



RESEARCH ARTICLE

Use of Information and Communication Technologies (ICTs) to support diffusion of Traditional Medicine across European and Asian countries: The Greek perspective

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Abstract

Background: Traditional Medicine remains widespread in developing countries, while use of complementary and alternative medicine is increasing rapidly in developed countries. Nowadays, there is an explosion of various forms of traditional healing that seem to meet an increasing favour on the part of the population in Europe. In Greece, there is little information gathered around traditional medicine, and is mostly related to herbs.

Aim: The research aimed at developing a Virtual Platform and a Thematic Network to facilitate share and exchange of information using the new opportunities offered by the Information and Communication Technologies (ICTs) in order to carry out historical-ethnographic study on traditional medicine in the Euro-Asian countries. The current paper focuses on the Greek findings. **Method and Material:** The research conducted in Greece, Italy, Nepal, Thailand, India and Philippines. Target groups include primarily the general population, elderly and young people,

men and women, traditional healers and Primary Health Care doctors. Activities include a number of surveys and quali/quantitative investigations at community level on population beliefs of the causes of the most common illnesses/symptoms and on their choices of popular remedies to improve their conditions.

Results: The paper presents the Greek findings, after a 2.5 years study, on traditional medicine using the developed Virtual Platform and Thematic Network as well as the usefulness of Information and Communication Technologies (ICTs) in the specific sector and for the specific target groups. Five main symptoms were examined (spontaneous abortion, fever, diarrhea, headache and joint pains) and the respondents' answers (traditional healers, primary health care doctors and general population) are analyzed.

Conclusions: In conclusion, TM exists in regional Greece without being documented properly and gradually vanishes. Thus, more efforts are needed to preserve the heritage of TM in Greece. The ICTs proved to play a key role in the success of the dissemination of the acquired knowledge between all interesting parties.

Keywords: Traditional medicine, complementary and alternative medicine, ICT, web, Greece

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Introduction

Popular remedies have been traditionally used since the ancient times.¹ Beliefs and practices related to illness and health are a central feature of culture in all human societies. Often illness and health are part of a general cosmological understanding which brings into one all aspects of human life (including accidents, interpersonal conflicts, natural disaster, crop failure, theft or loss, health, wellbeing, etc.). In some societies, all happenings are seen as divine



retribution, or as malevolence of a “witch”, of a “sorcerer”, or even of an “enemy” or envious person. In order to understand how people react to illness or other misfortunes, including death, there must be an understanding of the type of culture that they have grown up with, their perception and interpretation of their world. It is also necessary to study the social organization of health and illness in that society, and the way their illness is dealt with. Depending on the perception of the nature of each episode of “illness” the choice of “therapy” by the sufferer and/or the family can be different. It is known that some would look for religious “therapies”, others for herbal, or for some other form of pharmacopoeia solutions. Some may opt for natural remedies, others for magical solutions. Some of the empirical “therapies” used to treat “illnesses” include certain home remedies, which are perceived as “effective” by the population, some of which have been proved effective by scientific research.

Traditional Medicine (TM) remains widespread in developing countries, while use of complementary and alternative medicine (CAM) is increasing rapidly in developed countries.^{2,3,4} In Greece, there is little information gathered around traditional medicine, and is mostly related to herbs.⁵⁻¹² There are several definitions of TM.¹³ According to WHO¹⁴ *“Traditional Medicine is the sum total of knowledge, skills and practices based on the theories, beliefs and experiences indigenous to different cultures that are used to maintain health, as well as to prevent, diagnose, improve or treat physical and mental illnesses. Traditional medicine that has been adopted by other populations (outside its indigenous culture) is often termed alternative or complementary medicine.”*

