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„The Relationship of Complementary and Conventional Medicine by the Example of Immunodiagnostic Tools “

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Ich erkläre, dass ich die Master Thesis mit dem Titel „The Relationship of Complementary and Conventional Medicine by the Example of Immunodiagnostic Tools“ selbständig und ohne fremde Hilfe verfasst, und nur die angegebenen Quellen und Hilfsmittel verwendet habe. Alle wörtlich oder sinngemäß benutzten Quellen entnommenen Stellen wurden als solche kenntlich gemacht.

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Wien, am 21.02.2020

Karoline Therese Marth

Abstract

This master thesis explores the topic of immunodiagnostic tools in conventional and complementary medicine. First, an insight in the development of both medical directions, their concepts, principles and terms, is provided to gain an understanding of their conflictive ideologies and current state of the art. Second, the practical challenges and problems of this scientific conflict are exemplarily demonstrated by the analysis and evaluation of the following immunodiagnostic tools: redox serum analysis, cell regulation screening, DMPS mobilization test and chelat therapy. Additionally, well established immunodiagnostic tools from conventional medicine are discussed. The third part of this master thesis consists of eight qualitative interviews conducted with experts in the field of immunodiagnostic testing and complementary medicine. Their insight should be understood as an additional step to close the knowledge gap existing between conventional and complementary medicine, which is alarmingly conspicuous especially in scientific literature. The aim of this thesis is further to distinguish efficient tools of complementary medicine from inefficient tools and demonstrate how both medical directions could potentially profit from each other.

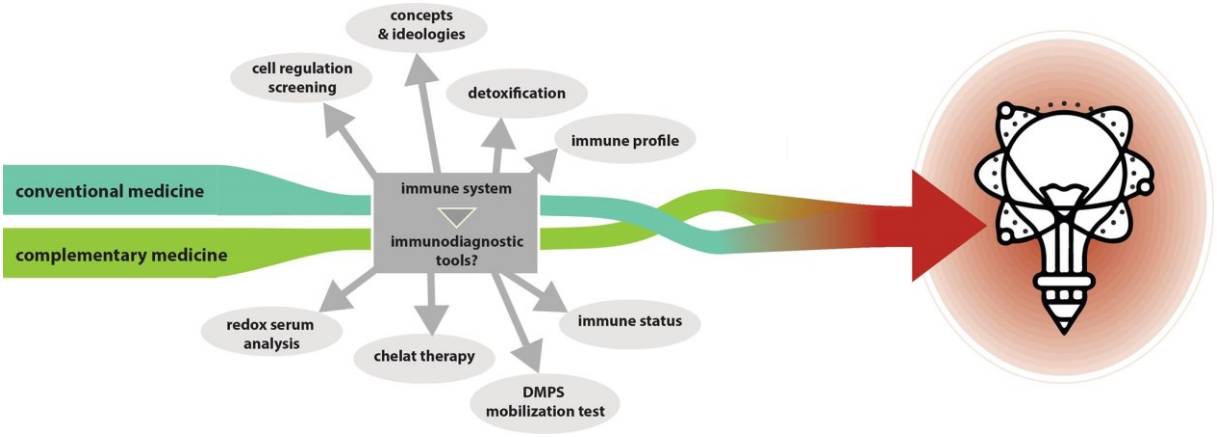
Keywords: conventional medicine, complementary medicine, detoxification, immune system, immunodiagnostic tests, immunodiagnostic tools, redox serum analysis, cell regulation screening, DMPS mobilization test, chelat therapy, antibody deficiency

Kurzfassung

Diese Masterarbeit beschäftigt sich mit dem Thema der immundiagnostischen Tools in der konventionellen und komplementären Medizin. Zunächst wird ein Einblick in die Entwicklung der beiden medizinischen Richtungen, ihrer Konzepte, Prinzipien und Begriffe gegeben, um ein Verständnis für ihre widersprüchlichen Ideologien und den aktuellen Stand der Wissenschaften zu gewinnen. Folgend werden die praktischen Herausforderungen und Probleme dieses wissenschaftlichen Konflikts exemplarisch anhand der Analyse und Bewertung folgender immundiagnostischer Tools aufgezeigt: Redoxserumanalyse, Zellregulations-Screening, DMPS-Mobilisationstest und Chelat-Therapie. Zusätzlich werden etablierte immundiagnostische Tools aus der Schulmedizin diskutiert. Der dritte Teil dieser Masterarbeit besteht aus acht qualitativen Interviews mit Experten auf dem Gebiet der immundiagnostischen Tests und der Komplementärmedizin. Deren Erkenntnisse sind als ein weiterer Schritt zu verstehen, um die gerade in der wissenschaftlichen Literatur alarmierend auffällige Wissenslücke zwischen Schul- und Komplementärmedizin zu schließen. Ziel dieser Arbeit ist es weiterhin, effiziente von ineffizienten Instrumenten der Komplementärmedizin zu unterscheiden und aufzuzeigen, wie beide medizinischen Richtungen potenziell voneinander profitieren könnten.

Schlüsselworte: Schulmedizin, konventionelle Medizin, Komplementärmedizin, Entgiftung, Immunsystem, immundiagnostische Tests, immundiagnostische Tools, Redoxserumanalyse, Zellregulationsscreening, DMPS-Mobilisationstest, Chelat-Therapie, Antikörperdefizit

Graphical Abstract



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1. Introduction

This thesis is about the diagnostic methods currently available to analyze and interpret the immune system and its qualities of function as well as the concept of detoxification and its impact on the human body. Since the conventional medicinal approaches only depict a snapshot of the current state of the immune system and have already been well studied, the focus of this thesis lays on the complementary medicinal approaches, which often claim to provide a better picture of the overall functionality of the immune system. However, they hardly find any recognition by the conventional medicine, are often not reliably scientifically researched and are, if recognized, controversially discussed. Since the conventional medicine turns a blind eye to complementary medicine, possibly valuable approaches and methods stay unnoticed and patients are prevented from getting the medical support they need. Even if they find their way to complementary medicinal diagnostics, the costs are not covered by the majority of health insurances and patients have to decide for themselves which methods and tools they trust. This is the second huge problem, caused by the contempt of complementary medicinal approaches by conventional medicine: The lack of information, scientifically valid research and integration into conventional medicine, makes complementary medicine an art nearly everyone can practice. Dubious methods, universally applicable drugs, high priced courses and quickly earned certificates are flooding the medical market and leaving patients to choose from a wide variety of practitioners, diagnostic tools, drugs and other treatments, with no criteria of quality at hand to make an informed decision. Especially when it comes to diagnosis, using the best suitable resources and approaches available is crucial as the diagnosis is the first step of every medical process. The more detailed and accurate the diagnosis, the better tailored and efficient the treatment plan; inaccurate diagnosis can lead to preventable costs and unnecessary suffering for patients. The aim of this thesis is to shed light to the different diagnostic tools complementary medicine provides and to evaluate from which of them conventional medicine could profit. Further, tools which efficacy is controversial should be scientifically discussed and their value over conventional tools shall be evaluated.

The Immune System

The immune system is a host defense system which first priority is to protect against disease. Therefore, it subsumes many different biological processes and structures within an organism. The main function of the immune system is to detect a wide variety of pathogens, for example viruses, bacteria and parasitic worms. It distinguishes them from the organism's healthy tissue and its expressed components.

The human immune system can be classified into subsystems; one can distinguish between the innate immune system and the adaptive immune system and between humoral immunity and cell-mediated immunity. The adaptive immune system reacts slowly, is highly specific and has to be triggered. Furthermore, it is able to memorize which pathogens it already has encountered. Compared to the adaptive immune system, the innate immune system reacts fast, is non-specific and always available; it is not able to remember pathogens it has previously encountered. The cellular part of the immune system consists of T-lymphocytes, macrophages, dendritic cells, granulocytes, natural killer cells and mast cells. Whereas the humoral part of the immune system compromises cytokines, immunoglobulins and the complement system.

The human brain is further protected by the neuroimmune system, which is separated from the peripheral immune system by the blood–brain barrier, the blood–cerebrospinal fluid barrier, and similar fluid–brain barriers.

Conventional Medicine and Complementary Medicine: Conceptuality and Terminology

The relationship between conventional medicine and alternative medical concepts – in this thesis collectively referred to as complementary medicine - has long been characterized in the Western European health system by mutual distrust, demarcation and partial rejection. There has been no systematic cooperation or even integration of different basic medical concepts so far. At best, there is an "asymmetrical coexistence", in which conventional medicine is taught and applied almost exclusively in medical faculties, whereas the use of complementary medicine is widespread in wide areas of outpatient medical care.

