the 'evil eye'. Known as *'Ksematiasma'*, the ritual healing process is rich in religious symbolism and involves the saying of sacred prayers, while engaging the services of both religious and lay specialists alike (7.9). The prayers, which are either secret or refer to official prayers, such as the Nicene Creed or the prayers of Saint Basil or Saint Kyprianos, usually require a transmission and repetition of words between different genders, that is from woman to man or man to woman. From the array of practices, which are reportedly known as forms of treatment of the 'evil eye', the inhabitants of rural Crete commonly described the following two methods of detecting the 'evil eye': (1) the mediator drips several drops of oil into a bowl filled with water; provided that the drops unite, the subject is afflicted by the 'evil eye'; provided that the drops separate, the subject has not been afflicted by the 'evil eye'; (2) the elbow of the subject is placed in the corner and along the edge of a tea towel; the mediator sprinkles some salt on the place where the tip of the middle finger of the subject meets the cloth; the mediator grabs the tea towel at the height where the salt is sprinkled, thereby saying a prayer and making the sign of the cross with the towel grabbed in front of the subject's forehead; the operation of placing the elbow on the towel is repeated; provided the tip of the middle finger of the subject does not meet the salt, the subject is afflicted by the 'evil eye'; provided the tip of the middle finger meets the salt, the subject has not been afflicted by the 'evil eye'. In addition to these practices, the mediator can moreover detect the 'evil eye' by means of mumbling secret prayers or incantations and by making the sign of the cross repeatedly, thereby aiming at the transfer of the 'evil eye' from the subject to the mediator. If the subject is afflicted the 'evil eye', the mediator experiences a feeling of malaise and fatigue, which is usually accompanied by continuous yawning or even

crying. Through the flowing of divine energy, the mediator hereby absorbs the malaise of the subject, who in turn is expected to experience an immediate relief of symptoms.

Overall, the ‘evil eye’ is alleviated through invoking the powers of God through holy words and numbers and through hereby rendering the subject undesirable to demonic spirits. Cure is affected by a variety of practices, which are usually administered after or while detecting the ‘evil eye’ and include: the saying of secret prayers, which can also be offered over the phone; the making of the sign of the cross; the burning of incense; the administration of MAC plants; spitting; as well as the sprinkling of salted or holy water over the subject. In order to enhance treatment, the subject may moreover consume some water, which is mixed with olive oil, or may drink from a glass of water, which had been blessed by means of immersing a cross into the liquid (*cf.* Lykiardopoulos 1981; Arnold 1986; Kain Hart 1992; Molenaar 1999; Van den Akker 2002; De Vries 2007; Roussou 2011).

7.2 Reported Illnesses and related Patterns of Health Care Utilisation

7.2.1. Health and Illness in the Research Area

Following a brief description of the general profile of health and disease in rural Crete, as well as an analysis of local concepts of health and illness in the research area, this paragraph deals with the general health status and different illness episodes experienced by the sample population. Accordingly, Table 7.3 presents the distribution of the general health status of all household members of the sample according to the two research communities.

Table 7.3 Distribution of the General Health Status of the Household Members of the Sample over the Two Research Communities (N=656).

General Health Status	Pirgos		Praitoria		Total	
	N	%	N	%	N	%
poor	35	7.1	23	14.3	58	8.8
average	65	13.1	25	15.5	90	13.7
well	395	79.8	113	70.2	508	77.4
Total	495	100.0	161	100.0	656	100.0

The vast majority of inhabitants in both research communities (77.4%, n=508) reportedly have a good general health status. 79.8% (n=395) of respondents in Pirgos and 70.2% (n=113) of respondents in Praitoria perceive their health as rather positive, whereas only 7.1% (n=35) of respondents in Pirgos and 14.3% (n=23) of respondents in Praitoria report a fairly poor health status. In view of these results, it is highly likely that local habits and customs, such as dietary patterns, social group membership and adherence to the annual religious canon, which are maintained by the inhabitants of Pirgos and Praitoria, contribute to the overall positive health profile of the sample population. In spite of the good general health status declared by the respondents, approximately half of all household members of the sample (51.5%, n=338) experienced an episode of illness during the 12 months preceding the household surveys. In particular, 59.2% (n=200) of ‘patients’ of the sample are female and although the numbers of ‘patients’ are rather evenly distributed among age groups, the highest percentages of respondents, who suffered from a disease during the recall period, are found in the age categories from 70 to 76 and 77 to 83 years. To some extent, the episodes of illness have been accompanied by a number of symptoms, of which the feeling of pain and the experience of a head cold or sore throat as well as of dizziness or fever have been reportedly the most common. Furthermore, a considerable percentage of illnesses (44.4%, n=150) have been perceived to be not severe as opposed to mildly severe (19.2%, n=65), moderately severe (19.5%, n=66) and highly severe (16.9%, n=57) by the respondents. In addition to the differences in severity of the reported illness episodes, it appears that 59.2% (n=200) of all conditions lasted longer than one month,

hereafter identified as chronic diseases, while 40.8% (n=138) of all disorders lasted less than one month, hereafter classified as acute diseases. In this way, Table 7.4 offers the list of reported illnesses, which the respondents experienced as main episode of illness over a recall period of 12 months. The conditions are listed in the middle column in a descending order following their frequency of prevalence, which is illustrated in the columns to the right. The diseases in the table are presented under reference to names accepted in the tenth revision of the International Classification of Diseases (ICD), which is elaborated by the WHO (2014b).

Table 7.4 List of reported illnesses in the Research Area (N=338) (*cf.* WHO 2014b).

	Accepted Name of Disease	Frequency	
		n	%
1	The Common Cold	79	23.4
2	Essential (Primary) Hypertension	43	12.7
3	Ischaemic or other Form of Heart Disease	19	5.6
4	Abdominal and / or Pelvic Pain	13	3.8
5	Elevated Blood Glucose Level	12	3.6
6	Back Pain or other Dorsopathy	11	3.3
7	Disorder of the Thyroid Gland	10	3.0
8	Metabolic Disorder	10	3.0
9	Influenza or Pneumonia	10	3.0
10	Pain in the Lower Limb or other Soft Tissue Disorder	9	2.7
11	Disorder of Bone, Bone Density and / or Structure	9	2.7
12	Viral Infection or other Unspecified Disorder	9	2.7
13	Chronic Lower Respiratory/other Disease of Respiratory System	8	2.4
14	Other Disease of the Digestive System	8	2.4
15	Disease of the Nervous System	7	2.1
16	Arthropathy or other Disease of the Musculoskeletal System and Connective Tissue	7	2.1
17	Dizziness and Giddiness or other Symptom, Sign or Abnormal Clinical or Laboratory Finding, not elsewhere classified	7	2.1
18	Mental and / or Behavioural Disorder	6	1.8
19	Disease of the Intestines	6	1.8
20	Disorder of Prostate or other Disease of the Genitourinary System	6	1.8
21	Disease of the Eye and / or Adnexa	5	1.5
22	Allergic Rhinitis	5	1.5
23	Disease of the Skin and / or Subcutaneous Tissue	5	1.5
24	Disease of the Ear	4	1.2
25	Certain Condition originating in the Perinatal Period	4	1.2
26	Certain Infectious or Parasitic Disease	3	0.9
27	Neoplasm	3	0.9
28	Accident	3	0.9
29	Cerebrovascular or other Disease of the Circulatory System	2	0.6
30	Injury or certain other Consequence of External Causes	2	0.6
31	the Evil Eye	2	0.6
32	Childbirth	1	0.3
33	Congenital Malformation	1	0.3
34	Unknown	9	2.7
Total		338	100

In general, a considerable number of ‘patients’ (23.4%, n=79) of the sample reportedly suffered from the common cold, also known as ‘Acute Nasopharyngitis’, during the recall period of 12 months, thereby determining the condition as the most frequently experienced disease among the

study population. Locally known as '*Krioma*' or '*Krioloyima*', notably a reference to the Greek adjective 'cold', '*krios*', the causes of the common cold have been related to cold weather conditions and changes in temperature. The symptoms of the common cold have been identified as head cold, sore throat, cough, mucous secretion, headache, pain in the body and fever as well as diarrhoea. The common cold is generally perceived to be not severe and is identified as a predominantly acute disease, which typically persists over a period of time from one to 14 days (*cf.* Van Beelen 1992).

Essential (primary) hypertension or high blood pressure, which is commonly specified as '*Piesi*', 'pressure', in the research area, accounts for 12.3% (n=43) of all illness episodes reported by the respondents. In general, the consumption of unhealthy, namely salty and greasy, food, harsh working hours, feelings of worry as well as age and heredity have been identified as causes of high blood pressure. Although 'patients' experiencing essential (primary) hypertension may display no particular symptoms, it appears that the condition has occasionally been accompanied by feelings of vertigo, anxiety, headache and general malaise. High blood pressure is predominantly regarded as not or mildly severe and has moreover been characterised as an exclusively chronic disease, which may last from five months to several years (*cf.* Van Beelen 1990).