Another important issue related to Traditional Medicine (TM) is its accessibility, even to the most vulnerable populations.¹⁵ This is in terms of

geographic, cultural and economic accessibility, while modern medicine often is not. One issue of concern to some of the European social and health systems is the explosion of various forms of traditional healing that seem to meet an increasing favour on the part of the population in Europe.^{2,3} Magazines are full of advertisements for traditional healing services, able to resolve just about any problem in life in one place. One of the main reasons for the increasing use of traditional medicine is a growing trend for patients to take a more proactive approach to their own health and to seek out different forms of self-care.³ Little is known about the efficacy of the proposed remedies and, even less, about their negative consequences, except for some projections of economic nature. There is a need of more knowledge and understanding and perhaps standardization and regulation of those forms of “healing” which are known to be of proved effectiveness.^{3,13,16} This is particularly true in terms of doses as most natural remedies, for example, are empirically “prescribed” and liberally used.¹⁷ Interestingly, the issue of cost/effectiveness of traditional remedies, if indeed these were proved to be effective could be valuable. Due to the fact that the world’s poorest countries are most in need of inexpensive, effective treatments for diseases, traditional medicine could be of interest to health systems in developing and in developed world.¹⁸ In some cases traditional healers are also trained in order to help in improving the health system.¹⁹

Last but not least, with the increasing mobility of population, it is important to know each other’s culture. Modern medicine needs to understand better the intrinsic elements of culture and life in order to be able to better help people in need. There is a felt need to build cultural bridges for a better communication, participation, understanding, and sustainable development among all different population groups. The Mediterranean and Asian area is a “universe” of

diversified and yet similar populations, all sharing culture, traditions and problems. Traditional medicine is embedded into the culture of most European and Asian populations but it runs the risk of being lost due to modernization, as often it is only orally transmitted. To this end, the presented work developed a technology-based platform to support the already well-stated need for diffusion and preservation of TM.^{2,18,20}

Methodology

The general objective of the project concerned the implementation of a Virtual Platform and a Thematic Network on traditional popular medicine in the European and Asian countries. Our research aimed at carrying-out historical-ethnographic study in Greece on traditional medicine in the frames of a wider project in Euro-Asian countries utilising the opportunities offered by the Information and Communication Technologies (ICTs). The project was implemented using an experimental and horizontal approach: it was carried out in a decentralized way, with equal opportunity for all partners to share ideas and creativity, resources, responsibilities and results. A peer approach was used in monitoring organizational and technical implementation with opportunities for mentoring in all project aspects. The developed evaluation processes, included the choice of indicators during the first phase. The standardization of procedures among all the partners (Nepal, Thailand, Philippines, India, Italy and Greece) was crucial to assure scientific rigor, but also for sharing experiences and learning from each other. This was further enhanced using the formed virtual platform. The working team was constituted in order to achieve the multiple criteria required for such a research (managerial, technical, etc). Thus, it was composed by an anthropologist/sociologist, technical experts, as well as strengthened by some psychosocial and medical professionals. The study included also the participation of traditional healers (TH) and primary health care doctors (PHCD) and its activities were grouped into four main phases

herewith detailed. Research methods used are quali-quantitative and ethnographic. Particularly, a “triangulation” analysis was carried out comparing, where possible, information provided by the general population (GP), by the “healers” and by the PHCD.

Phase one: Preparatory step to project implementation

During this phase, we finalized the several issues in terms of design, the definition of methods, approaches and instruments, the definition of target populations and the finalization of a selection of activities, including the evaluation procedures.

Phase two: documentary investigation

The documentary investigation started with the analysis of the existing situation in the European and Asian partner countries. In this paper we present only the situation in Greece. The analysis of the territorial context was carried out by means of data collection, through questionnaires and forms, statistical and bibliographic records and by means of interviewing selected testimonials. Written, published, or otherwise available, information and material referred to popular medicine was retrieved and processed.

Phase three: field studies

Through an ethno-anthropological field study in each partner’s country, a map/inventory of the most common illnesses/symptoms was derived along with the popular remedies still in use. This phase foreseen research with the three main stakeholders: the GP, the TH, and the PHCD.

- *The population study*

A sample of the general population participated to the study, including all the ages and the genders. Various types of investigations were carried out in order to collect the most effective information on the population perception of causes of “illnesses”, the treatment used, its perceived effectiveness



and any possible side effects. Various approaches, methods and tools were used: participatory techniques, focus groups, participant observation techniques, collection of personal stories. Among the instruments utilized there were open-ended and semi-structured questionnaires, observation reports and diaries, video and tape recordings, as well as compilation of personal or family stories. Included in the investigation was also the use of home remedies, those inherited in the family and used without external help.