Disappointed expectations of conventional medicine seem to play a lesser role as a reason for the use of complementary medicine than conceptual differences of opinion regarding illness and healing (Weis & Bartsch, 1998). Thus, the criticism of antibiotic therapy occasionally expressed by patients mostly refers less to the spectrum of side effects than to the possibilities of treating not only the "causa externa" (Rudolf Virchow), but also to strengthening salutogenic resources in overcoming the disease (Stenzinger et al., 2010). Furthermore, an insufficient consideration of mental factors in the conventional understanding of disease is criticized. Everyday experience shows that, for example, the remarkably low degree of implementation of evidence-based beta-blocker therapy for coronary heart disease in Germany can certainly not only be attributed to a lack of information or (mostly unfounded) concern about side effects, but that the patient expects assistance in dealing with stress-intensive life situations and coping with stress (Willich et al., 2001). The "Sense of Coherence", which encompasses meaningfulness, comprehensibility and manageability is reflected in the desire for a medical system that is perceived as holistic. The patient is not only concerned with disease control and setting pathogenetically relevant parameters, but also with an active, resource-mobilizing role in disease management and therapy.

An increase in patient demand for complementary medicine can be observed in many western industrial societies. This trend is not per se to be seen as evidence of the effectiveness of complementary medicine, but points to the desire of patients and their treating physicians to expand therapeutic options, especially for chronic or incurable diseases. A desire which could already be observed in the nineties when more than 40 percent of all patients in the USA used alternative therapy methods (Eisenberg et al., 1998). The estimated number of patient visits to complementary doctors or alternative practitioners now exceeds the number of patient visits to general practitioners in the US. For Austria and Germany there is no current reliable data available, however, the utilization is likely to be at least as high as in the US. In general, it is assumed that almost three quarters of all Germans have experience with complementary medicinal approaches (Marstedt & Moebus, 2002). Data from 2000 confirms, even by then had 10 percent of all doctors in Germany additional qualifications in complementary medicine, especially chiropractic, naturopathy and homeopathy. More than 50 percent of general practitioners also use complementary methods of cancer treatment, mainly due to patient demand (Münstedt, Entezami,

Wartenberg, & Kullmer, 2000). Similar data is not available for Austria. In Germany though, herbal medicines are prescribed for around two billion euros annually, health insurance companies spend two billion euros on alternative medical treatment, and privately paid treatments in these areas are estimated at five billion euros. Numbers since then are rising though there have not been reliable quantitative studies with a large population regarding the actual utilization of complementary medicine. Mostly because complementary medicinal approaches are in most cases paid for privately and the field of complementary medicine is very diverse and lacks any kind of regulation which even makes estimating patient numbers a challenge (Marstedt & Moebus, 2002).

Conventional medicine conversely refers to the way of thinking and medical practice which is taught at the universities of the highly developed western countries and seen as the standard in western medicine. This definition deliberately avoids a valuation compared to other medical disciplines and therefore the use of labels such as "scientific", "technological" or similar.

Although the progress in diagnostics and therapy in the middle of the 19th century was essentially based on the connection between the exact natural sciences and clinical experience, today's conventional medicine has been significantly influenced by developments in philosophy, psychology and sociology. The conception of humankind underlying today's conventional medicine has been described as the bio-psycho-sociological model. This model does not refer to separate categories of human nature, but to ways of looking at things whose separation makes sense for medical research and the work of medical specialists, but which must be taken into account equally in the medical care of a patient (Smart, 2009).

From a purely biological point of view, health and illness, measured in terms of parameters such as life expectancy, fitness, defense against infections or cancer risk, are basically the same for mice and humans. In spite of the extensive homology of the genome of higher organisms, each species, and every individual within the species, is unique due to gene expression; even from a purely biological point of view, the special position ascribed to humans is characterized above all by the highly complex development of the brain.

The psychological approach is essentially oriented towards the human being. Psychological research has shown that human sensations and behavior, and its pathological disorders, are caused both genetically and by the transmission of

cultural information between generations and by environmental influences. Diagnostic procedures and forms of therapy based on verbal communication (standardized tests, psychoanalysis, psychotherapy, etc.) are specific to humans.

Even more than the psychological approach, the sociological approach is directed towards the human being. Medical decisions, which are based solely on the recording of biology and psychology, do not do justice to the patient; they always have to take the sociological context into account. Sociological normality (health) is more dependent on culture and class than on the other two approaches. It is also shaped by historical variables, for example by the factors that are relevant to medicine. It is also marked by historical variables, such as changes in the family, sexuality, care of the elderly, the disabled, health policy and health economics that are relevant to medicine (Meloni, Federici, & Bracalenti, 2012).

Within conventional medicine, there is no uniform opinion on the concept of healing. Whereas until 30 years ago the elimination of biological abnormalities (e.g. the coalescence of a broken bone, the elimination of pathogenic bacteria, the removal of a cancerous tumor) was generally regarded as a definition of healing, today the normalization of quality of life or life expectancy, possibly independent of the persistence of genetic or acquired changes, has prevailed as a definition of healing. However, it is burdened with the problem of defining "normality" (Morris, 1997). In the uncertainty and the ongoing discussion of this question, the discursive character of conventional medicine shows itself in contrast to the dogmatism of many, if not all, complementary medical systems.

The term "complementary medicine" encompasses a large number of different theoretical and practical approaches, the common feature of which is that they do not belong to conventional, scientifically established medicine and are not sufficiently accepted by its representatives (Matthiessen, Rosslenbroich, & Schmidt, 1992). This negative definition is not accidental. It documents the fact that this term refers to a broad field of highly diverse and qualitatively heterogeneous medical systems, approaches and procedures and that a definition that is sharp and capable of consensus is therefore not easily possible. In German-speaking countries, this area is also referred to as alternative, unconventional, holistic, biological or outsider medicine, each with different nuances of meaning. The term "Complementary and Alternative Medicine" (CAM) has established itself in the Anglo-American linguistic area (O’Connor et al., 1997).

Even if clinical studies prove therapeutic effectiveness, this generally does not lead to an acceptance of complementary medical approaches, because their epistemological prerequisites do not appear plausible from the point of view of the paradigms prevailing in conventional medicine. The mantra of conventional medicine still is: It cannot be what must not be.

Despite all the differences in approaches such as homeopathy, anthroposophical medicine and naturopathy, their representatives assert the principles of promoting, supporting or stimulating or provoking the self-healing performance of the organism or individual as a therapeutic principle.

Most approaches to complementary medicine have a concept of humankind in common that goes beyond the somatic level. In modern conventional medicine the bio-psycho-sociological model is used to describe aspects that do not relate to independent areas of human existence, but merely correspond to ways of looking at things, whereas in complementary medicine anthropological images that identify independent mental and spiritual areas as a basis are used as fundament of medicinal practice. These are partly derived from traditional cultures such as traditional Chinese medicine (TCM), Ayurveda and others, or are conceptually defined in anthroposophical medicine for example on the basis of a Goetheanist epistemology and used as a basis for diagnostic and therapeutic medical action (Steiner, 1979).

Illness has a somatically describable symptomatology, which manifests itself in a disease process determined by mental and spiritual factors. Conversely, healing has not only a somatic interventional level, but requires the consideration of the salutogenic forces of the human organism as well as its inner spiritual resources. The pathogenetically oriented therapy principles of modern conventional medicine such as control or suppression of a disease process or substitution of missing organ functions are confronted with the claim of many complementary medical methods to support those processes which the organism itself shows to deal with the disease. Under these aspects, healing in complementary medicine does not only mean pushing back the disease to lower degrees of manifestation and trying to reach the state of “earlier health” (the health condition before the disease) but also learning about the functions of the body with the disease. Refraining from trying to stop a disease and their symptoms though there are medical possibilities to do so, bears many risks and is an approach conventional medicine rejects.

2. The Basics of Medical Research and the Scientific Method

The scientific method is an empirical research method. Its goal is to acquire knowledge and it has shaped the development of science since the 17th century. Essential parts of the scientific method are careful observation, critical analysis of the observed, formulating hypotheses by the principle of induction, further experimental testing of deductions drawn from prior formulated hypotheses and evaluation of hypotheses based on experimental findings leading to verification, falsification or refinement of the formulated hypotheses. These mentioned parts are not to be understood as a series of steps applicable and inherent to every scientific research process but principles that can be observed in different forms in every scientific research process (Newton, Cohen, & Whitman, 1999). Though there are different implementations of the scientific method in research design, one can carefully formulate a general continuous process which can be found in almost every scientific research effort: Most researched questions are deducted from an observed phenomenon. The humankind is naturally inquisitive and strives to understand the world it lives in. The attempt to logically explain an observed phenomenon leads to the development of hypotheses from which predictions can be made which can be experimentally tested. Based on the test results a hypothesis may require alteration, refinement, expansion or rejection. If a hypothesis is well supported by reproducible, reliable, valid test results, one can develop a general, scientific theory. Another important characteristic of a scientific hypothesis is its falsifiability. If a hypothesis cannot be falsified in scientific testing, there is no meaningful testing possible. (Garland, 2016).