Among the 'patients' of the sample, 5.6% (n=19) reportedly suffered from an ischemic or other form of heart disease during the recall period. Episodes of ischemic and other forms of heart disease include the incidence of a heart attack, as well as the prevalence of tachycardia and valvular heart disease. Since the prevalence of heart attacks among the 'patients' experiencing an ischemic or other form of heart disease is relatively low (15.7%, n=3), the present research links up with an earlier study conducted in Crete, which showed that albeit the fairly high risk factors for ischemic heart disease the number heart attacks has remained rather low (*cf.* Koutis *et al.* 1993). As Koutis *et al.* (1993: 57), however, add: '*Due to the increasing levels of cholesterol and other risk factors in Cretan men [...], one may predict that in the years to come the incidence of myocardial infarction may increase considerably*'. Research conducted in Anoyia, Crete, moreover revealed that forms of cardiovascular or heart disease are greatly feared by the local population. The causes of heart diseases have been related to the prevalence of high blood pressure and high levels of cholesterol as well as to smoking and unhealthy dietary patterns (*cf.* Bouma 2002). Although patients may at times exhibit no particular symptoms, the disorders may be accompanied by feelings of pain in the arm, shoulder or nerves as well as a racing heartbeat and anaemia. Ischaemic and other forms of heart disease are generally considered to be highly severe and since the conditions typically persist over several months or years they have been specified as exclusively chronic diseases.

Feelings of abdominal and pelvic pain, as they are categorised as symptoms and signs involving the digestive system and abdomen, amount to 3.8% (n=13) of illness episodes reported by the respondents. The experience of abdominal and pelvic pain is largely believed to be not severe and although the condition occasionally appears to last less than one month, it is specified as primarily chronic disease, which tends to persist over several years.

The prevalence of elevated blood glucose level, which is defined as an abnormal finding on the examination of blood and is commonly known as 'High Blood Sugar' or 'Hyperglycaemia', accounts for 3.6% (n=12) of illness episodes among the 'patients' of the sample. Locally referred to as '*Zakhari*', 'sugar', 'patients' experiencing elevated blood glucose levels usually display no particular symptoms but may at times suffer from feelings of vertigo, tremble and pain the arm. The perceived severity of elevated blood glucose levels is rather equally distributed, whereby the condition is considered to be not severe, mildly severe, moderately severe or highly severe. The experience of elevated blood glucose levels has moreover been characterised as an exclusively chronic condition, which commonly last for several years.

Hereafter, 3.3% (n=11) of 'patients' of the sample reportedly suffered from back pain or another dorsopathy, namely the feeling of pain in the vertebrae or the prevalence of cervical

myelopathy, during the recall period. The symptoms of the disorder typically relate to feelings of pain and the inability to walk.

Furthermore, back pain and other dorsopathies are primarily perceived to be moderately severe and have been specified as predominantly chronic diseases, which persist over several months and years. Across the sample population, the prevalence of disorders of the thyroid gland or metabolic disorders, as they are examples of endocrine, nutritional and metabolic diseases, each amount to 3.0% (n=10) of illness episodes recorded. In particular, 'patients', who suffer from a disorder of the thyroid gland, either exhibit a number of symptoms, including pain, pain in the arm, anxiety, vertigo, nervousness and weakness or display no particular symptoms. The condition is commonly regarded as not severe and is identified as a primarily chronic disease lasting for years. Metabolic disorders, which relate mostly to high levels of cholesterol also known as 'Hypercholesterolemia', are likewise accompanied by no particular symptoms although 'patients' may at times suffer from vertigo. Moreover, metabolic disorders are similarly perceived to be not severe and have been distinguished as exclusively chronic diseases, which persist over years.

Episodes of influenza and pneumonia, which equally account for 3.0% (n=10) of reported disorders, generally present a variety of symptoms, such as breathing difficulties, cough, mucous secretion, fever and weakness. The level of severity of influenza and pneumonia is regarded as rather low, while the conditions, as they last mainly between two to 14 days, have been specified as largely chronic diseases.

In the research area, 2.7% (n=9) of 'patients' reportedly suffered from pain in the lower limb, namely in the legs or knees, or experienced another soft tissue disorder, such as tendinitis. While the symptoms of the conditions relate mostly to feelings of pain, the majority of 'patients', who suffer from pain in the lower limb and other soft tissue disorders, regard the condition as highly severe. Although the illness occasionally persists over a couple of weeks, the disorder is defined as primarily chronic disease, whereby episodes last from two months up to several years. Similarly representing examples of diseases of the musculoskeletal system and connective tissue, disorders of the bone, bone density and structure, which relate primarily to the prevalence of osteoporosis, equally amount to 2.7% (n=9) of illness episodes among 'patients' of the sample. Usually accompanied by feelings of pain, the conditions are generally perceived to be either moderately or highly severe and have been distinguished as exclusively chronic diseases, which typically last several years.

Among the 'patients' of the sample, 2.7% (n=9) seemingly experienced an unspecified disease, which may relate to a viral infection, to the appearance of an ulcer or cyst or to the process of calcification at large. The symptoms of illnesses, which have been identified as unspecified, range from no particular symptoms to the experience of head cold, throat ache, headache, fever, overall pain and exhaustion. The majority of illness episodes, which have remained unspecified, are considered to be not severe and have been characterised as acute diseases although the conditions may at times persist over several months.

Episodes of illness, which have been classified as chronic lower respiratory diseases or other diseases of the respiratory system, and include various conditions, such as asthma, bronchitis and cough, while excluding other diseases of the respiratory system, such as the common cold, influenza and pneumonia, account for 2.4% (n=8) of disorders reported by the respondents. The prevalence of such illnesses is usually accompanied by the experience of breathing difficulties, cough and mucous secretion. Chronic lower respiratory diseases and other diseases of the respiratory system are moreover regarded as mostly mildly or moderately severe and although episodes of illness to some extent persist less than one month, the conditions have been specified as primarily chronic diseases lasting for several years.

Across the sample population, 2.4% (n=8) of 'patients' moreover experienced a disease of the digestive system, which has not been categorised as disease of the intestines. In particular, respondents have suffered from various conditions, including stomach ulcers, disorders of the gall, toothache and gingivitis, thereby exhibiting mainly symptoms of pain. While the diseases

are commonly regarded as not or mildly severe, they have been defined as almost exclusively acute conditions, which persist over less than one month.

Diseases of the nervous system, which relate to disorders of the brain, migraine, nerve pain, nervousness, paralysis and Parkinson's disease, amount to 2.1% (n=7) of illness episodes experienced by 'patients' of the sample. The symptoms of diseases of the nervous system range from no particular symptoms to feelings of overall pain and the experience of stomach ache and headache. While the majority of respondents, who suffer from a disease of the nervous system, consider the illness to be highly severe, the conditions have moreover been distinguished as predominantly chronic disorders lasting for several years.

In general, arthropathies and other diseases of the musculoskeletal system and connective tissue, as they relate primarily to episodes of arthritis and rheumatism, exclude any condition defined as back pain or other dorsopathy, as pain in the lower limb or other soft tissue disorder or as disorder of the bone, bone density and/or structure. Studies conducted elsewhere in rural Crete have shown that arthritis and rheumatism are seemingly caused by hard work, cold weather conditions and the consumption of bad food. The diseases account for 2.1% (n=7) of all illness episodes recorded among the sample population and are usually accompanied by symptoms of back pain, as well as pain in the legs and body at large. The prevalence of arthritis and rheumatism is commonly perceived to be highly severe, whereby the conditions have been distinguished as exclusively chronic diseases, which typically persist over several months and years, and have been interpreted as causes of an overall unhealthy way of living (*cf.* Van den Akker 2002).

Among the respondents, 2.1% (n=7) furthermore suffered from dizziness and giddiness or from another symptom, sign or abnormal clinical or laboratory finding, which has not been classified elsewhere, such as cough, headache or throat ache. Clearly, the conditions are associated with feelings of dizziness and pain, as well as with the experience of cough and vomiting. The vast majority of episodes of dizziness and giddiness as well as other symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified are considered to be not severe or moderately severe. The disorders are moreover defined as both acute, namely lasting for several days or weeks, and chronic, namely persisting over several months or years.

Although the results of a recent study conducted in the area around Anoyia west of Iraklion revealed a low prevalence of diseases such as anxiety, depression and insomnia, mental and behavioural disorders, which refer to anxiety, depression and stress, as well as to other unspecified mental and/or behavioural disorders, amounted to a total of 1.8% (n=6) of diseases reported by the 'patients' in Pírgos and Práitoria. In particular, the causes of depression have been linked to both boredom and stress, while a state of stress may be caused by certain socio-cultural factors, such as family enmities (*cf.* Van den Akker 2002; Antonakis *et al.* 2006). The symptoms of the conditions relate to the experience of anxiety, headache, stress and tremble. Furthermore, the perceived severity of mental and behavioural disorders is rather evenly distributed and ranges from mildly to moderately and highly severe. Any condition, which is classified as mental and/or behavioural disorder, moreover appears to last for several years and has hereafter been distinguished as exclusively chronic disease.