- *The traditional healers study*

Healers are found in different forms in every human society and may employ rituals for healing purposes. Their healing care can consist of certain religious symbols or artifacts (plants, talismans, divination stones, holy texts, or statuettes), which also symbolize powerful healing forces (gods, spirits, ancestors). Healers may act as “integrators” of society, regularly reasserting their society’s values, or as agents of social control, helping to identify and punish socially deviant behaviors. When studying how individuals perceive, and react to, illness/health and investigating the type of care they turn to, it is important to know the cultural and social attributes of the environment they live in. An important role is played by the “healer” or by the “healers”, their identification and role, their *modus operandi*, the type of remedies used, the recognition, if any, of the used remedies, their effectiveness and their possible negative side effects. The study gathered information also on the type of “healers’ training” and on their initiation. The information gathered through the use of individual healers’ narratives, interviews, open-ended and semi-structured questionnaires, observation recordings, photographs, video registrations.

- *The primary health care doctors study*

This part of the field survey was principally

addressed to PHCD in the areas where the study was conducted. They usually work very close to the population and may know information about their cultural traditions, even if they do not come from the area. This includes information on local use of traditional remedies and, most important, they may be the ones who most likely witness episodes of negative side effects subsequent to the use of traditional remedies, and therefore this information will be solicited from them. Moreover, it is relevant to collect information on doctors’ perceptions and appreciation of traditional remedies to “treat” the most common illness/health episodes. Semi-structured, open-ended questionnaires and interviews provided information on PHCD perceptions of local traditional medicine, including their knowledge of the popular causes of common illness/health and the remedies used, including home remedies.

Phase four: ICT platform

A Thematic Network (using Internet technologies) was developed to house also the health link where all the information on popular medicine derived from the project in participating European and Asian countries was stored. The final platform provided multilingual information on the perception of causes of illness/health in the studied populations, on the currently use of “therapies”, including home remedies, on their perceived or “tested” effectiveness, and on their additional risks. In the same platform there was also a description and a mapping of the diverse historical, cultural and anthropological contexts in which the studies took place. The formed database contained descriptive, informative, guiding and educational information, which was easily accessible to everyone connecting to Internet and to the portal. A specific space was opened for an interactive exchange between the partners and anyone with an interest on these issues. The website portal on Traditional Medicine was composed of the following main areas:

- guidelines and procedural area;
- knowledge managing area: databases and documentation in integral format;
- know-how area: research methodologies, most common illnesses under investigation, “therapies” used, most “effective” remedies, known side effects of remedies, including information on toxicity, bibliographic research modes, implementation and evaluation methodologies of guidelines and educational activities;
- training area: training material and educational information;
- communication and exchange space.

The ICT platform was constantly monitored and evaluated in relation to the content, its accessibility, the upgrading timing, its degree of acceptability and its capacity to foster interest by partners and by the population, including experts, utilizing it.

Sampling Method and Data Collection

For interviewing purposes anyone belonging to a certain study group could be chosen. A sampling criterion was that urban and rural (where applicable) areas should have been represented. Interviewees from the general population should have been people who have been exposed to traditional medicine. Five questionnaires (data gathering tools) for three different study groups were prepared: (i) General population; (ii) Traditional healers; (iii) Primary health care doctor). Each data gathering tool included:

- “Section one”, with all closed questions on respondent general information.
- “Section two”, which differs for each study group.

Five sections, specific on each symptom/illness studied, with:

- open questions on types and causes of symptoms and traditional remedies used;
- open and closed questions on different aspects of traditional remedies.

Results

Data collection in Greece took place for almost 2.5 years in Lesbos island in both rural and urban areas. The sample size and the topics of the research are presented in Table 1.

The summarized research results for each different target group (GP, PHCD and TH) are presented in Table 2, Table 3 and Table 4 accordingly.

Table 5 presents the acceptability by the general population of traditional medicine versus the modern western medicine approach.

As far as the case of spontaneous abortions is concerned, the research related to the general population concluded that 16.7% of the respondents admit that there is a taboo related to spontaneous abortion, 10% report that there is a social stigma on women who had a spontaneous abortion, 13.3% refer a certain belief on the causes of spontaneous abortion (fate, incompatibility with husband, inherited disorder, sin, evil eye, etc), 10% answered that multiple spontaneous abortions may lead to sterilization, while once a woman had a spontaneous abortion she is in great danger to face another one. Most of the women (66.7%) visit a western medical doctor upon such an episode, while 11.1% go to a traditional healer, and 22.2% get care from the elderly. It is also interesting that traditional healers support the idea that all women having a spontaneous abortion go to their gynecologist. When a traditional healer faces such a case, he/she use bed rest (42.9%), sex abstinence (7.1%), massage in the lower abdomen (7.1%), conventional medicine (28.6%), let the nature decide (14.3%).