The Interpretation of Laboratory Values

The interpretation of laboratory values can be considered as important as the collection of those values itself. The way in which any kind of data is interpreted purports the conclusions drawn from said data and therefore the further proceedings. When it comes to medical data such as laboratory values the first interpretation made is if a value is “normal” or “abnormal”.

To determine what falls in which category, samples obtained from a reference group are tested. These reference groups usually consist of healthy adults which are equally divided between females and males. The obtained results are used to determine what the “normal” range of a healthy individual is, using statistical approaches such as the 95% confidence interval and the standard deviation of the mean. One standard deviation above and below the mean encompass 65% of the values whereas two standard deviations encompass 95% of the values. According to this definition 2.5% of the selected “normal” reference group showing comparatively high values and 2.5% of the selected “normal” reference group showing comparatively low values are labeled as “abnormal” though supposedly selected as part of the “normal” and healthy reference group (De Muth, 2014). This shows how statistics and reference groups work and that these binary first interpretation of a laboratory value needs to be treated with caution. Finding a value which falls outside of the reference range does not automatically indicate an abnormality. The clinical relevance of a statistically abnormal laboratory value should primarily be based on the difference from the “normal” range and the clinical history of the patient. Another important factor is context meaning evaluating the significance of the “abnormal” value in contrast to the patient’s other physical parameters and laboratory testing results.

3. The Principles of Immunodiagnostic Tests in Conventional Medicine

Immunodiagnostic tests performed in conventional medicine

In conventional medicine immunodiagnostic tests are mainly performed to determine if a patient suffers from a primary immunodeficiency disease (PID). Indicator for the necessity of immunodiagnostic tests are usually the clinical problems of a patient. Symptoms which point in the direction of a PID are for example chronic or recurrent infections or other conditions, for which no other medical explanation can be found. To make immunodiagnostic tests as valuable as possible for diagnostics, a physical examination, a medical history of the patient and detailed information regarding the clinical problems, are required. In conventional medicine the malfunctions primarily

tested for in immunodiagnostic tests are antibody deficiencies, cellular defects, neutrophil disorders and complement deficiencies (Blaese & Winkelstein, 2013).

Evaluation of Antibody Deficiency

Antibody deficiencies are the most common type of PID in humans (Ballow, 2002). Symptoms for antibody deficiencies include frequent, recurrent and severe respiratory tract infections caused by encapsulated bacteria. Additional bacterial infections may also occur in other body sites, along with viral infections and other noninfectious complications. The standard screening tests for antibody deficiency in conventional medicine measure IgG, IgA and IgM levels in the blood serum (Leung, Szefle, Bonilla, Akdis, & Sampson, 2016).

Among the five different classes of immunoglobulins IgA, IgD, IgE, IgG and IgM, IgG plays the predominant role in protection against various infections. There are patients producing normal levels of immunoglobulins including IgG, though do not produce sufficient specific IgG antibodies. Their immune system is not capable to protect them from viruses and bacteria though normal immunoglobin levels are measured in their serum. Patients who show these characteristics suffer from specific antibody deficiency (SAD), which differs clearly from primary antibody deficiency (PAD). The term PAD describes innate or acquired immunological disorders characterized by failure to produce sufficient circulating antibodies (Seymour, Miles, & Haeney, 2005). PAD was originally recognized fifty years ago, after the development of electrophoretic techniques which allowed a semiquantitative analysis of serum immunoglobulins (Ogden & Bruton, 1952). The most prevalent PAD is common variable immunodeficiency, characterized by greatly reduced serum concentrations of IgA, IgG and sometimes IgM. Apart from PAD and SAD there is also functional antibody deficiency (FAD), which has been recognized more recently. It is characterized by abnormal low concentrations of circulating antibodies to haemophilus or pneumococcal antigens though IgG serum concentrations are in a normal range. Additionally, the immune system of patients suffering from FAD fails to respond adequately to infections or vaccinations. Despite a delay in discovering antibody deficiencies, immunological diagnostic methods such as immunoassays are

still the most widespread tool when it comes to determining antibody deficiencies (Seymour et al., 2005).

Evaluation of Cellular Immunity

The term cellular immunity describes the immunological function different types of T-cells exhibit. Therefore, the first parameter which can easily be evaluated is the number of T-cells in the human blood, which is done by a complete blood count (CBC) and a total lymphocyte count. T-cells make up approximately 75 percent of circulating lymphocytes, which means a reduction in T-cells also leads to a reduction in lymphocytes. The performance of flow cytometry with specific markers for different types of T-cells confirms this reduction as well. The above described evaluation of T-cells numbers however does not tell anything about T-cell function (Folds & Schmitz, 2003).

To evaluate T-cell function additionally to the CBC cell culture studies are needed. In the framework of those studies the T-cells response to different stimuli is evaluated. T-cells either respond by proliferating or by releasing cytokines (Canavan et al., 2012).
Another possibility to evaluate cellular immune deficiencies is to analyze if there are any mutations. Cellular mutations can be an indicator for specific genetic defects such as severe combined immune deficiency (SCID) for which mutations in at least 10 different genes have been already identified in the early 2000s (Buckley, 2004).

Evaluation of Complement

To evaluate deficiencies within the complement system the total hemolytic complement assay (CH50) is used as the standard screening test. Although increased CH50 values are an indicator of an inflammatory response in the human body, they are of no clinical relevance as inflammatory reactions can be evaluated much more efficiently by C-reactive protein (CRP) values or blood sedimentation. Since increased CH50 are of no clinical relevance and from decreased CH50 values no diagnosis can be made without further testing, one can state that the CH50 is a binary diagnostic pretest. For example, if a patient shows defect in just one

complement component, the CH50 will turn out almost completely negative. In this case specialized complement laboratories are consulted for additional testing. The defective complement component needs to be identified to make a reliable diagnosis. There can also occur other defects within the complement system for example in the alternate complement pathways. Those defects are rare though and can be diagnosed by using functional tests, such as AH50, specifically directed at this alternate complement pathway (Wen, Atkinson, & Giclas, 2004).

Evaluation of Neutrophil Function

The evaluation of neutrophil function starts as the evaluation of cellular immunity with a blood count. To evaluate neutrophil function not only the CBC is needed but also the white blood cell counts (WBC). A decline in neutrophils is the most common malfunction when a patient shows symptoms of a defective neutrophil immunity. A careful analysis of the neutrophils structure is needed to rule out diseases related to abnormalities in neutrophilic structure. Within this analysis abnormal chemotaxis of the neutrophils can also be discovered, which would indicate hyperimmunoglobulin E syndrome, and is characterized by cold staphylococcal infections and elevated IgE levels caused by the impaired recruitment of neutrophils (Ochs & Notarangelo, 2010). If there are neither decreased numbers of neutrophils nor abnormalities in neutrophilic structure or neutrophilic chemotaxis, the next step is to focus on testing for primary immune disorders such as leukocyte adhesion deficiency (LAD) and chronic granulomatous disease (CGD). Both diseases come with normal or elevated neutrophil values and further testing is conducted by using a dye reduction test such as Nitroblue Tetrazolium test (NBT) or flow cytometry for example with dihydrorhodamine 123 (DHR) to evaluate the oxidative burst of the activated neutrophils (Dimitrova, Bunkall, Lim, & Kendrick, 2013).

4. The Different Concepts of Healing and Detoxification in Complementary and Conventional Medicine

Healing and detoxification are general concepts of conventional and complementary medicine which could not be more different within these two directions of medicine. When discussing the concept of healing the differences lay more in a deeply ideological difference between complementary and conventional medicine, while the term “detoxification” is simply used for two completely different concepts to begin with.

A simple online search for “detox”, for instance, generates over a million hits, most of which relate to the complementary medicinal understanding of detoxification. On the contrary medical search engines such as PubMed and Medline only offer pertinent literature almost exclusively on detoxification in conventional medicine. Therefore, it is not possible to review detoxification in complementary medicine systemically (Ernst, 2012). Instead this thesis tries to give an insight into the ideologies present in complementary as well as in conventional medicine and shed light to the different use of terminology, the current state of art and some of the immunodiagnostic methods.