Diseases of the intestines, as they relate to disorders of the bowel and episodes of constipation, similarly account for 1.8% (n=6) of illnesses experienced by the respondents. Patients suffering from a disease of the intestines commonly exhibit symptoms of pain as well as toilet urge and other problems of digestion. While the conditions are usually perceived to be not severe or mildly severe, diseases of the intestines have been specified as predominantly chronic disorders although they may occasionally last less than one month.

In the research area, 1.8% (n=6) of inhabitants reportedly suffered from a disorder of the prostate or other disease of the genitourinary system, such as kidney pain, renal failure or urinary tract infections. While 'patients', who experienced a disorder of the prostate, usually displayed symptoms of bloody urine or urinary incontinence, other diseases of the genitourinary system have been generally accompanied by pain or bleeding. The level of severity of the conditions is

rather evenly distributed, whereby the conditions are perceived to be mildly, moderately or highly severe.

Disorders of the prostate as well as kidney pain, renal failure and urinary tract infections have moreover been defined as exclusively chronic diseases, which last for several years. Apart from the 20 most frequently reported illnesses in the research area, the 'patients' of the sample reportedly suffered from: diseases of the eye and adnexa, such as optic nerve damage, strabismus and the appearance of a sty; allergic rhinitis; diseases of the skin and subcutaneous tissue, including acne, the appearance of a furuncle, psoriasis and sunburn; diseases of the ear, such as hearing loss and earache; certain conditions originating in the perinatal period, namely abasia and other disablements; certain infectious and parasitic diseases, including gastroenteritis and whooping cough; neoplasms; accidents; cerebrovascular and other diseases of the circulatory system, including the incidence of stroke, which exclude ischemic and other forms of heart disease as well as essential (primary) hypertension; injuries and certain other consequences of external causes, such as skin allergies and skin burns; the 'evil eye'; disorders related to childbirth; and congenital malformations, namely the presence of a solitary kidney. In the research area, no cases of measles, mumps, chickenpox or similar children's diseases have been reported, whereby these findings are likely to be rooted in common perception that such diseases are compulsory. Although the region of South-Central Crete is generally prone to seismic activity, no casualties incurred by seismic activities have to this day been reported for the communities of Pírgos and Práitoria.

In the research area, the prevalence of certain diseases, such as abdominal and pelvic pain, viral infections and other unspecified disorders, diseases of the intestines and other diseases of the digestive system, dizziness and giddiness and other symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified as well as mental and behavioural disorders is rather evenly distributed among genders. Yet, it appears that the male 'patients' of the sample experience a number of conditions, including chronic lower respiratory and other diseases of the respiratory system, ischemic and other forms of heart disease, elevated blood glucose levels as well as disorders of the prostate and other diseases of the genitourinary system more frequently than the female 'patients' (*cf.* Koutis *et al.* 1993). On the other hand, women seemingly suffer from disorders of the thyroid gland, metabolic disorders, essential (primary) hypertension, diseases of the nervous system, the common cold as well as influenza and pneumonia more commonly than men (*cf.* Koutis *et al.* 1993). Likewise, conditions such as arthropathies and other diseases of the musculoskeletal system and connective tissue, disorders of the bone, bone density and structure, back pain and other dorsopathies as well as pain in the lower limb and other soft tissue disorders affect almost exclusively female respondents. Apart from the distribution of the disease prevalence across genders, the experience of illness reportedly differs across age groups. A number of disorders, including elevated blood glucose levels, disorders of the bone, bone density and structure, arthropathies and other diseases of the musculoskeletal system and connective tissue as well as disorders of the prostate and other diseases of the genitourinary system and neoplasms, appear to predominantly affect 'patients' aged 56 and older.

Furthermore, metabolic disorders and disorders of the thyroid gland affect almost exclusively respondents aged 49 and over, while essential (primary) hypertension and ischemic and other forms of heart disease prevail among 'patients' aged 42 and over (*cf.* Koutis *et al.* 1993). Although diseases of the nervous system are rather evenly distributed among age groups, a considerable number of 'patients' are found in the age category of 77 to 83 years. Patients, who suffer from back pain and other dorsopathies or from pain in the lower limb and other soft tissue disorders, are predominantly aged 21 and over. In general, it appears that certain conditions, such as diseases of the intestines and other diseases of the digestive system, which are found exclusively among respondents aged 76 and under, affect primarily younger 'patients'. In this way, the highest percentage of 'patients', who experienced a mental and/or behavioural disorder, belongs to the age category of 35 to 41 years. In addition to the increased prevalence of certain

diseases among particular age groups, a number of conditions, including the common cold, abdominal and pelvic pain, influenza and pneumonia, chronic lower respiratory and other diseases of the respiratory system as well as dizziness and giddiness as well as other symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified, are rather evenly distributed among age groups.

7.2.2 Utilisation of the Plural Medical System

Following a brief description of the nature, severity and duration of the different episodes of illness, which the respondents experienced during the recall period, 95.9% (n=324) of the 338 'patients' of the sample reportedly took action to treat the particular disease. In other words, 4.1% (n=14) of 'patients' abstained from contacting the plural medical system available in the research area and from receiving any form of medical treatment for the reported illness. In view of the different medical systems available to the population of Pírgos and Práitoria, a considerable number of 'patients' contacted more than one medical system in a way to advance treatment, thereby taking multiple steps within the process of health care utilisation (*cf.* Arnold 1986). In this way, an earlier study conducted in rural Greece has indicated that humans and nature are integrated in the same dynamic system whereupon a fracture, for example, can be treated with a combination of home remedies, prayers and pilgrimages as well as consultation with a traditional and a modern health care provider (*cf.* Blum & Blum 1965). As Slikkerveer (1990: 226) observes: *'Such multiple utilisation or "healer shopping" may be simultaneous or successive and may involve different medical systems or be within the same system'*. Following the limited patterns of repeated contacts with one medical system, the present study, however, focuses on the patterns of multiple utilisation of different medical systems and excludes a quantitative description of patterns of multiple utilisation within the systems. In addition to the 324 'patients' of the sample, who took a first step within the search for treatment, 117 (36.1%) contacted the plural medical system a second time, while 11 (3.4%) 'patients' took three steps, thereby using each of the available medical systems in order to receive treatment. Figure 7.1 illustrates the decisions made by the 'patients' of the sample towards seeking treatment and towards contacting the different medical systems operating in the research area.

In view of the different steps the respondents took in order to seek treatment, the patterns of utilisation of the plural medical system maintained by all 324 'action patients' of the sample amount to a total of 452 utilisation rates. Strictly speaking, the inhabitants of Pírgos and Práitoria, who had experienced an episode of illness during the recall period and decided to seek action in a way to receive treatment, contacted the plural medical system available in the research area a total of 452 times, namely a first time in 324 cases, a second time in 117 cases and a third time in 11 cases. As Slikkerveer (1990: 231) explains: *'It is clear, that the shift in utilisation rates is caused by multiple utilisation and referral of patients between the systems for the treatment of the same illness episode'*. Table 7.5 sheds light on the rates of utilisation of the plural medical system. Patients, who successively use different medical systems, have been identified as 'Flow-Through Cases' (*cf.* Slikkerveer 1990).

From 324 'action patients' of the sample, 45.8% (n=207) contacted the plural medical system one time, while 36.1% (n=117) took a second step to seek treatment. Hereafter, 23.4% (n=106) of the 117 respondents ended the search for treatment after the second step, whereas 3.4% (n=11) of 'patients', that is 9.4% (n=11) of 'patients', who took a second step, contacted the plural medical system a third time. In view of the availability of three different medical systems in the research area, none of the eleven respondents, who contacted the plural medical system three times, took an additional step in a way to receive treatment. Following the calculation of the rate of utilisation of the plural medical system operating in the research area, Table 7.6 similarly explains the process of transformation of the number of 'patients' of the sample into the frequency of utilisation of the different medical systems.