Concerning the IT platform and the thematic network formed, the results were very encouraging. After six months of development, we monitored and evaluated its usage in several axes for almost two years, as presented in the next table (Table 7). The final platform comprised two main functionalities: (i) training sector (as a document repository for educational materials, studies, results, etc), and (ii) communication mechanisms (chat, forum, emailing for exchanging information).

Discussion

Nowadays, there is growing demand for making available health care choices, based upon best practice drawn from different healthcare systems.²¹ WHO recognized traditional medicine and therapies.²² Traditional medicine is a must-have for several populations and countries.^{2,15,18} The thematic web-portal designed was used to develop jointly ethnographic methodologies, instruments and plans for the implementation of an empirical research, and to define common tools on Traditional Medicine across the Euro-Asian nations. Information derived was shared and used, through the developed platform, by the various European and Asian populations, by scientists and by anyone wishing to know more about culture, popular traditions and heritage of great civilizations that have guided, at some point in time, the development of historical and scientific landmarks. Activities included quali/quantitative investigations on people's beliefs on the causes of the most common illnesses/symptoms and on their choices of remedies to improve their conditions. The overall goal of the research was to utilize information and communication technologies to promote cultural understanding, respect, peace, and sustainable development through the sharing of common roots and diversity, both profound elements of the heritage, of the identity of the Euro-Asian population. The project is in line therefore with

the Beijing Declaration²⁰ stating that *"The knowledge of traditional medicine, treatments and practices should be respected, preserved, promoted and communicated widely and appropriately based on the circumstances in each country"*.

ICTs have been widely used in the past in conventional medicine to facilitate the exchange of information and the spread of knowledge.²³ For example, medical ontologies have been exploited in organization of medical knowledge, facilitating the dissemination and sharing of medical information across disparate platforms.²⁴⁻³¹ However, none of these efforts and ontologies ventured into alternative and traditional medicine. In our case, we tried to utilize the most appropriate technologies (the virtual platform and the thematic network) in order to facilitate communication between the different target groups (general population, primary healthcare doctors, traditional healers), as well as between the partners in Greece, Italy, Nepal, Thailand, India and Philippines, proving to be a useful tool for the dissemination of the results on traditional and alternative medicine. According to the previous section, the developed ICT platform offered easy and fast access. Most of the respondents appreciated its usage and friendliness, as well as its usefulness. However, traditional healers made not such positive comments in regard to accessibility, acceptability and user friendliness. User friendliness and accessibility was ranked only as "good" by a high percentage of the traditional healers. This can be easily argued due to the low level of education of these persons and the fact that they are not acquainted with computers (low educational level and existence of a digital gap). However, the usefulness and acceptability seems to be profound to them, as they are most benefited. It is clear, that TH believe most of all in its usefulness even if they could not access it as easy as the rest of the focus groups. Web usefulness, in



terms of providing clear and appropriate information, electronic document delivery service efficiency (on request) were only some of the features appreciated by all the respondents. PHCD on the other side, even if they testimony as “excellent” the ICT platform both in user friendliness and accessibility as well, they strongly don’t believe in its usefulness due to its character. That is because they don’t believe in traditional medicine and its scope. The general public however, found the platform user friendly, accessible, and useful. This is justified by the fact that most of them follow certain traditional therapies and they feel that they could benefit from such a platform through which “valuable” domain-specific information is exchanged easily.

As far as the findings of traditional medicine are concerned, the main point of PHCD was that the case of spontaneous abortion was not the best choice to study traditional medicine. PHCD have usually a good knowledge about people’s illness behavior and their illness related to cultural beliefs and practices. Quite a number of PHCD use or advise some kind of traditional remedies to treat common illnesses/symptoms like diarrhea and fever. Another interesting finding was that only 37.5% of the PHCD stated that traditional medicine is negative or rather negative.