The Concept of Detoxification in Conventional Medicine

In conventional medicine the human body is viewed as a complex well-developed system that has its own mechanisms to detoxify and remove toxins. Although there still is a lot to discover regarding this complex system, the basic working mechanisms of most organs and other smaller units of the human body are discovered and thoroughly researched by now. This also includes the mechanism of detoxification which is part of an inherent concept of living: metabolism. Metabolism is an umbrella term for all life-sustaining chemical reactions in a living organism. Metabolism can further be divided into the subcategories of conversion of nutrition to energy, the conversion of nutrition to building blocks for, nucleic acids, proteins, lipids, and some carbohydrates, and the elimination of nitrogenous wastes. The last of these subcategories can also be described as process of detoxification. The main routes of excretion for metabolic waste are the urine and the feces. However, also the

respiratory tract and the skin are important routes of excretion, while the kidneys play an important role in filtration and clearance of blood plasma, which is cleared of creatinine, and the liver is essential to detoxify metabolites (Sreekumar, 2010).

From this brief summary of elimination processes as part of basic metabolic function, one can see that the term detoxification applies to many processes in the human body ensuring a well-functioning metabolism which is key for every living organism. Although detoxification is an essential part of metabolism and takes place at many sites of the human body, the term is hardly ever used in conventional medicine. Instead terms such as elimination, excretion, filtration, clearance, etc. are used to describe detoxification processes. If the term is used in conventional medicine, it does not refer to the above described natural processes, but to the medical treatment of patients suffering from life-threatening drug addictions or to treatments such as kidney dialysis or renal dialysis. For non-professionals this leads to the impression that conventional medicine has forgotten about detoxification and has not adapted itself to the new toxic environmental influences and dangerous chemicals we are supposedly daily exposed to.

The Concept of Detoxification in Complementary Medicine

According to complementary medicine the idea behind detoxification is that every human body needs cleaning from toxins to stay or become healthy. The detoxifying organs liver, gall bladder, kidneys, intestines, skin and lymphatic system are cleansed as part of this detoxification process. The goals are a detoxification of the body, the stimulation of the metabolism and blood pressure and to lower cholesterol and blood sugar levels. Besides weight loss can be a positive side effects, as many toxins are supposedly bound in fat tissue (Temple, 2010).

The exact toxins and how they are removed with the help of the respective program are usually not described in detail (Ernst, 2012). The following reasons are often given for why this detoxification is necessary: environmental pollution from pollutants or pesticides, unhealthy diets and health-threatening behavior such as smoking or alcohol consumption. Through these previously mentioned factors and behaviors, poison often called "slag" accumulates in the body, which supposedly can be removed with detoxification methods. What is meant by the term "slag" remains open

most of the time. However, originally the word refers to residues from combustion and metal processing processes; it stems from the metal, oil and coal industry. Advocates of the detox idea also leave it unclear which other toxins should allegedly accumulate in the body and be removed with a detox cure (Klein & Kiat, 2015).

All in all, the allegations about detox are not concrete enough. Innumerable pollutants are assumed, which are to be removed with the help of detox on unknown ways. It is neither proven, whether such "slags" accumulate at all in the body and cause health problems - nor whether possible pollutants can be removed thereby really. The way the problem is usually presented does not exist. Although extensive literature research was conducted, it was not possible to find any studies that prove a health benefit of detox cures (Ernst, 2012).

The Concept of Healing in Complementary and Conventional Medicine

The concept of healing in conventional medicine differs immensely from the concept of healing in complementary medicine. Though both concepts appear in medical practice often in alleviated forms the inherent mentality of them is still recognizable in both directions of medicine. The conventional as well as the complementary medical field though portrayed as a place of ratio, are at its core deeply ideological. Therefore, both ideological concepts are presented to demonstrate their rigorously different origin.

The concept of healing in conventional medicine sees the human body as a complex well-functioning object that needs fixing when its broken. The importance of psychological components in physiological diseases has long been neglected. It was Sigmund Freud who began to introduce psychological wellbeing as contributing factor to physiological health in the scientific medical practice of western medicine. He, a psychiatrist himself, taught other psychiatrists, among them also C.G. Jung, his theory of psychoanalysis. Though some of his theories are dismissed by now and many of them are refined, the underlying hypothesis was correct. Freud provided important impulses not only for the field of psychiatry but for a change in general medical understanding (Freud, 1932). Nevertheless, psychiatry, physiology and psychotherapy are rarely well connected, and professionals often practice completely

separated from each other. The importance of integration of each other and a holistic approach to health is theoretically present though hardly ever practiced.

On the contrary the concept of healing in complementary medicine emphasizes a holistic approach. The human body is viewed as complex system, which is capable of self-healing. The purpose of complementary medicine is to support the human body in activating those self-healing capacities. Best suited to fulfill this task are “natural” methods, avoiding pharmaceutically developed products, as they are often viewed as “toxic” and “unnatural”. The fact that most pharmaceutical products are based on a natural product is often neglected. While conventional medicine and its methods of healing are based on scientific facts and a growing pool of scientific knowledge, complementary medicine does not have the same kind of scientific foundation. In fact, complementary medicine does not even have a shared foundation. There are many different currents basing their approach on different background knowledge, often cherry picking of the same pool of scientific knowledge as conventional medicine, citing studies that fit their narrative. Although complementary medicine sometimes likes to utilize some of the medical facts conventional medicine has to offer, not all complementary medicinal professionals see themselves as useful extension to conventional medicine but as a replacement for conventional medical professionals, which is one of the core problems of complementary medicine. By the complementary medicine uniting belief that conventional medicine only exacerbates patient’s diseases, complementary medicine on the one hand rejects a whole direction of medicine with all its scientific achievements and on the other hand sends the message that every medical need can be complied by complementary medicine. This mindset is very dangerous because it can prevent patients from seeking medical help apart from activating self-healing when they would need it. Instead of admitting that a patients disease cannot be healed by complementary medicinal methods, unethical practitioners often blame the patient for not believing in the method, not committing themselves well enough to their treatment plan or insisting that there is another psychological blockade which prevents the prescribed treatment from having the wished effect (Ernst, 2000).

5. Immunodiagnostic Tests, Detoxification Methods and other Analysis and Therapies in Complementary Medicine

There are many immunodiagnostic tools available in complementary medicine. Most of them are neither sufficiently described nor have a scientific basis. The chosen tools and terms below were chosen for the following reasons: Immune profile and immune status were chosen because both terms are widely used in conventional as well as in complementary medicine without being explicitly defined. The redox serum analysis and the cell regulation screening were chosen because both claim to be able to diagnose the same immunodiagnostic parameter and are invented by the same company. Both methods are offered by diagnostic laboratories in Vienna. The DMPS mobilization test and the chelat therapy are recommended by diagnostic laboratories in Vienna as well and were chosen because they supposedly diagnose heavy metals in the human body. In complementary medicine heavy metals are often tried to eliminate from the human body by different detoxification methods. The concept of detoxification is also discussed in this master thesis (see chapter 4. The Different Concepts of Healing and Detoxification in Complementary and Conventional Medicine).

The Immune Profile and The Immune Status

Both terms, immune profile and immune status, are neither sufficiently nor consistently medically defined. One medical dictionary for example defines immune status as follows:

“The ability of the body to demonstrate an immune response or to defend itself against disease or foreign substances.” (“Immune status | definition of immune status by Medical dictionary,” 2019)

This definition does not describe the term as the result of a diagnostic tool or other health parameter which can be evaluated but simply as the main function of the immune system. Many other medical dictionaries do not even list either of both terms. Most other occasions one of both terms is used in conventional medicine, they refer to the results of diagnostic tests regarding the immune system in general such as CBC, WBC etc. (see chapter 3.The Principles of Immunodiagnostic Tests in

Conventional Medicine) or of a selection of many different diagnostic tests regarding immune functions. However, even then there is no consistent use of either of these terms.

In complementary medicine the term immune status is also used to describe the state in which the human immune system is, not necessarily referring to the results any specific diagnostic tool has measured.