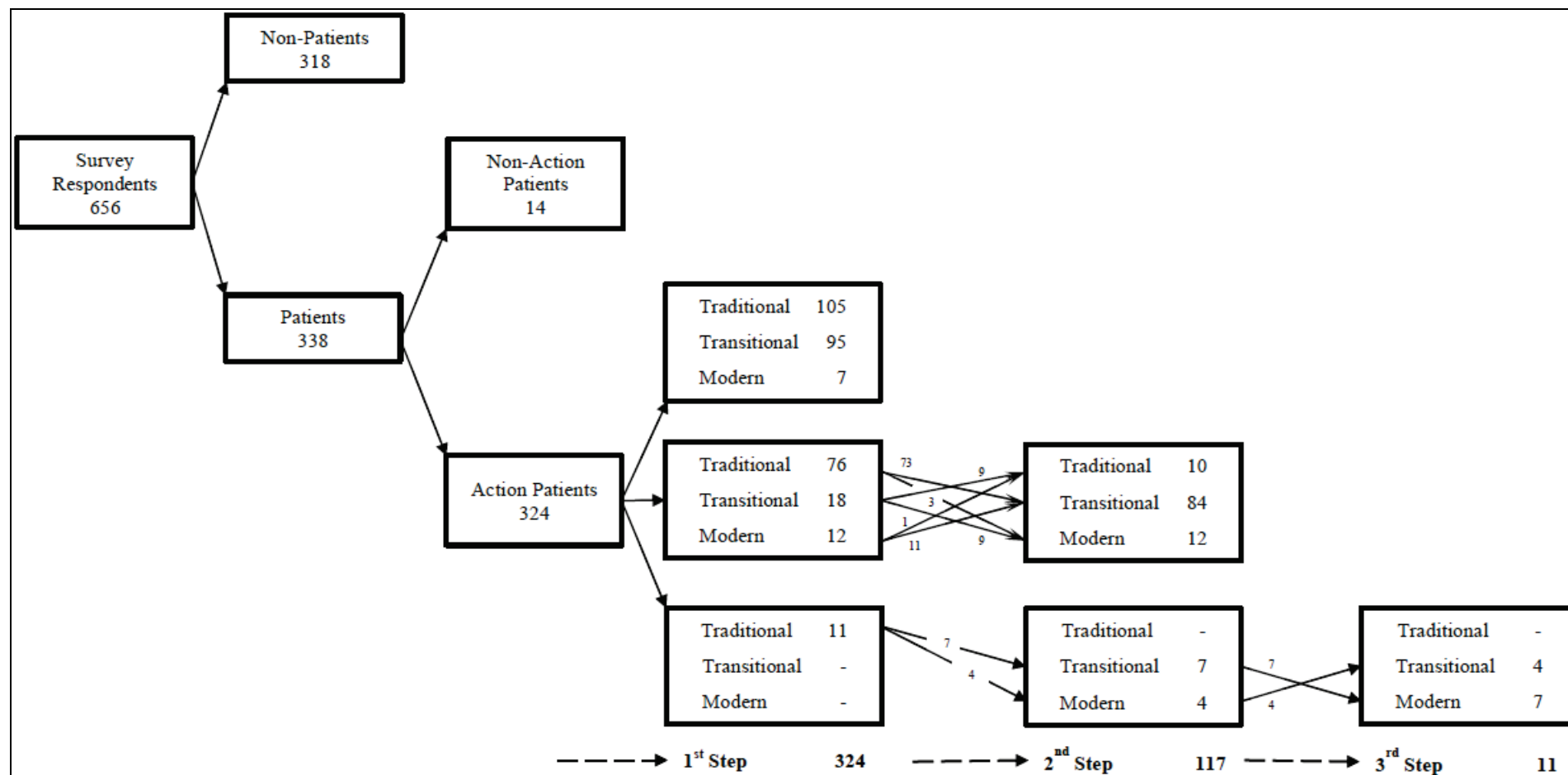


Figure 7.1 Decision Tree Illustrating the Patterns of Health Care Utilisation of all Patients of the Sample (N=656).

Table 7.5 Rates of the Household Members' Utilisation of the Plural Medical System (N=452).

Patients	Non-Action Patients	Action Patients									Medical System	Utilisation Rates		
		First Step		Flow-Through Cases		Second Step		Flow-Through Cases		Third Step		N	%	
		N	%	N	N	%	N	N	%					
338 → 14														
		192	59.2	→ 87	→ 10	8.5	→ 0	→ 0	-	→ Traditional	→ 202	44.7		
		113	34.9	→ 18	→ 91	77.8	→ 7	→ 4	36.4	→ Transitional	→ 208	46.0		
		19	5.9	→ 12	→ 16	13.7	→ 4	→ 7	63.6	→ Modern	→ 42	9.3		
Total		324	100.0	117	117	100.0	11	11	100.0		452	100.0		

Table 7.6 Frequency of the Utilisation of the Plural Medical System by the Household Members (N=452).

	Number of Patients	Number of Steps	Rates of Utilisation of the Plural Medical System							Frequency of Utilisation	
			No Action	Traditional		Transitional		Modern		N	%
				Medical System		Medical System		Medical System			
				N	%	N	%	N	%		
	14	0	14								
	207	1		105	50.7	95	45.9	7	3.4	207	100.0
	106	2		86	40.6	102	48.1	24	11.3	212	100.0
	11	3		11	33.3	11	33.3	11	33.3	33	100.0
Total:	338			203	44.7	208	46.0	41	9.3	452	100.0

Table 7.6 demonstrates in which way the 106 'patients', who took a second step within the process of health care utilisation, account for a total of 212 utilisation rates. Hereafter, the 11 respondents, who contacted the plural medical system three times, amount to a total of 33 utilisation rates. Added to the 207 cases, in which 'patients' took only one step to receive treatment, the overall frequency of utilisation among the 'patients' of the sample results in a final utilisation rate of 452. Overall, 45.8% (n=207) of 'patients' contacted the plural medical system only once, whereby the majority of 'patients' (50.7%, n=105), who made a single contact, sought treatment from the traditional medical system. In general, these findings are in line with the results of previous studies conducted elsewhere in rural Crete, which demonstrated that a considerable number of 'patients', who take a single step within the process of health care utilisation, contact the traditional medical system (*cf.* Van de Kerk 1993; Legel 1998; Molenaar 1999; Dijkstra 2005). In the research area, patterns of behaviour, in which the respondents contacted the traditional medical system only once, have been mainly stimulated by episodes of the common cold as well as abdominal and pelvic pain. Likewise, a single contact with the transitional medical system has to a significant extent been prompted by episodes of essential (primary) hypertension, metabolic disorders as well as mental and/or behavioural disorders, while a single contact with the modern medical system is fairly frequently provoked by the experience of disorders of the thyroid gland as well as influenza and pneumonia.

Apart from the rates of utilisation, which involve a single contact, the most common pattern of utilisation of the plural medical system developed by the 'patients' of the sample, however, refers to a double contact (46.9%, n=212). The majority of respondents (48.1%, n=102), who contacted the plural medical system twice, made use of the transitional medical system. Consequently, the largest proportion of 'patients' (36.6%, n=164), who took two steps within the

process of health care utilisation, sought treatment in the form of a combined contact with the transitional and the traditional medical system. On the whole, these results are in line with previous studies conducted elsewhere in rural Crete, which illustrated that the traditional medical system is to a considerable extent used in combination with a different medical system, particularly with the transitional medical system (*cf.* Van de Kerk 1993; Legel 1998; Van den Akker 2002; Dijkstra 2005) (7.10). With respect to the prevalence of disease in the research area, a double contact with the transitional and traditional medical system is primarily stimulated by episodes of essential (primary) hypertension and the common cold, as well as by the experience of viral infections and other unspecified disorders. To a lesser extent, the ‘patients’ of the sample, who contacted the plural medical system twice, used the transitional medical system in combination with the modern medical system. Practices of combined contact with the transitional and the modern medical system commonly follow the patients’ experience of ischemic and other forms of heart disease, arthropathies and other diseases of the musculoskeletal system and connective tissue, disorders of the bone, bone density and structure as well as disorders of the prostate and other diseases of the genitourinary system. Among all patterns of double contact developed by the patient of the sample, practices of using the traditional medical system in combination with the modern medical system have been the least common. Nevertheless, respondents, who experienced pain in the lower limb and other soft tissue disorders, diseases of the digestive system other than diseases of the intestines as well as dizziness and giddiness and other symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified, sought treatment in the form of a combined contact with the traditional and the modern medical system.

Hereafter, 7.3% (n=33) of ‘patients’ contacted the plural medical system three times and hereby made use of each medical system available in the research area. On the whole, these patterns of utilisation have been to a considerable extent provoked by the patients’ experience of back pain and other dorsopathies, diseases of the nervous system, chronic lower respiratory and other diseases of the respiratory system as well as viral infections and other unspecified disorders. Following this brief analysis of single and multiple patterns of health care utilisation, Table 7.7 highlights to what extent the ‘patients’ of the sample contact the plural medical system operating in the research area.

Table 7.7 Distribution of the Utilisation of the Plural Medical System of all Patients of the Sample over the Two Research Communities (N=452).