TH accept that many patients, when suffering from one of the symptoms mentioned in the research, seek for medical advice by the PHCD. Most often, pregnant women with signs of a suspected spontaneous abortion go to their gynecologist. Both TH and GP agree that people suffering from diarrhea, fever or headache more often use self-medications, probably because they know how to treat themselves and they recognize the mild and self-controlled nature of the symptoms. People more often turn to TH when encountering chronic joint pains, after they have tried conventional medicine to relieve the symptom. Patients with headache and diarrhea turn to western medicine only when the condition is persistent or deteriorates despite the use of

self-medications and other traditional remedies. Diets and herbs together is the most common type of treatment used, especially for diarrhea and fever. Other traditional practices include massage, compresses, pray and cups. It is also interesting that TH often insist in conventional medicines for the treatment of headache (analgesics 67%) and spontaneous abortion. According to TH, the treatments proposed by them are effective “always” in 66.7% and 50% of cases for diarrhea and fever respectively, “often” in 47.3% of cases for headache, and “some times” only in 33% of cases for joint pains. Most of the TH admit that traditional medicine is not always reliable, and in the case of spontaneous abortion modern medicine is more effective. The opinion of the general population was that traditional therapies are effective in most of the cases, except the case of spontaneous abortion. A significant outcome was that the majority of GP use self-medicines and therapies in most of the cases mentioned. In case of fever and joint pains doctors proved to be the main source of information. It is also interesting that a great percentage (more than 25%) of GP have a positive idea on the usefulness of traditional medicine. Of course, simultaneously, they state that they would rely on the modern medicine in most of the cases.

Conclusion

The research conducted focused on traditional medicine across European and Asian cultures including an ethno-anthropological study on popular medicine in Euro-Asian partner’s countries. The current paper presented the results of the Greek reality, and more specifically in the island of Lesbos. It was a 2.5 years study on how people of different target groups and backgrounds (general population, primary healthcare doctors, traditional healers), cultures and social groups interpret the causes of illness/health, the type of treatment they believe in, and to which they turn in case they become ill.



A major concern of the project that was revealed during the research and was also marked as high priority by the THs was that “All this knowledge about traditional medicine has been vanished”. So, the project helped a lot in this direction, which was of course one of its main objectives. In modern Greece is quite seldom to find persons practicing as traditional healers, so we sought for elder people with rich knowledge of traditional medicine as practiced in the island some decades ago. All of them were knowledgeable people continuing up to date to use traditional remedies for the treatment of certain diseases, but none of them accepted the term “traditional healer” for himself/herself neither received money for his/her services.

Concluding, we could support the idea that nowadays TM exists in regional Greece without being documented properly and gradually vanishes. Thus, more efforts are needed to preserve the heritage of TM in Greece. The current project contributed a lot both in this direction as well as in exchanging similar TM information between Asian and European countries. The ICTs played a key role in the success of the research and the dissemination of the acquired knowledge between all interesting parties.

References

1. Rigatos G. Ancient medicine through folk tradition. Athens, Greece: Beta Medical Editions 1999.
2. WHO. Traditional Medicine Strategy 2002-2005. Geneva, Switzerland: World Health Organization 2002.
3. WHO. Guidelines on Developing Consumer Information on Proper Use of Traditional, Complementary and Alternative Medicine. Geneva, Switzerland: World Health Organization 2004.
4. Astin J. Why patients use alternative medicine: results of a national study. *Journal of the American Medical Association* 1998;279(19):1548–1553.
5. Rigatos G. Treatment of mental disorders according to the folk tradition in modern Greece. *Archives of Hellenic Medicine* 1997;14:90-93.
6. Rigatos GM. Preventive medicine in Greek folk tradition. *Arxeia Iatrikon Etaireion* 1980;6:1-3.
7. Rigatos G. Medical Proverbs. *Arxeia Ellinikis Iatrikis* 2002. (in Greek)
8. Kontomichis P. Traditional medicine in Lefkas island. Eds., Grigori editions. Athens, 1985. (in Greek)
9. Bibis-Papaspyropoulou A. Traditional medicine in Peloponnese. Thesis. Athens, Greece: National & Kapodistrian University of Athens - N.Saripolou Library 1985.
10. Traditional medicine in Arcadia. (n.d.). [cited 2013 May 17] Available from: <http://arcadia.ceid.upatras.gr/arkadia/maillist/diag03/1-3.htm>
11. Herbs of Crete for therapeutical use. (n.d.). [cited 2013 May 12] Available from: <http://www.naturalcretanproducts.com/votana.htm>
12. Herbs of Greek flora. (n.d.). [cited 2013 May 23] Available from: <http://www.mani.org.gr/hlorida/giatros/giatr.htm>
13. WHO. Legal Status of Traditional Medicine and Complementary/Alternative Medicine: A Worldwide Review. Geneva, Switzerland: World Health Organization 2001.
14. WHO. Factsheets. [cited 2013 May 20] Available from: <http://www.who.int/mediacentre/factsheets/fs134/en/>
15. WHO. National policy on traditional medicine and regulation of herbal medicines. Report of a WHO global survey. Geneva, Switzerland: World Health Organization 2005.
16. WHO. Regulatory Situation of Herbal Medicines. A Worldwide Review. Geneva, Switzerland: World Health Organization 1998.
17. WHO. General Guidelines for Methodologies on Research and Evaluation of Traditional Medicine. Geneva, Switzerland: World Health Organization 2000.
18. WHO. WHO Policy Perspectives on Medicines - Traditional Medicine - Growing Needs and Potential. Geneva, Switzerland: World Health Organization 2002.