Redox Serum Analysis and Cell Regulation Screening

The complex serum redox difference provocation analysis according to Dr. Hermann Heinrich, short redox serum analysis (RSA), redox analysis or redox potential analysis, is a blood test for the so-called detoxification ability of human body cells. The test is mainly used by proponents of orthomolecular medicine and should also be able to detect infections, tumor diseases and "stress caused by electrosmog". Heinrich's advertises the RSA test on the Internet as intended for holistic use in orthomolecular medicine ("Redox-Serumanalyse nach Heinrich – Psiram," n.d.). Many laboratories offer the RSA test to their patients within the category of special diagnostics, which is not paid for by any health insurance. One laboratory provides the following information text on their website:

"This method was developed at the University of Rostock by the scientists Dr. H. Hamann and Dr. H. Heinrich. The analysis allows for the first time a reliable statement about the individual detoxification capacity against free radicals and important metabolic reactions of the body. The redox potential can be measured in serum samples after the addition of bioeffectors. The data collected on the redox reactions serve as the most important characteristic of the inner environment. They allow statements about oxidative stress states and diseases, as well as about the need for specific antioxidants. The redox-serum analysis informs you about your individual need for minerals, trace elements, vitamins and antioxidative nutrients."
("Redoxserumanalyse" n.d.)

Regarding the details of the method only the following information could be found: 20ml venous whole blood is drawn from which a uncoagulable serum is made through centrifugation. This serum is further treated in various steps, "radically loaded" and exposed to certain active substances. A change or variability of the redox potential in the serum, pH value, Rydberg constant for hydrogen (rH value) and ionic strength is then measured. With the aid of a computer program, a dimensionless "health value G" is calculated from the measured values, which is intended to provide information on the immune status of the patient. The reference value for redox serum analysis is a G value of +200 (“Redox-Serumanalyse nach Heinrich – Psiram,” n.d.).

The inventors of the patented outsider method in the 1950s were the Rostock biochemists Hermann Heinrich and Dieter Hamann. Inventor Heinrich claims to have developed the method in 20 years of research and to have evaluated 40,000 scientific articles.

The costs for the redox serum analysis are not borne by the statutory health insurance funds and amount to at least 260 euros. The determined result leads to "vital substance recommendations" and "personal vital substance mixtures" through the laboratory (“Redox-Serumanalyse nach Heinrich – Psiram,” n.d.). Published literature on the procedure seems to be available only from the inventor and the “Krebsgesellschaft Nordrhein-Westfalen” as well as the “Institut zur wissenschaftlichen Evaluation naturheilkundlicher Verfahren an der Universität zu Köln” are critical of the redox serum analysis according to Heinrich (“Redox-Serum-Analyse,” n.d.).

The inventor Hermann Heinrich is also the inventor of the Mevitec device/cell regulation screening (CRS) - analysis system, which supposedly is “the first measuring device worldwide to offer a non-invasive screening method for identifying the regulation of the cellular metabolism.” (“Startseite - Mevitec,” n.d.). Due to server problems of their website, it was not possible to visit their imprint or contact page and research was limited to their landing page.

According to this landing page the optical measuring takes place on the thumb within a few seconds. The fluorescence of endogenous metabolic substances is registered non-invasively, using a measurement probe. One immediately obtains a graphical evaluation of the metabolic situation. The results of this evaluation can be used to

detect possible deficiencies of vital micronutrients and any imbalance within the metabolism (“Startseite - Mevitec,” n.d.).

If one researches the cell regulation screening apart from Mevitec, one can generate thousands of hits by using non-scientific search engines, but hardly find anything using scientific search engines such as Google Scholar, PubMed, and others.

In comparison to the redox serum analysis for the cell regulation screening no venous blood needs to be drawn. The testing is performed by the Mevitec device mentioned above. The measuring probe measures the supposed fluorescence of the body's own metabolic substances (“Startseite - Mevitec,” n.d.). Since the measuring performed by the device is non-invasive, only temperature and perspiration can be measured.

The eccrine sweat glands are distributed all over the human body and can produce considerable amounts of a clear, odorless secretion, which consists of more than 99 percent water and otherwise mainly contains electrolytes such as Na+, Cl-, K+, lactate and amino acids as well as urea. In addition, sugar and ascorbic acid are present in the sweat in low concentrations. The pH value in the acidic range is pH 4.5 (Kuno, 1934). None of these mentioned components is known to exhibit fluorescence, therefore the described method used for the cell regulation screening, is not supported by scientific evidence. According to the inventors and other alternative practitioners the cell regulation screening allows to make well-founded statements about protection against hyperacidity, immune defense, metabolic turnover regulation, training condition, protection against oxidative stress, mental resilience, protection against infectious processes, connective tissue condition, regulation of inflammatory processes, allergic activation, cell regeneration and degradation processes, general performance and micronutrient requirements (Diederich, 2012). All these parameters are derived from the supposed fluorescence of “certain metabolic substances”, which are not specified neither in scientific publications nor in non-scientific publications.

DMPS Mobilization Tests and Chelat Therapy

The abbreviation DMPS stands for 2,3-Dimercapto-1-propanesulfonic acid. Its chemical structure is shown in Figure 1 below.

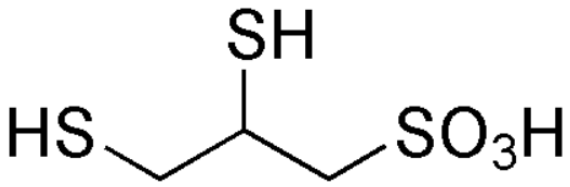

Figure 1: Chemical structure of 2,3-Dimercapto-1-propanesulfonic acid (DPMS)

For the DMPS mobilization test DMPS is administered by a variety of routes of administration, orally or intravenously for example (Ruha, 2013). Since DMPS is a chelating agent it binds to heavy metals such as mercury and forms a chelate. A chelate is a compound of a multi-tooth ligand (chelator) with a central atom, which is usually a divalent positively charged metal ion. The ligand surrounds the central atom with at least two binding sites. The ligand binds to the central atom via coordinative bonds, which means the free electron pairs of the bond are contributed by the chelator. Chelate complexes are characterized by an increase in entropy, the formation of 5 and 6 rings and the stability associated with those rings. A chelate complex is energetically advantageous, since entropy is lowered less than it would be the case if several different ligands were used for ion binding. Chelate complexes and the formation of chelate complexes are used in laboratory medicine and toxicology. By the formation of sparingly soluble complexes toxic substances can be removed from the organism. Different chelating agents show a different high affinity for various heavy metals (Forth, Henschler, & Rummel, 2017).

In conventional medicine this principle is utilized to treat patients suffering from heavy metal poisoning. In this case DMPS is administered orally or intravenously. In complementary medicine DMPS is also used to cure heavy metal poisoning though not in the conventionally medicinal meaning of this term. Complementary medicine believes that due to the environmental influences of the modern world we live in every human body is impacted by heavy metals which can cause various symptoms. One laboratory in Vienna for example summarizes the topic of heavy metal poisoning on their website. However, neither scientific nor nonscientific sources for the stated information is given. The laboratory states:

“In nature, heavy metals only occur in traces. Some of them - the trace elements - are essential for plants, animals and humans. The best known are chromium, iron,

cobalt, copper, manganese, molybdenum, nickel, vanadium, zinc and tin. But even a small increase in concentration can be harmful to the organism.
Due to industry and environmental pollution, heavy metals are released in increased concentrations into food, water or the air we breathe and into the human body. There they promote the formation of free radicals, which in turn can damage cells. High concentrations can have serious consequences such as tissue damage and stress on the liver, kidneys and intestines.
This can result in inflammation and hypersensitivity reactions (allergies and intolerances), increased susceptibility to infections or autoimmune diseases. Increased concentrations of heavy metals have also been detected in cancer or multiple sclerosis.
It is possible that the heavy metals also displace vital trace elements from their binding sites, which can lead to a zinc or magnesium deficiency, among other things." ("Schwermetalle " n.d.)

The American College of Medical Toxicology and The American Academy of Clinical Toxicology on the contrary have published a list regarding heavy metals in the human body named "Ten Things Physicians and Patients Should Question" in which they clearly take position against such treatments as the DMPS mobilization test and the chelat therapy (The American College of Medical Toxicology and The American Academy of Clinical Toxicology, 2015). For the creation of this list they gathered their information from 45 different scientific sources. In point 2 to 4 of this list is stated the following:

"2) ***Don't administer a chelating agent prior to testing urine for metals, a practice referred to as "provoked" urine testing.***
Metals are ubiquitous in the environment and all individuals are exposed to and store some quantity of metals in the body. These do not necessarily result in illness. Scientific studies demonstrate that administration of a chelating agent leads to increased excretion of various metals into the urine, even in healthy individuals without metal-related disease. These "provoked" or "challenge" tests of urine are not reliable means to diagnose metal poisoning and have been associated with harm.

3) Don't order heavy metal screening tests to assess non-specific symptoms in the absence of excessive exposure to metals.

Individuals are constantly exposed to metals in the environment and often have detectable levels without being poisoned. Indiscriminate testing leads to needless concern when a test returns outside of a "normal" range. Diagnosis of any metal poisoning requires an appropriate exposure history and clinical findings consistent with poisoning by that metal. A patient should only undergo specific metal testing if there is concern for a specific poisoning based on history and physical examination findings.