Medical System	Pirgos		Praitoria		Total	
	N	%	N	%	N	%
Traditional Medical System	144	45.1	58	43.6	202	44.7
Transitional Medical System	148	46.4	60	45.1	208	46.0
Modern Medical System	27	8.5	15	11.3	42	9.3
Total	319	100.0	133	100.0	452	100.0

Overall, the transitional medical system forms the most frequently contacted medical system available in the research area. 46.0% (n=208) of all ‘patients’ of the sample sought medical treatment from the transitional medical system, whereas a slightly minor percentage of respondents (44.7%, n=202) contacted the traditional medical system in a way to receive treatment. In this way, utilisation of the modern medical system amounts to 9.3% (n=42) of the overall frequency of utilisation rendering the modern medical system the least frequently contact medical system in Pirgos and Praitoria. In comparison to the average of 9.3% of utilisation rates, the percentage of community members, who contacted the modern medical system, is slightly higher among the inhabitants of Praitoria (11.3%, n=15). The results of the treatment offered by the plural medical system to the respondents have been perceived to be widely positive, whereby only 3.1% (n=14) of ‘patients’ regarded the quality of the medical treatment received as rather negative. On the whole, it appears that 50.0% (n=7) of all cases, in which the result of the

treatment is considered to be negative, relate to patterns of utilisation of the transitional medical system. In general, these findings are in line with a study conducted in Greece, which revealed that patients perceive the contribution of medicine treatment to their overall health status as rather moderate (*cf.* Geitona *et al.* 2008). Accordingly, the lowest percentage of 'patients' (21.4%, n=3), who perceived the quality of the medical treatment received to be rather negative, is found among respondents, who contacted the traditional medical system. The lowest percentage of community members (8.4%, n=37), who regarded the quality of the medical treatment offered as positive, however, relates to 'patients', who contacted the modern medical system.

7.2.3 Specific Patterns of Illness Behaviour

Following an analysis of the overall patterns of health care utilisation developed by all 'patients' of the sample, the results of this research have demonstrated that a total of 4.1% (n=14) respondents, who experienced an episode of illness during the recall period, abstained from seeking any action to treat the reported illness. The number of community members, who refrained from taking any step within the process of health care utilisation and are hereafter distinguished as 'non-action patients', is equally distributed among men and women. Although cases of non-action are moreover rather evenly spread among age groups, it appears that the highest percentage of 'non-action patients' belongs to the age category of 35 to 41 years (28.6%, n=4). In this way, a fairly considerable number of respondents, who abstained from seeking medical treatment, are found in the age groups of 42 to 48 (21.4%, n=3), 28 to 34 (14.3%, n=2) and 49 to 55 (14.3%, n=2) years, thereby suggesting that patterns of non-action are primarily maintained by community members in early and middle adulthood. In view of the general age of 'non-action patients', it is likely that respondents, who follow an occupation, are increasingly inclined to refrain from contacting the plural medical system available in the research area. Clearly, the experience of episodes of illness stimulates concern not only about one's health but also about the probable inability to comply with family and professional obligations (*cf.* Blum & Blum 1965; Van de Kerk 1993). Among the sample population, only one out of 14 'patients', who abstained from seeking medical treatment, is unemployed, whereby the professional inactivity of the patient in question followed an inability to work due to a condition, which originated in the perinatal period and resulted in abasia. In addition to the specific distribution of age and occupation, a total of 21.4% (n=3) of 'non-action patients' assume a nationality other than Greek, thereby exceeding the percentage of 5.8% (n=38) of non-Greeks, which is recorded for the wider study population.

Apart from the socio-demographic characteristics of 'non-action patients', the decision to refrain from taking any step towards receiving medical treatment is primarily made by respondents, who experienced symptoms of teeth loss, as well as feelings of burning and itchiness but whose condition remained unknown. Among the medical disorders, which have been identified by the 'patients', patterns of non-action have been to a greater extent stimulated by mental and behavioural disorders, including stress (14.3%, n=2). Furthermore, cases of 'non-action patients' are found among community members, who reportedly suffered from: certain infectious and parasitic diseases; diseases of the eye and adnexa; diseases of the ear; essential (primary) hypertension; the common cold; influenza and pneumonia; allergic rhinitis; disorders related to childbirth; and certain conditions originating in the perinatal period. In this way, the results of a study conducted in Crete showed that women are generally reluctant to seek treatment for urinary incontinence and that physicians frequently miss the opportunity to diagnose the condition (*cf.* Lionis *et al.* 2000). Other studies carried out in Sellia and Arkhanes, Crete, indicated that the reasons why patients decide not to take any action towards seeking medical care include feelings of fear or perceived non-severity of the reported illness (*cf.* Van de Kerk 1993; Molenaar 1999). In the research area, none of the diseases, which prompted patients to refrain from seeking any action, have been perceived to be highly severe. Hereafter, it can be

assumed that a certain number of 'non-action patients' wait until the condition disappears (*cf.* Van de Kerk 1993). Nevertheless, the majority of illness episodes (71.4%, $n=10$), which triggered patterns of non-action among the sample population, have been categorised as chronic diseases.

In contrast to the respondents, who refrained from taking any action in a way to treat the reported illness, 95.9% ($n=324$) of 'patients' of the sample contacted the plural medical system available in the research area, thereby generating a total of 452 utilisation rates. Overall, action is always sought upon the experience of: neoplasms; disorders of the thyroid gland; metabolic disorders; diseases of the nervous system; ischemic or other forms of heart disease; cerebrovascular or other diseases of the circulatory system; chronic lower respiratory or other diseases of the respiratory system; diseases of the intestines; other diseases of the digestive system; diseases of the skin and subcutaneous tissue; back pain and other dorsopathies; pain in the lower limb and other soft tissue disorders; arthropathies and other diseases of the musculoskeletal system and connective tissue; disorders of the bone, bone density and structure; disorders of the prostate and other diseases of the genitourinary system; congenital malformations; dizziness and giddiness as well as other symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified; elevated blood glucose levels; abdominal and pelvic pain; injuries and certain other consequences of external causes; accidents; viral infections and other unspecified disorders; and the 'evil eye'.

In particular, 44.9% ($n=203$) of all contacts between the 'patients' and the plural medical system resulted in the provision of internal care. In other words, the 'patients' took internal action and thus received a type of illness treatment, which is based on practices of self-care or the administration of treatment by a non-professional health care provider, such as a household or family member (7.11). In the research area, patterns of internal action relate primarily to respondents, hereafter known as 'internal action patients', who applied practices of self-care and refrained from consulting a non-professional, as well as professional intermediary within the process of health care utilisation. To a lesser extent, 'internal action patients' received treatment from a non-professional health care provider, namely from another member of the household or a friend. Patterns of internal action are rather evenly distributed across genders. Nevertheless, it appears that practices of internal action prevail among younger community members, as the majority of respondents in the age categories of seven and younger, 7 to 13, 14 to 20, 28 to 34 as well as 35 to 41 years follow internal action more frequently than external action. In line with the distribution of age among 'internal action patients', a considerably higher percentage of respondents, who are single, choose internal over external action. Accordingly, a general tendency towards taking internal action is found among community members, who are self-employed, practice the profession of an artist or entertainer, follow an occupation as provider of food, beverage or accommodation or are employed as head officer or researcher as well as among students and inhabitants practicing a non-paid profession and among community members, who are not in labour force or who work in the private sector. The decision to seek internal action is moreover predominantly made by respondents, who reportedly have an overall good health status.

In the research area, internal care is to a greater extent applied to the condition of the common cold, whereby a majority of 'patients', who suffered from the common cold during the recall period, sought treatment in the form of self-care or care administered by a non-professional health care provider. In this way, the vast majority of respondents, who experienced injuries and certain other consequences of external causes, such as skin allergies and skin burns, the 'evil eye', diseases of the skin and subcutaneous tissue, diseases of the digestive system other than diseases of the intestines, certain infectious and parasitic diseases, abdominal and pelvic pain, viral infections and other unspecified disorders, as well as chronic lower respiratory and other diseases of the respiratory system similarly took internal action to treat the reported illness.

In comparison to patterns of internal action shown by the sample population, 55.1% (n=249) of contacts between the 'patients' and the plural medical system stimulated forms of external care, namely a type of illness treatment, which involves consultation with a professional health care provider. In the research area, external care is offered by wise women as providers of traditional health care and by pharmacists, salespeople and specialist vendors, such as homeopaths, as providers of transitional health care. On the other hand, the provision of modern health care, which is exclusively based on the intermediary of a professional, is made by a variety of professionals, including physicians and nurses as well as orthopaedists, physiotherapists, pulmonologists and rheumatologists. In accordance with patterns of internal action, the percentage of 'patients' seeking external care, hereafter referred to as 'external action patients', is rather evenly distributed among genders. The decision to take external action, however, appears to prevail among older community members, whereby respondents aged between 56 and 62, 63 and 69, 70 and 76, 77 and 83, 84 and 90 as well as 90 or more years take external action more frequently than internal action. In this way, a considerably higher percentage of 'patients' of the sample, who are widowed, follow practices of external action. Accordingly, a slightly higher percentage of community members, who are unemployed or retired, follow an occupation as driver or carrier or are employed as educator, human health and social worker, servant to buildings, priest or personal servant, public administrator or defence personnel, (stock) farmer or homemaker chose external over internal care in a way to treat the reported illness.