19. WHO. Guidelines for Training Traditional health Practitioners in Primary Health Care. Geneva, Switzerland: World Health Organization, Division of Strengthening of Health Services and Traditional Medicine Programme 1995.
20. WHO. Beijing Declaration. WHO Congress on Traditional Medicine. Beijing, China: World Health Organization 2008.
21. Bodeker G, Ong CK, Grundy C, Burford G, Shein K. World Health Organization global Atlas on Traditional and Complementary Medicine Geneva 2005.
22. Roy R. Integrative medicine to tackle the problem of chronic diseases. *Journal of Ayurveda and integrative medicine* 2010;1(1):18-21.
23. Koumpouros I. Information and Communication Technologies & Society. New Technologies Publications, 1st edition 2012;664-762.
24. Ashburner M. Geneontology: tool for the unification of biology. *The Gene Ontology Consortium, Nature Genet* 2000;25:25-29.
25. Stuart N, Aronson A, Doszkocs T, Mork J, Mccray A. Automated Assignment of Medical Subject Headings. *AMIA Annual Symp.*, Washington, DC, 1999.
26. Infectious Disease Ontology. [cited 2013 August 24] Available from: <http://www.infectiousdiseaseontology.org>
27. Rector A, Solomon W, Nowlan W, Rush TA. Terminology Server for Medical Language and Medical Information Systems. *Methods of Information in Medicine* 1995;34:147-157.
28. Hadzic M, Chang E. Medical Ontologies to support human disease research and control. *International Journal of Web and Grid services* 2005;1:139-150.
29. National Centre for Biomedical Ontology Bioportal. [cited 2013 August 24] Available from: <http://www.bioontology.org>
30. Koumpouros Y, Nicolosi GL, Martinez-Selles M. Critical success factors for establishing a multidisciplinary health community knowledge management system using internet-based ICTs: The cardiology paradigm. *International Journal of Healthcare Technology and Management* 2006;7(3-4):283-302.
31. Fernandez J, Martinez-Selles M, Correa CJ, Arredondo MT, Nicolosi GL, Koumpouros Y, et al. Self-maintained collaborative and multidisciplinary system for knowledge management in cardiology. In proceeding of *Computers in Cardiology* 2004.

ANNEX

Table 1. Sample size

	General population		PHCD	TH
	Individuals	Focus Groups		
Diarrhea	60	1	10	5
Fever	60	1	10	5
Headache	60	1	10	5
Joint pains	60	1	10	5
Spontaneous abortion	60	1	10	5

Table 2. Respondents' answers when certain symptoms are present (General Population - GP)