4) Don't recommend chelation except for documented metal intoxication which has been diagnosed using validated tests in appropriate biological samples.

Chelation does not improve objective outcomes in autism, cardiovascular disease or neurodegenerative conditions like Alzheimer's disease. Edetate disodium is not FDA-approved for any condition. Even when used for appropriately diagnosed metal intoxication, chelating drugs may have significant side effects, including dehydration, hypocalcemia, kidney injury, liver enzyme elevations, hypotension, allergic reactions and essential mineral deficiencies. Inappropriate chelation, which may cost hundreds to thousands of dollars, risks these harms, as well as neurodevelopmental toxicity, teratogenicity and death."

(The American College of Medical Toxicology and The American Academy of Clinical Toxicology, 2015)

In summary it can be stated that according to The American College of Medical Toxicology and The American Academy of Clinical Toxicology heavy metals are indeed harmful for the human body but only in high concentrations. In this case of an acute exposure to large amounts of heavy metals one can speak of a heavy metal poisoning. The important role of metal chelation therapy for patients with a heavy metal poisoning has long been accepted in conventional medicine. However, the role of chelation therapy in other conditions, such as chronic or subacute lead (Pb) exposure, or the validity of a diagnosis of chronic heavy metal toxicity, or other entities attributed to chronic low-level exposure, in conventional medicine is much more controversial. A foundational principle in toxicology is that toxicity is a dose

related phenomenon and involves the interaction of the host, the toxin, and the environment (McKay, 2013). In 2007 chelation therapy and DMPS mobilization tests were performed 200.000 times in the US due to different symptoms (Barnes, Bloom, & Nahin, 2009). Even today the range of estimated use of chelat therapy is very broad among different groups. This is at least partially attributable to its marketing in complementary medicine and difficulty with regulation of non-prescription pharmaceuticals especially in the US (McKay, 2013).

6. Methods

The first part of this master thesis was based on the collection and analysis of data through the evaluation of scientific literature. For literature research, PubMed, Google Scholar, Researchgate and Ufind, four scientific search engines, were used. The following keywords were used: conventional medicine, complementary medicine, alternative medicine, detox, detoxification, elimination, metabolism, concept of detoxification, immunodiagnostic tests, detox methods, immune status, immune profile and many more. Further the search engine Google was used, the reason for this is explained below. Scientific papers and books from 1952 to 2014 were used. The original source from 1952 by Ogden and Burton regarding primary antibody deficiency was used, because this was the first time conventional medicine discovered this disease with the aid of at this time new diagnostic tools and started attempts of treating it. The development of diagnostic tools for the immune system in conventional medicine as well as in complementary medicine constitutes the theoretical background and therefore also the framework of this thesis. Although the knowledge about primary antibody deficiency was extended and refined since then, Ogden and Burton built the theoretical basis by discovering “agammaglobulinaemia”, which was the first example of an immunodeficiency syndrome. Other original sources were used for similar reasons. All sources used by now can be found in the last chapter of this thesis (see chapter 15. Literature).

Reliable scientific literature regarding conventional medicinal methods and tools was easily accessible and for most topics also in large quantities available. However, the terms immune status and immune profile were used very differently throughout literature and hardly ever defined. The term detoxification was either used to describe

the concept of detoxification in complementary medicine and to further reject it or to describe an essential part of metabolism, the elimination and excretion of toxins and metabolic waste in general. The search for reliable scientific information regarding complementary medicinal methods and tools was more complicated as there were hardly any resources which support their claims by scientifically confirmed facts. Many complementary medicinal publications appear to use different resources but if one looks deeper into the cited sources, one often finds the same author, institute or even company behind those different names. Although there are prestigious and well researched complementary medicinal resources, the lack of reliable complementary medicinal resources regarding the specific methods reviewed in this thesis made the literature research very difficult. However, it must be mentioned that complementary medicine tries to dissociate itself from conventional medicinal approaches and therefore also from the scientific knowledge they are based on. Therefore, it is not surprising that many complementary medicinal publications refrain from using conventional medicinal literature to base their hypothesis on. Since one must ask on which kind of knowledge complementary medicinal publications then base their findings and conclusions on, this question is thoroughly discussed in the literature part of this thesis. The complementary medicinal resources finally used were the most reliable which could be found. This differences in availability of scientific information also explain why most scientific literature referenced in this thesis can be assigned to conventional medicine.

The second part of this thesis consists of eight qualitative guideline-based interviews conducted with experts in the field of complementary medicine as well as conventional medicine. For those interviews, interview partners with many years of experience in their field were chosen to give an additional scientific perspective on immunodiagnostic tests, the concept of detoxification and the role conventional and complementary medicine play in both topics. The qualitative guideline-based interview as scientific tool was firstly chosen due to its very high priority compared to other methods of qualitative research as the qualitative guideline-based interview is most frequently conducted (Diekmann, 2016). Secondly, the qualitative guideline-based interview was chosen due to the following advantages: high information acquisition possible, flexibility and direct queries in the interview situation possible and formal clarity and help with implementation through guidelines. Additionally, the qualitative guideline-based interview follows five main principles which were also

applied during the process of this master thesis. The five principles are: principle of openness, principle of flexibility, principle of processability, principle of data-based theory and principle of restraint by the researcher.

7. The Qualitative Guideline-based Interviews

The Selection of Questions

For the questionnaire 10 questions were created, two of them (Q8 and Q10) have one (Q8) or two (Q10) follow-up questions. The first question (Q1) is an introductory question about the stance of the expert in regards of different directions of medicine and opens the conversation by directly leading to the second question (Q2). Four (Q5, Q6, Q7, Q9) of the ten questions are to specific terms or tools, the other six questions (Q1, Q2, Q3, Q4, Q8, Q10) either take a more general approach to the topic or look at it from an economic or macrosocial perspective. The final question (Q10) regards the future of complementary and conventional medicine, what development the experts wish for and how measures can look like to realize such a development. The full questionnaire in English and German can be found in the section “Supplement” of this thesis.

The Term Expert and the Selection of Experts

According to Meuser and Nagel, who describe the development of the term "expert" in detail (Meuser & Nagel, 2009), (Meuser & Nagel, 1991), the selection of interview partners (see Table 1 chapter 7.5 The Anonymization of Data and the Research Design) placed particular emphasis on several years of expertise and engagement in complementary medicine. Ideally the experts had firsthand expertise with the reviewed diagnostic tools though this is not the case with all experts. This can be simply explained by the following two arguments: Firstly, not every expert is an active medical practitioner and secondly, an expert critical of the effectiveness or safety of a certain method is unlikely to apply it.

The aim of the research design was to rule out an "earning a quick buck" effect of the current excessive boom in this methodology and to comply with a valid qualitative method. Such an approach to methodological reflection was first described by Brinkmann, Deeke and Völkel at the beginning of the 1990s (Brinkmann, Deeke, & Völkel, 1995).

The authors Gläser and Laudel as well as Bogner, Littig and Menz show the exploration of theoretical foundations, concrete fields of application and the methodological practice of expert interviews (Gläser & Laudel, 2010), (Bogner, Littig, & Menz, 2014). Publications by Hitzler, Honer and Maeder and Pfadenhauer describe in particular the concept of the expert and expert knowledge (Hitzler, Honer, & Maeder, 1994), (Pfadenhauer, 2009).

These criteria were used to select the experts interviewed. Additionally, a special focus was put on diversity. At the time of the interview, no two experts were from the same institution or department or stood in any other known relation to each other. In terms of gender parity, it was tried interview as many female medical professionals as male medical professionals. Unfortunately, this was not possible as there was required a very specific expertise and the pool of male experts was approximately 30 times as big as the pool of female experts. At the end the focus on diversity regarding different workplaces, as explained previously, the kind of expertise and practical factors were more important than gender parity, as these factors could potentially bias or prevent the research effort of this thesis.

The Conduction of the Qualitative Guideline-based Interviews

The interview times were arranged in such a way that sufficient time for the detailed discussion of the questions was available. Eight interviews were conducted with a total of eight experts resulting in eight interview protocols. The interviews were conducted in German as the first language of all experts and the author of this thesis is German.

In order to answer the central questions (see chapter 8.1 The Evaluation of the Questionnaire) eight expert interviews of 10 minutes to 76 minutes length with the

questions 1 to 10 (see chapter 7.1 The Selection of Questions) were conducted. The interview recordings were made in person or via mobile phone and were recorded on tape (mp3).