Concurrently, 'patients', who suffered from mental and/or behavioural disorders, cerebro-vascular or other diseases of the circulatory system or a certain condition originating in the perinatal period, consult a professional health care provider within the process of health care utilisation. In the same fashion, conditions such as disorders of the thyroid gland, diseases of the ear, elevated blood glucose levels, diseases of the eye and adnexa, allergic rhinitis, metabolic disorders, disorders of the prostate and other diseases of the genitourinary system, arthropathies and other diseases of the musculoskeletal system and connective tissue, ischemic and other forms of heart disease, essential (primary) hypertension, neoplasms, diseases of the nervous system, disorders of the bone, bone density and structure, back pain and other dorsopathies, dizziness and giddiness as well as other symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified, influenza and pneumonia, pain in the lower limb and other soft tissue disorders as well as diseases of the intestines stimulated treatment primarily in the form of external care. The majority of first steps taken by the 'patients' of the sample within the process of health care utilisation refer to patterns of internal action. Concurrently, the vast majority of second steps and all third steps taken within the process of health care utilisation refer to patterns of external action. Overall, these findings suggest that patients are likely to follow internal with external action and to discontinue their medical treatment after choosing external care (*cf.* Slikkerveer 1990).

Apart from developing specific patterns of non-action as well as internal or external action, the 'patients' of the sample run through particular stages of illness behaviour and hereby interact with a lay-referral system or illness management group (*cf.* Paragraph 2.3.2). The members of the illness management group accept the disease and excuse the patient from family and social tasks; offer the patient advice on the choice of treatment; assist the patient during the completion of the treatment; accept the patient's resumption of family and social tasks after recovery; or assume the patient's new role as a chronically ill individual or long-term rehabilitee (*cf.* Van der Hoeven 1992; Van de Kerk 1993). While the illness management group generally accepts any form of disease, 'patients', who suffered from certain conditions originating in the perinatal period, such as abasia or disablement, during the recall period, are to some extent shielded from the wider community.

With respect to the role played by the illness management group, studies carried out elsewhere in rural Crete have shown that patients are likely to seek advice and support from the nuclear family as well as from female community members. The results of previous research demonstrated that the majority of family members, who are responsible for the management of

illness episodes and the administration of medicine, are female. In this way, the lay referral system of women usually consists of other women, namely of the mother and sisters, provided that they live close, as well as of the mother-in-law and the sisters-in-law, whereas the husband plays only a minor role within the illness management group. To a significant extent, the choice of treatment among patients in Crete is based on the recommendations and previous experiences of the members of the lay referral system (*cf.* Barnes *et al.* 1999; Simoens *et al.* 2009). Hereafter, it has moreover been revealed that the more confident individuals grow about a specific medical treatment upon consultation with the lay referral system the sooner they contact the respective medical system. The results of the present and previous research conducted in Crete have moreover indicated that it is rather common for members of the same family to accompany the patient on visits to health care facilities, particularly outside the confinement of the community. On the whole, studies have revealed that local inhabitants fuel an overall mistrust towards professional health care providers employed outside the village, not at least because they are strangers. In case that the health care institution is located at a long distance, family members tend to stay with the patient until the day of discharge (7.12). Furthermore, it is standard practice among adult community members to take care of their parents during episodes of illness and to hereby invite them to their homes (7.13). In the same fashion, members of the same family, household or community frequently support each other during illness episodes by means of visiting the patient, gathering the patient's medicines from the pharmacy or shop, taking the patient to see a health care provider or performing the patient's family, social or professional duties. In general, hospitalisation of a patient increases the workload of other household and family members (*cf.* Arnold 1986; Van de Kerk 1993; Molenaar 1999; Van den Akker 2002; Tsiligianni *et al.* 2012).

7.3 Utilisation of the Plural Medical System

7.3.1 Utilisation of the Traditional Medical System

In view of the overall utilisation of the plural medical system by the study population of Pírgos and Praitória, a total of 44.2% (n=202) of utilisation rates related to contacts between the respondents and the traditional medical system. The traditional medical system available in the research area is predominantly contacted by community members, who suffered from the common cold during the recall period, whereby a considerable majority of 79.1% (n=72) of cases of the common cold have been reportedly treated with components of the traditional medical system. Likewise, it appears that 'patients', who experienced an injury or certain other consequence of external causes (100.0%, n=2), a disease of the skin and/or subcutaneous tissue (80.0%, n=4), a disease of the digestive system other than a disease of the intestines (77.8%, n=7), a certain infectious or parasitic disease (66.7%, n=2), abdominal and/or pelvic pain (58.8%, n=10) as well as a chronic lower respiratory or other disease of the respiratory system (54.5%, n=6) contact the traditional medical system more frequently than the transitional or modern medical system. In this respect, a considerable number of survey respondents stated that the condition of the 'evil eye' could only be treated with components of the traditional medical system whereupon all 'patients', who suffered from the 'evil eye' during the recall period (100.0%, n=2), sought treatment from the traditional medical system. In line with the patterns of utilisation of the traditional medical system in the research area, the community members moreover revealed that the traditional medical system is better suited to treat diseases of the skin and subcutaneous tissue, as well as the condition of the common cold. To some extent, components of the traditional medical system are believed to be similarly better applicable to the treatment of: dizziness and giddiness as well as other symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified, such as cough, headache and stomach ache; the appearance of skin moles; diseases of the eye, such as conjunctivitis; diseases of the intestines; rheumatism; diseases of the genitourinary system; as well as unspecified disorders, such as

colitis and allergies. While the traditional medical system is regarded as having a somewhat overall positive effect on human health, the inhabitants of Pírgos and Práitoria moreover acknowledge that the traditional medical system offers particularly effective forms of treatment for conditions, which are perceived to be less severe.

In the research area, utilisation of the traditional medical system, as it offers treatment in the form of MAC plants and other traditional home remedies as well as religious and spiritual forms of medicine, refers primarily to the application of MAC plants (7.14). In other words, the utilisation of MAC plants accounts for the vast majority of contacts between ‘patients’ and the traditional medical system available in Pírgos and Práitoria. 91.5% (n=65) of all cases of the common cold, for which care is sought from the traditional medical system, have been treated with MAC plants. In the same fashion, MAC plants have been relatively often administered to certain infectious and parasitic diseases, diseases of the digestive system, diseases of the skin and subcutaneous tissue, episodes of abdominal and pelvic pain and accidents, for which treatment is received from the traditional medical system. In view of the different MAC plants known to the local population, Chamomile (*Chamomilla recutita* (L.) Rauschert / *Matricaria chamomilla* L. / *Matricaria recutita* L.), Sage (*Salvia fruticosa* Miller or *Salvia triloba* L. / *Salvia pomifera* L.), Aloe Vera (*Aloe vera* (L.) Burm. fil.), Marjoram (*Origanum majorana* L. / *Origanum microphyllum* (Benth.) Boiss.) and Cretan Dittany (*Origanum dictamnus* L.) have been identified as the plants most frequently applied to episodes of illness reported by the ‘patients’ of the sample. In addition to MAC plants, treatment offered by the traditional medical system involved the application of other traditional home remedies, which have been to a greater extent administered as treatment for chronic lower respiratory and other diseases of the respiratory system as well as for injuries and certain other consequences of external causes. Of the different household products, which are locally used as home remedies, milk and *Rakomelo*, a mixture of raki and honey, are most commonly applied to the illnesses experienced by the respondents. In the research area, forms of religious and spiritual medicine, particularly prayers, have been solely administered during practices of treatment of the ‘evil eye’, for which care is sought exclusively from the traditional medical system.

In view of the different types of treatment offered by the traditional medical system, 98.0% (n=198) of all contacts between ‘patients’ and the traditional medical system involved patterns of internal action. As a consequence, the different types of diseases, for which treatment is sought primarily from the traditional medical system, share considerable similarities with the episodes of illness treated mostly through practices of internal action. 62.4% (n=126) of all therapies received from the traditional medical system have been applied by the respondents themselves, namely in the form of self-care. While treatment is to a lesser extent offered by non-professional health care providers, such as other members of the household and friends, 2.0% (n=4) of all therapies administered within the traditional medical system involved the intermediary of a professional traditional health care provider. In the research area, all cases of external action taken within the process of utilisation of the traditional medical system refer to episodes of the common cold and involve the subsequent provision of health care by a wise woman. In line with the provision of treatment within the traditional medical system, a considerable majority of 99.5% (n=201) of therapies have been administered in the environment of the patient’s household, whereby the remaining therapies (0.5%, n=1) have been applied in a different household in the research community. In general, treatment received from the traditional medical system is not associated with any costs. Overall, contact with the traditional medical system and the subsequent provision of treatment appear to be tightly embedded within the context of the household and the community. In this respect, research conducted elsewhere in rural Crete has demonstrated that community members, who move from the village to urban areas, abandon patterns of utilisation of the traditional medical system, not at least because of the absence of family and community relations and a subsequent lack of knowledge of traditional medicine (*cf.* Van den Akker 2002).