Behavior	Diarrhea	Fever	Headache	Joint pains



**Table 2. Respondents' answers when certain symptoms are present
(General Population - GP)**

... they visit a doctor	10%	38%	2%	38%
... they visit the primary care center	2%	10%	2%	10%
... they visit a hospital	3%	0%	0%	0%
... they visit a traditional healer (therapist)	3%	3%	5%	3%
... they receive alternative medicine	5%	0%	0%	0%
... they receive own medicines	68%	33%	82%	35%
It depends on the symptoms	8%	13%	8%	13%
Other	0%	2%	2%	0%
Approach				
Western world approach	15%	48%	3%	48%
Traditional approach	8%	3%	5%	3%
Receive of own treatments	68%	33%	82%	35%
It depends / Other	8%	15%	10%	13%
Types of therapies				
Herbs	57%	40%	2%	7%
Diet	92%	0%	5%	0%
Massage	0%	0%	15%	0%
Spiritual therapy	0%	0%	8%	0%
Tablets	17%	95%	85%	73%
Injection	0%	0%	0%	12%
Suppository	0%	3%	0%	0%
Other	52%	87%	65%	88%
Resources of information related to the therapies of each symptom				
Parents	17%	23%	9%	1%
Friends	2%	5%	16%	4%
Elderly people	10%	12%	3%	8%
Doctors	5%	40%	21%	78%
Television	0%	3%	3%	3%
Magazines	0%	8%	1%	2%
Other	65%	8%	47%	5%
Administration of treatment				
Per os	52%	61%	52%	47%
Intravenously	0%	0%	0%	0%
Inhaled	0%	0%	0%	0%
External use	2%	20%	4%	7%
Injected	0%	0%	0%	0%
Other/Not applicable	46%	19%	44%	41%
Effectiveness of treatment (as perceived by the respondents)				
Always	32%	75%	20%	33%
Often	53%	25%	65%	48%

Table 2. Respondents' answers when certain symptoms are present (General Population - GP)

Some times	15%	%	15%	18%
Never	0%	0%	0%	0%
Quantitative analysis of treatments' effectiveness (1=always, 2=often, 3=sometimes, 4=never)				
Herbs	1.58	1.38	2	1.25
No Herbs - No medicines	2.23	2	2.6	2.5
Medicines	1.2	1.22	1.86	1.73

Table 3. Respondents' answers when certain symptoms are present (Primary Health Care Doctors - PHCD)

	Diarrhea	Fever	Headache	Joint pains
Approach				
Western world approach	20%	20%	10%	80%
Traditional approach	0%	0%	0%	0%
Self-medication	70%	70%	70%	0%
It depends / Other	10%	10%	30%	20%
Are you aware of any traditional remedies people use?				
Yes	100%	100%	80%	100%
Types of known traditional remedies	Boiled rice, liquid diet, tea, lemon juice, mint, rice with lettuce, greek coffee	Herbs, compresses, massage with alcohol, warm baths, cups	Rest in a dark room, massage, cool compresses, "disenchant"	Bandage, compresses, hot tiles, massage with petroleum, swimming
No	0%	0%	20%	0%
Where do people get treatment?				
At the pharmacy	56.0%	20.5%	21.1%	82.6%
Bought over the counter	16.0%	5.1%	36.8%	0%
Home-made	24.0%	25.6%	0%	0%
Not applicable	4.0%	48.7%	42.1%	30.8%
How often treatment does work?				
Always	80%	90%	40%	30%
Often	20%	10%	40%	60%
Some times	0%	0%	20%	10%
Do you advise any traditional remedies?				
Yes	60%	100%	0%	%
If Yes, types of advises	Boiled rice and other traditional diet modifications, tea, lemon, rehydration therapy	Rest, Warm bath, Tea, Chamomile	-	-



**Table 3. Respondents' answers when certain symptoms are present
(Primary Health Care Doctors - PHCD)**

No	40%	0%	100%	100%
Point of view for Traditional Medicine and Alternative Therapies				
Positive	12.5%			
Rather positive	31.3%			
Rather negative	12.5%			
Negative	25.0%			
Don't know	18.8%			