An exemplary transcript is attached as a supplement to this thesis.

The Importance of the Results of the Expert Survey

The present study is a survey of the relation of complementary and conventional medicine to each other and their standing in Austria. To gain a better insight and to narrow this topic the focus lays on immunodiagnostic tools, the methods available in conventional medicine and two immunodiagnostic methods rooting in complementary medicine. Therefore, Austrian experts from practice and research in complementary medicine as well as in conventional medicine were chosen as interview partners. The comparison of the detailed research results in international literature databases with the results of the expert interviews allows a direct comparison between the international scientific opinion status and the situation in Austria.

The Anonymization of Data and the Research Design

The expert team consists of eight researchers and practitioners. All of them had a conventional medicinal background and occupied themselves in different ways with complementary medicine. Some were active practitioners in complementary medicine, some in conventional medicine, some practiced both. Others were occupied with research and teaching complementary and/or conventional medicine in the tertiary sector of education. All of them had several years of relevant medical professional experience in the explored field of research. The experts were given an expert ID (IDs from 1 to 8) and are referred to as “expert” plus their ID number. The ID assigned to the experts was determined by the date of the interview. For further information regarding the experts see Table 1.

Table 1: Table 1 shows the professional expertise of the interviewed experts by listing their current occupation: active researcher, active complementary medicinal practitioner, active conventional medicinal practitioner, active activist/specialist book author in the field of medicine

Expert ID	Active Researcher	Active Complementary Medicinal Practitioner	Active Conventional Medicinal Practitioner	Active Activist/ Specialist Book Author In the Medical Field
1	X	X	X	
2		X	X	
3		X	X	
4		X	X	X
5	X	X	X	
6	X		X	X
7	X		X	X
8		X	X	X

During the process of the conduction of the interviews, it became clear that the academic community which concerns itself with complementary medicine is small and well connected. This counts for medical professionals who stand behind complementary medicinal approaches as well as for those very critical. After the interview many experts gladly referred to their colleagues in this field and their expertise. Since it is understandable that every person of every ideological community wants to see their positions represented extensively and correctly, this fact by itself is neither surprising nor problematic. The scientific handling of this issue is what is needed to be considered carefully. Therefore, the original research design has changed in the process of conducting the interviews significantly. The most drastic change was the decision of the author to not refer to the interviewed experts per name or make them in any other way recognizable. Therefore, neither

workplaces nor other institutes, laboratories or clinics are mentioned namely which stand in any relation to the interviewed experts. It is important to state that this was not done because the experts did not stand behind their statements but because during the process of interviewing it became clear how different certain statements were perceived if the speaker is known. This could potentially lead to a different weighting of expert opinions by the reader when it comes to the relevance and significance of expert statements. This effect is neither wished nor aimed for by the author. To avoid this bias and allow focusing on the content generated by this qualitative guideline-based interviews and their evaluation, the author decided to anonymize the collected data and guaranteed this anonymity also to the interviewed experts.

8. Results of the Qualitative Guideline-based Interviews

The Evaluation of the Questionnaire

In this chapter the answers to every question are summarized and listed in tables, see table 2 to 14. A more detailed discussion of the answers given by the eight experts can be found in chapter 9.2 Discussion of the Evaluation of the Questionnaire.

Table 2: Table 2 shows the summarized answers to question 1 (“Do you see yourself professionally and ideologically located in complementary medicine (CAM), in conventional medicine (CM) or in both?”) given by the eight interviewed experts during the qualitative interview.

Question 1: Do you see yourself professionally and ideologically located in complementary medicine (CAM), in conventional medicine (CM) or in both?	
Expert 1	Both
Expert 2	Both
Expert 3	Both
Expert 4	Both
Expert 5	Both
Expert 6	Conventional (CM)
Expert 7	Conventional (CM)
Expert 8	Both

Table 3: Table 3 shows the summarized answers to question 2 (“How do they see the relationship between complementary medicine and conventional medicine?”) given by the eight interviewed experts during the qualitative interview.

Question 2: How do they see the relationship between complementary medicine and conventional medicine?	
Expert 1	CM complemented through CAM
Expert 2	Varying; polarization between CAM and CM caused by CM
Expert 3	Varying; CAM and CM well regulated by law; CAM not integrated in CM
Expert 4	Varying; patients want CM; integration of CAM in CM easily possible
Expert 5	Not how it should be (holistic approach); CM rejects CAM
Expert 6	Primarily CM which should be complemented by CAM
Expert 7	CAM has often no effect; if CAM is complementary support and does not interfere with CM, CAM can be used
Expert 8	Varying; CM often rejects CAM

Table 4: Table 4 shows the summarized answers to question 3 (“Do you think that the research and practice of complementary medicine should be reserved for conventional medical professionals trained in complementary medicine?”) given by the eight interviewed experts during the qualitative interview.

Question 3: Do you think that the research and practice of complementary medicine should be reserved for conventional medical professionals trained in complementary medicine?	
Expert 1	No, pharmacologists, other medical professionals, psychologists, physiotherapists, psychotherapists, should be able to be trained in CAM too
Expert 2	Yes, but information regarding CAM important in many professions
Expert 3	Yes, if CAM is used to treat diseases, but exceptions (e.g. training physiotherapist in osteopathy) In research of CAM, other professionals also important (biologists, physicist, pharmacologist).
Expert 4	Yes
Expert 5	Yes
Expert 6	Yes
Expert 7	No, especially in research are researchers with other academic backgrounds important to avoid confirmation bias
Expert 8	Yes

Table 5: Table 5 shows the summarized answers to question 4 (“Do you consider the introduction of other standardized methods (note: other than the scientific method) to evaluate the effect of complementary medicinal tools to be useful?”) given by the eight interviewed experts during the qualitative interview.

Question 4: Do you consider the introduction of other standardized methods (note: other than the scientific method) to evaluate the effect of complementary medicinal tools to be useful?	
Expert 1	Yes, but they have to have a solid scientific basis
Expert 2	Yes, new study designs for CAM
Expert 3	Research should depict medical reality
Expert 4	Pragmatic studies and cohort studies should be performed
Expert 5	Yes
Expert 6	No
Expert 7	No

Expert 8	Yes

Table 6: Table 6 shows the summarized answers to question 5 (“What do the terms immune status and immune profile mean to you and do you think that the terms are uniformly defined? (Note: in complementary and conventional medicine)”) given by the eight interviewed experts during the qualitative interview.

Question 5: What do the terms immune status and immune profile mean to you and do you think that the terms are uniformly defined? (Note: in complementary and conventional medicine)	
Expert 1	Two different terms with a wide range of meaning in CAM
Expert 2	Two terms mean the same, shows “immune competence”
Expert 3	There is no uniform definition
Expert 4	Not clearly defined terms that have no place in medicine
Expert 5	Does not know if terms are uniformly defined but uses them
Expert 6	Two terms mean the same
Expert 7	Not clearly defined terms that have no place in medicine
Expert 8	Legitimates immune status and profile by laboratories which offer them

Table 7: Table 7 shows the summarized answers to question 6 (“What does the term detoxification mean to you and do you think that the term is uniformly defined? (Note: in complementary and conventional medicine)”) given by the eight interviewed experts during the qualitative interview.

Question 6: What does the term detoxification mean to you and do you think that the term is uniformly defined? (Note: in complementary and conventional medicine)	
Expert 1	by patients well received buzzword; located in CAM
Expert 2	cleansing of the body of endogenous and exogenous metabolic components, which is a process which is slowly acknowledged by CM
Expert 3	No scientific term; many methods in CAM to detoxify
Expert 4	Difficult to prove, easy to explain by common sense
Expert 5	Detoxification is very important; not arrived in CM
Expert 6	Detoxification is only necessary if toxins are ingested (kidney failure, alcohol, smoke); No permanent exposure to toxins
Expert 7	Not clearly defined term; detoxification is only necessary if toxins are ingested
Expert 8	Misused term; definition of poison? Todays knowledge not sufficient to know everything about (de)toxification.

Table 8: Table 8 shows the summarized answers to question 7 (“What do you think of redox serum analysis as a diagnostic tool for assessing the state of the immune system?”) given by the eight interviewed experts during the qualitative interview.

Question 7: What do you think of redox serum analysis as a diagnostic tool for assessing the state of the immune system?	
Expert 1	Good tool; knows professionals successfully using it
Expert 2	Uses RSA to assess oxidative stress; RSA is not taken seriously by CM
Expert 3	No personal experience with the method
Expert 4	Good to use if a patient has an unbalanced metabolism
Expert 5	Good tool
Expert 6	No personal experience with the method

Expert 7	No personal experience with the method
Expert 8	No personal experience with the method; wishes for more studies regarding RSA; conclusions of the method regarding free, radical metabolic reactions plausible

Table 9: Table 9 shows the summarized answers to question 8A ("What is your opinion about laboratories that offer their clients complementary medical examinations as a private service?") given by the eight interviewed experts during the qualitative interview.