Apart from the specific characteristics of the medical treatment received from the traditional medical system, 95.0% (n=192) of contacts between 'patients' and the traditional medical system have been made as a first step within the overall process of utilisation of the traditional medical system. Among all first steps taken by the respondents in a way to seek treatment from the plural medical system, utilisation of the traditional medical system accounts for a majority of 59.3% (n=192). The findings are in line with the results of previous studies conducted elsewhere in rural Crete, which revealed that the traditional medical system is most commonly contacted during a first rather than a second or third step within the process of health care utilisation (*cf.* Arnold 1986; Van de Kerk 1993; Legel 1998; Molenaar 1999; Dijkstra 2005). On the whole, the traditional medical system forms an integral source of first contact, whereby a considerable number of 'patients' of the sample seek internal care from the traditional medical system, notably in consultation with the illness management group, during their first step of health care utilisation (7.15). In this way, the traditional medical system is contacted as a second step in ten cases, which amounts to 0.5% of contacts between 'patients' and the traditional medical system, as well as to 8.5% of all second steps taken by the community members during the process of health care utilisation. The majority of cases (90%, n=9), in which treatment is sought from the traditional medical system in a second step, follow a first contact with the transitional medical system. In the research area, the traditional medical system is contacted exclusively during the first and second step of health care utilisation, whereby none of the third steps taken by the 'patients' in a way to seek treatment involved the utilisation of the traditional medical system.

7.3.2 Utilisation of the Transitional Medical System

In the research area, contact with the transitional medical system accounts for 46.0% (n=208) of utilisation rates rendering the transitional medical system the most commonly used medical system among the population of Pírgos and Práitoria (*cf.* Dijkstra 2005). Following the prevalence of disease across the two research communities, treatment from the transitional medical system is sought primarily in cases of elevated blood glucose levels (75.0%, n=12) and essential (primary) hypertension (67.2%, n=39). Moreover, the transitional medical system is contacted for the majority of episodes of metabolic disorders (66.7%, n=10), disorders of the prostate and other diseases of the genitourinary system (60.0%, n=6), disorders of the bone, bone density and structure (57.1%, n=8) as well as viral infections and other unspecified disorders (52.9%, n=9). In the same fashion, all cases of mental and behavioural disorders (100.0%, n=4) and certain conditions originating in the perinatal period (100.0%, n=3) as well as cerebrovascular and other diseases of the circulatory system (100.0%, n=2) experienced by 'patients' of the sample, for which care is sought, have been treated with components of the transitional medical system (*cf.* Tzimis & Kafatos 1999).

In view of the different forms of treatment offered by the transitional medical system, the vast majority of therapies relate to the utilisation of prescribed medicine, which accounts for a total of 87.5% (n=182) of treatment methods provided by the transitional medical system. In the research area, the utilisation of prescription medicine typically involves an initial consultation with a modern health care provider, who issues the prescription. In this respect, it is very probable that any contact between 'patients' and the transitional medical system, during which treatment is administered in the form of prescribed medicines, proceeds from a first contact with the modern medical system. In this way, studies have shown that patients in rural Crete rather frequently contact the modern medical system for the main and at times sole purpose of receiving a prescription (*cf.* Antonakis *et al.* 2006; Tsiligianni *et al.* 2012). With regard to the utilisation of prescription medicines, the survey respondents, however, rarely made an explicit reference to the initial consultation with a modern health care provider (*cf.* Van de Kerk 1993). From a community perspective, the focal point of treatment, namely the distribution of prescribed medicine, largely remains with a representative of the transitional medical system. For this reason as well as for the fact that prescribed medicines qualify as commercial pharmaceutical

medicines, utilisation of prescribed medicines is identified as an example of the patient's contact with the transitional medical system. Prescribed medicines are administered in all cases of elevated blood glucose levels, metabolic disorders and disorders of the prostate and other diseases of the genitourinary system as well as in 97.4% (n=38) of episodes of essential (primary) hypertension and in 87.5% (n=7) of cases of disorders of the bone, bone density and structure (*cf.* Tzimis & Kafatos 1999; Geitona *et al.* 2008; Panagiotakos *et al.* 2008). To a lesser extent, treatment from the transitional medical system is received in the form of non-prescribed or Over-the-Counter (OTC) medicine, which includes the use of plant-based products and essential oils. In this respect, a considerable number of viral infections and other unspecified disorders have been treated with OTC medicine. Furthermore, non-prescribed medicines are used during the treatment of cases of the common cold and diseases of the nervous system. In the same way, a recent study conducted in rural Greece revealed that practices of self-medication are most commonly stimulated by symptoms suggestive of the common cold, including throat ache and bronchitis (*cf.* Skliros *et al.* 2010). Research carried out in Greece moreover indicates that practices of self-medication are fairly common among patients experiencing minor symptoms (*cf.* Geitona *et al.* 2008). In the research area, mental and behavioural disorders have been, notably exclusively, treated with both prescribed and non-prescribed medicine.

In only three cases of illness episodes, namely an episode of back pain or other forms of dorsopathy, essential (primary) hypertension and a disorder of the bone, bone density and/or structure, 'patients' used a combination of prescribed and non-prescribed medicines in order to treat the reported illness. Nevertheless, it can be assumed that a considerable number of 'patients' in the research area receive treatment in the form of a combination of medicines. Similar studies conducted in Crete report that cardiovascular diseases are usually treated with more than one medicine at once and that clients, who visit the pharmacy in an effort to fill a prescription, are likely to purchase an additional OTC product (*cf.* Tzimis *et al.* 1997; De Vries 2007). Since the present research, however, adopts a community perspective, it follows the patients' indication to whether the reported illness is treated with prescribed or non-prescribed medicines. In view of the fairly limited number of illness episodes, which are reportedly treated with a combination of prescription and OTC medicine, a further analysis of possible combinations of medicines is not conducted. Nevertheless, it is almost certain that patterns of utilisation of prescribed as well as non-prescribed medicines, as highlighted within the research, refer to both the utilisation of one singular type of medicine as well as the utilisation of plural, *i.e.* more than one type of medicine at the same time.

In line with the different types of diseases treated primarily with components of the transitional medical system, 97.6% (n=203) of contacts between 'patients' and the transitional medical system incorporate practices of external action. Consequently, a number of conditions, including essential (primary) hypertension, elevated blood glucose levels, metabolic disorders as well as mental and behavioural disorders, for which treatment is mainly sought from the transitional medical system, share certain similarities with the types of diseases treated mostly through patterns of external action. The vast majority of therapies provided by the transitional medical system (95.2%, n=198) are administered through the intermediary of the pharmacist or pharmacy assistant, who act as the main distributors of both prescribed and non-prescribed pharmaceutical medicines in the research area (*cf.* Skliros *et al.* 2010). Although it is the modern health care provider, who issues a prescription, pharmacy employees handle the final distribution of prescribed medicines and are distinguished as solitary providers of prescription medicines. Apart from the intermediary of pharmacy employees, commercial pharmaceutical medicines are, albeit less frequently, distributed by a salesperson, a nurse or a specialist vendor. In case that the recipient of commercial pharmaceutical medicines is a child or someone otherwise unable to collect the medicines from the pharmacy or shop, the provision of medicines frequently involves the additional mediation of a third person, most commonly a household or family member, who receives the medicines from the distributor and delivers it to the patient (*cf.* Hanepen 1997). In particular, a study conducted in rural Crete has shown that a relatively large number of 'patients'

aged between 73 and 75 years received their, notably prescribed, medicine through the intervention of a third person (*cf.* Antonakis *et al.* 2006). In this respect, Antonakis *et al.* (2006: 8) comment: ‘*Although aging and geographical remoteness may partly explain this, it is uncertain [...] to what extent cultural and sub-cultural characteristics have a potential impact on patient’s behaviour*’. Since the focal point of distribution, however, remains with a professional health care provider, namely a pharmacist or salesperson, such cases have been identified as examples of external rather than internal care.

Nevertheless, utilisation of the transitional medical system occasionally involves patterns of internal action, after which ‘patients’ seek treatment from a non-professional health care provider, notably another member of the household, or apply forms of self-care. Patterns of self-care frequently involve the utilisation of medicines, which have remained from previous prescriptions and had been stored at home (*cf.* Skliros *et al.* 2010). In this respect, a recent study conducted in rural Crete has shown that the local population is likely to store cardiovascular medicines at home (*cf.* Tsiligianni *et al.* 2012). In the research area, internal action performed during contact with the transitional medical system is taken in response to the experience of viral infections and other unspecified diseases, diseases of the nervous system as well as pain in the lower limb and other soft tissue disorders.