**Table 4. Respondents' answers when certain symptoms are present
(Traditional Healers - TH)**

	Diarrhea	Fever	Headache	Joint pains
Approach				
... goes to the western doctor	0.0%	14.3%	0.0%	40.0%
... gets care from the elderly	16.7%	14.3%	37.5%	6.7%
... uses self-medication	66.7%	42.9%	62.5%	6.7%
It depends / Other	16.7%	14.3%	0.0%	13.3%
Treatment used				
Dietary (Boiled rice)	60%			
Dietary (Lemon)	50%			
Herbs (Mint)	20%			
Herbs (Aspragkatho)	10%			
Herbs (Tea)	10%			
Herbs (Tea, eucalypt, faskomilo, chamomile)		100%		
Compresses		33%		
Massage		50%		
Cups		50%		
Tablets and injections		17%		
Rest w/o cold water			83.3%	
Tablets (for common fever)			66.7%	
Prays (for evil eye)			100%	
Bracelet (for sun of March)			100%	
Garlic (for hypertension)			100%	
Alcohol (for hungover)			50%	
Coffee (for hungover)			100%	
Massage (for cold)			100%	
Rest				25%
Massage (settle bones)				6%
Massage (with petroleum)				19%
Compresses (cotton cloth to support movement)				13%

**Table 4. Respondents' answers when certain symptoms are present
(Traditional Healers - TH)**

Compresses (cotton cloth with garlic powder for 3 days)					6%
Tablets (6-8 tablets of aspirin per day)					6%
Injections					6%
Ointments					13%
Other (leeches; periodic apply for some days)					6%
How often treatment does work?					
Always	66.7%	50.0%	42.1%	33.3%	
Often	16.7%	33.3%	47.3%	33.3%	
Some times	16.7%	16.7%	10.5%	33.3%	
Do you think modern medicine treats these conditions better than traditional medicine?					
No	67%	50%	83%	80%	
Only in serious cases	33%	50%	17%	20%	

Table 5. Point of view of General Population for Traditional Medicine and Alternative Therapies v.s. Modern Medicine

Traditional Medicine		
Positive	Positive	6.7%
	"I trust it"	3.3%
	"I respect it"	1.7%
	"It is effective in most of the cases"	18.3%
	"... if it is complementary with the modern medicine"	1.7%
Circumspection	"I hesitate"	1.7%
	"May be effective, but there are no more persons who are aware of"	20.0%
Negative	"I don't trust it", "I don't trust therapists"	16.7%
	"Not worth"	5.0%
	Negative	13.3%
	"Therapists are usually charlatans"	1.7%
I don't know		10.0%
Modern Medicine		
Positive	Positive	35.0%
	"I trust it"	40.0%
	"Good" or "Very good"	3.3%
	"I am fan of it"	1.7%
Circumspection	Doubt about the quality	3.3%
	Doubt about the quality of doctors	1.7%
	"There are certain limits"	3.3%
	"I am afraid of doctors"	1.7%
	"I prefer to be combined with traditional medicine"	1.7%
Negative	"I don't trust it"	1.7%



Table 5. Point of view of General Population for Traditional Medicine and Alternative Therapies v.s. Modern Medicine

	"Not worth"	1.7%
I don't know		5.0%

Table 6. Respondents' answers on spontaneous abortion

	Is there a taboo related to spontaneous abortion?	Is there a social stigma?	Any special belief (not medical) on the causes?	Any belief (not medical) on the consequences?
GP	16.7% (Yes)	10% (Yes)	Some inherited disorder; Sin; Evil eye; Sexual hyperactivity	Multiple abortions may lead to sterilization; Once a woman had an abortion she is in great danger to have another one
PHD	17.7% (Yes), 68.3% (No), 14% (Don't know)	100% (No)	Evil eye; the tense and hostile family's environment	Possible recurrence during next pregnancies; people believe the God gives and takes life; the woman's role in the family may weaken; it is critical if the woman has no other children
TH	66.7% (Yes), 33.3% (Yes, in case of multiple abortions)	100% (No)	Fate; Incompatibility with husband; Immaturity	Worries during next pregnancy; fear of rejection by husband's family

Table 7. IT platform evaluation

	General Public	Healthcare Professionals	Traditional Healers
User friendliness	50% (3), 40% (4), 10% (2)	92% (4), 8%(3)	34% (3), 60% (2), 6%(1)
Accessibility	80% (3), 20% (4)	90% (4), 10% (3)	43% (3), 50% (2), 7% (1)
Acceptability	55% (4), 40% (3), 5% (2)	50% (3), 50% (2)	73% (4), 20% (3), 7% (2)
Usefulness	40% (4), 50% (3), 10% (2)	8% (2), 82% (1)	93% (4), 7% (3)

(0=bad, 1=medium, 2=good, 3=very good, 4=excellent)