In accordance with the provision of transitional health care, the vast majority of therapies have been administered outside of the household, namely in the community (64.9%, n=135), in the municipality (26.8%, n=56) or elsewhere in Crete (5.7%, n=12), whereas only a minor percentage of treatments have been received within the household (2.4%, n=5). Utilisation of the transitional medical system, particularly the provision of external care, generally involves the payment of costs or the disbursement of the overall price of medicines on the part of the clients. In this way, the majority of medicines (47.6%, n=99) have been issued in exchange for a payment, which falls within the price range of 10 to 50 Euro (*cf.* Geitona *et al.* 2008). At times, the costs of prescriptions amounted to a payment of more than 50 or less than 10 Euro, whereby medicines have been free of charge in only a minor percentage of cases (2.9%, n=4). Accordingly, the price of OTC medicines, which are never free of charge, is rather evenly distributed and ranged from less than ten Euro to 100 Euro.

In view of the overall patterns of utilisation of the plural medical system shown by the sample population, 54.3% (n=113) of contacts with the transitional medical system are made as a first step within the overall process of health care utilisation, thereby accounting for 34.9% (n=113) of all first steps taken by the ‘patients’ of the sample. Thereafter, the transitional medical system is contacted during a second step in 43.8% (n=91) of contacts with the transitional medical system, whereby the majority of rates of utilisation of the transitional medical system as a second step (89.0%, n=81) follow an initial contact with the traditional medical system. Among all second steps taken by the respondents in a way to receive treatment, utilisation of the transitional medical system amounts to a majority of 77.8% (n=91). In the research area, 1.9% (n=4) of contacts with the transitional medical system are made as a third step, notably following a second step of contact with the modern medical system, accounting for 36.4% (n=4) of all third steps taken within the overall process of health care utilisation.

7.3.3 Utilisation of the Modern Medical System

While the majority of patterns of utilisation of the plural medical system shown by the population of Pírgos and Píraitoria relate to contacts with the traditional and transitional medical system, contact with the modern medical system amounts to a relatively small amount of 9.3% (n=42) of utilisation rates. To a greater extent, ‘patients’ contact the modern medical system in a way to receive treatment for a variety of conditions, including: dizziness and giddiness as well as other symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified (25.0%, n=2); disorders of the thyroid gland (23.1%, n=3); arthropathies and other diseases of the musculoskeletal system and connective tissue (23.1%, n=3); pain in the lower limb and other

soft tissue disorders (20.0%, n=3); diseases of the intestines (20.0%, n=2); ischemic and other forms of heart disease (18.4%, n=7); back pain and other dorsopathies (18.2%, n=4); diseases of the nervous system (16.7%, n=2) as well as influenza and pneumonia (15.4%, n=2).

The majority of therapies offered by the modern medical system (45.2%, n=19) relate to an examination or general check-up of the patient by the modern health care provider, as it is applied particularly to episodes of ischemic and other forms of heart disease, back pain and other dorsopathies, pain in the lower limb and other soft tissue disorders as well as arthropathies and other diseases of the musculoskeletal system and connective tissue. Apart from practices of examination, health care is at times administered in the form of operations, X-rays or vaccinations, through specific treatments, such as chemotherapy, as well as through the offering of recommendations concerning primarily dietary patterns and other lifestyle habits (*cf.* Van de Kerk 1993).

In accordance with the specific characteristics of the modern medical system, treatment is administered exclusively through external action. 85.7% (n=36) of contacts between the 'patients' and the modern medical system involves the intermediary of a general practitioner, whereby modern health care is to a lesser extent offered by specialists, namely by an orthopaedist, a rheumatologist, a physiotherapist or a pulmonologist. Since an overwhelming majority of modern health care providers, who serve the population in the research area, perform in the public sector, the results of the household surveys do not distinguish between public and private services. 71.4% (n=30) of therapies provided by the modern medical system have been administered elsewhere in Crete, while only a few 'patients' have sought treatment within the confinement of the community or the municipality. Nevertheless, the general practitioners, who visit the rural health posts in both communities, are consulted more frequently than the staff working at the health centre of Kharakas within the municipality (*cf.* Hagoort 1998). In view of the extension of insurance coverage and the central role played by public health care providers in the research area, treatment received from the modern medical system is generally not associated with any costs, although 'patients' occasionally pay a service fee, which ranges from 10 to 50 Euro.

The modern medical system is contacted as a first step in 45.2% (n=19) cases, which accounts for a total of 5.9% (n=19) of all first steps taken by the 'patients' of the sample in a way to receive treatment from the plural medical system. Hereafter, utilisation of the modern medical system as a second step amounts to 38.1% (n=16) of contacts between the respondents and the modern medical system as well as to 13.7% (n=16) of all second steps taken within the overall process of health care utilisation in the research area. In this way, utilisation of the modern medical system as a second step follows an initial contact with the transitional medical system in 56.2% (n=9) cases and initial contact with the traditional medical system in 43.8% (n=7) cases. The modern medical system is moreover contacted as a third step in 16.7% (n=7) of cases of utilisation of the modern medical system, accounting for a majority of 63.6% (n=7) of all third steps taken by the 'patients' of the sample. In this respect, a previous study conducted in Anoyia, Crete, similarly revealed that contacts with the modern medical system are rarely followed by an additional step (*cf.* Dijkstra 2005). All contacts with the modern medical system, which were made as a third step, follow a contact with the transitional medical system during the second step within the process of health care utilisation.

Notes

- (7.1) The term 'Health', '*Yia*', including its abbreviated form '*Yia*', is colloquially used as a form of salutation referring to both 'hello' and 'goodbye'. The informal '*yia su*' as well as the formal '*yia sas*', which indicate an abbreviation of the term 'to your health', '*stin yia su*' or '*stin yia sas*' respectively, are similarly exchanged as greetings. Furthermore, '*stin yia mas*' or simply '*yia mas*', which translates as 'to our health', describes a common form of cheering.
- (7.2) The all-encompassing notion of being healthy has locally been described as '*ola mazi*', 'all together', or '*to pan*', 'everything'.

- (7.3) Nevertheless, it is permitted to consume olive oil on Fridays and Saturdays during Lent, on Saturdays and Sundays in August and during Advent.
- (7.4) The consumption of food, which is too salty or too greasy, has been regarded as having a negative effect on people's health (*cf.* Van Beelen 1990).
- (7.5) While the harmful will of others is believed to be able to cause illness, it is rather uncommon to relate a state of illness to one's self or to explain it as the result of one's personal moral sin (*cf.* Blum & Blum 1965).
- (7.6) The 'bad hour', for example, which refers to a group of spirits or demons in the shape of animals, is specified as a spiritual phenomenon capable of causing certain diseases. In this respect, an event of illness, which results from the harmful intervention of supernatural beings, has reportedly been associated with a state of 'being ill', while an episode of illness, which is provoked by a conflict between humans, is related to a state of 'being hurt' (*cf.* Blum & Blum 1965).
- (7.7) In view of the different causes of illness identified by the local population, a study conducted elsewhere in rural Crete has demonstrated that older community members distinguish between different causes of illness, while younger inhabitants, as they have seemingly become more acquainted with modern medicine, specify a limited number of phenomena, such as bacteria, as common causes of illness.
- (7.8) To some extent, the inhabitants of Crete share the belief that clothes, which are hung to dry outside the house during the night can become possessed by evil spirits or ghosts, '*Fantasmata*', whereupon the laundry of children is commonly dried during the day (*cf.* Van Bommel 1993).
- (7.9) Knowledge of different practices, which are followed during the ritual healing process, is generally transmitted orally from generation to generation, whereby women are not allowed to learn the '*Ksematiasma*' prior to their first menstruation or while menstruating (*cf.* Roussou 2011).
- (7.10) Following research carried out in French Guiana on people's knowledge, attitudes and practices regarding antimalarial remedies, it appeared that patients preferably combine the use of plant-based medicines with the use of pharmaceutical medicines. In this way, plant-based medicines are known to be able to 'heal', while pharmaceutical medicines is known to be able to 'cure' (*cf.* Vigneron *et al.* 2005).
- (7.11) In this respect, the results of a study conducted in the United States revealed that a relatively small percentage of illness episodes trigger patterns of contact with professional health care providers, whereby a rather large number of patients apply practices of self-care prior to consulting a professional health care provider (*cf.* Sleath *et al.* 2001).
- (7.12) At the time of the household surveys, a member of the community of Pirgos left Crete together with his parents in an effort to seek medical treatment for his condition in Austria.
- (7.13) In this respect, it has been suggested that the experience of illness strengthens the mutual support among family members and hereby enhances the family unit (*cf.* Van de Kerk 1993).
- (7.14) In view of the rather widespread utilisation of MAC plants, the results of a study conducted elsewhere in rural Crete, which distinguished between people's utilisation of medicinal and aromatic plants, indicated that the more frequently community members use medicinal plants the more likely they are to use aromatic plants (*cf.* De Vries 2007).
- (7.15) The practice of using components of the traditional medical system during the first step of health care utilisation in the form of internal care has locally been described as '*Yiatroporevome*', which is loosely translated as the application of first, provisional help.