Question 8A: What is your opinion about laboratories that offer their clients complementary medical examinations as a private service?	
Expert 1	Error in the health care system, two or three class health care system, CAM should be integrated in governmental health care
Expert 2	Two or three class health care system; goal should be to scientifically prove that these CAM examinations work, so that the government pays for them
Expert 3	"Very critical" and "against it", there is a great danger that there is overdiagnosis and overtherapy.
Expert 4	Possible loss of quality if health insurance covers everything; governmental financial support for CAM for less well-situated patients
Expert 5	Two or three class health care system; governmental financial support for CAM for less well-situated patients, which need CAM the most
Expert 6	Every examination offered must be scientifically evaluated
Expert 7	Good for laboratories and doctors, hardly ever beneficial for patients; potentially harmful for the finances and the health of patients
Expert 8	Permissible; basic, necessary diagnostic examinations should be financially covered but ever patient should be allowed to buy "add-ons"

Table 10: Table 10 shows the summarized answers to question 8B ("Do you think that such services should be clearly marked as complementary medicinal examinations?") given by the eight interviewed experts during the qualitative interview.

Question 8B: Do you think that such services should be clearly marked as complementary medicinal examinations?	
Expert 1	No, this would only widen the gap between CM and CAM
Expert 2	No, there is only one medicine (holistic medicine)
Expert 3	No, danger is the incorrect application of diagnostic tools, can also happen with tools of CM
Expert 4	Yes, but most of them are marked, due to the efforts of CM stigmatizing CAM
Expert 5	No, CM wishes for them to be marked as CAM tools, but patient does not care if tool is from CM or CAM
Expert 6	Yes
Expert 7	No, CAM sounds still reasonable and is not enough of a warning for patients
Expert 8	No, there is only one medicine (holistic medicine)

Table 11: Table 11 shows the summarized answers to question 9 ("How do you see the discharge of heavy metals by chelating agents (e.g.: DMPS), if according to conventional medicine there is no heavy metal poisoning?") given by the eight interviewed experts during the qualitative interview.

Question 9: How do you see the discharge of heavy metals by chelating agents (e.g.: DMPS), if according to conventional medicine there is no heavy metal poisoning?	
Expert 1	More studies needed, but experiential medicine supports it; exposure to heavy

	metals in modern society is enormous
Expert 2	CM assessment of heavy metal poisoning does not exclude a heavy metal poisoning, toxins in cell matrix; chelat therapy is backed up by experiential medicine
Expert 3	Successfully applied in dental medicine, but does not know the current state of research
Expert 4	Would not use chelat therapy, there are other methods
Expert 5	CM assessment of heavy metal poisoning does not exclude a heavy metal poisoning; would not use chelat therapy, there are other methods
Expert 6	No personal experience with the method
Expert 7	Does not think chelat therapy is in this case reasonable
Expert 8	Treatment of the cause important, but critical of chelat therapy, maybe in some cases reasonable

Table 12: Table 12 shows the summarized answers to question 10A ("What kind of development of complementary medicine and conventional medicine would you wish for?") given by the eight interviewed experts during the qualitative interview

Question 10A: What kind of development of complementary medicine and conventional medicine would you wish for?	
Expert 1	More studies in CAM; less stigmatization of CAM by CM, rapprochement of CM and CAM; more data to select tools without effects
Expert 2	Holistic medicine
Expert 3	Holistic medicine
Expert 4	Holistic medicine; discussion on eyelevel between CAM and CM;
Expert 5	Holistic medicine; every patient receives the right treatment for them no matter the direction of medicine (CAM or CM) for free
Expert 6	CAM: more studies more financing of studies, also by renowned societies, openness towards such studies; CM: well-founded complementary medicinal methods that are scientifically proven should be accepted
Expert 7	Everything that has an effect is already CM, complementary are only measures the patient can take to support healing (yoga, nutrition, etc..)
Expert 8	Serious scientific work especially in CAM; openness to progress; holistic medicine

Table 13: Table 13 shows the summarized answers to question 10B ("What concrete form could measures take that would benefit such a development?") given by the eight interviewed experts during the qualitative interview

Question 10B: What concrete form could measures take that would benefit such a development?	
Expert 1	multimodal therapy concepts; patients involving in development of individual therapy concept; information for all professionals about all available methods
Expert 2	Good education for medical professionals in CM and CAM, to end stigmatization of CAM by CM and provide a better basis for cooperation of CM and CAM
Expert 3	Integration of CAM at universities (e.g.: USA); holistic approach in medical practice (e.g.: primary care centers)
Expert 4	information for all professionals about all available methods, does not matter if one is pro or contra CAM, patients use CAM, so medical professionals need to know about the methods and their effects
Expert 5	Exchange of experiences (also between CAM and CM); holistic education for medical professionals; primary care centers
Expert 6	More scientific studies; better education for medical professionals

Expert 7	Better education for medical professionals, more focus on science and training in communication to recognize psychosomatic symptoms as such; encouraging self-responsibility in patients
Expert 8	More scientific studies; more cooperation and exchange in all directions of medicine and between CAM and CM

Table 14: Table 14 shows the summarized answers to question 10C ("In this respect, what do you think about an integration of psychotherapy, social work, etc. into conventional medicine?") given by the eight interviewed experts during the qualitative interview

Question 10C: In this respect, what do you think about an integration of psychotherapy, social work, etc. into conventional medicine?	
Expert 1	Psychotherapeutic approaches are essential in medicine
Expert 2	Yes, it should be a part of holistic medicine
Expert 3	Yes, works at a primary care center, where this is already the case
Expert 4	A cooperation between medicine and psychotherapy is important
Expert 5	Yes
Expert 6	Yes, it should be part of CN
Expert 7	Yes, it should be part of CN
Expert 8	Social work has nothing to do with medicine, psychotherapy is scientifically not sufficiently validated to be part of medicine.

Content and Core Beliefs named by the Interviewed Experts

In the process of the qualitative content analysis of the eight interviews six content categories were introduced and coded. It is important to note that in this thesis the term content does not refer to a certain belief, attitude or perception of named content. For example: The mentioning of holistic medicine as a positive development in modern medicine as well as the critical discussion of holistic medicine are both coded with "HM" and count as mentioning of the content "holistic medicine or integrative medicine". Since it was predefined by the interviewer, mentioned content such as "complementary medicine" which was repeatedly and explicitly asked for in the qualitative guideline-based interviews was not counted in this evaluation step. This first evaluation step was performed to gain an overview of the mentioned content and to introduce content groups and codes to further work with. The results of this qualitative content analysis are shown in Table 15.

Table 15: Table 15 shows the content named by the interviewed experts, the number of mentions of content (Mentions), the expert ID, the question ID and the assigned code for each content mentioned (Code).

Content named by Experts	Mentions	Expert ID	Question ID	Code
1) Holistic medicine or integrative medicine	25	*1,2,3,5,8*	1,2,5,8	HM
2) (Self)-regulation or (self)-healing	20	*1,2,3,8*	2,4,5,6,10	SR
3) Prevention or salutogenese	16	*1,2,4,5,8*	5,6,8,10	PS
4) Experiential medicine	20	*1,2,4,5,7,8*	2,4,6,9,10	EM
5) Harmful attitudes to medical practice	26	*1,2,3,4,5,6,7,8*	3,4,5,6,8,9,10	HA
6) Practice of inefficient medical tools and methods	23	*1,2,3,4,5,6,7,8*	3,4,5,6,8,9,10	IT

In a further step the core beliefs named by the interviewed experts were derived from the interview transcripts see Table 16.

Table 16: Table 16 shows the evaluated core beliefs (Core Beliefs named by Experts) shared by most of the interviewed experts (Expert ID), their correlation with the asked questions (Question ID) and the assigned code for each core belief (Code)

Core Beliefs named by Experts	Expert ID	Question ID	Code
1) Only conventional medical professionals should be allowed to practice (complementary) medicine	*1,2,4,5,6,8*	3,10	MP
2) The term “alternative” medicine is misleading and ill-fitting	*1,2,4,5,7,8*	1,2	AM
3) There is unclarity regarding the use and meaning of the terms: detoxification, immune status and immune profile	*1,2,3,4,5,6,7,8*	5	DT
4) Preparations to support detoxification are unnecessary for healthy patients	*2,4,5,6,7,8*	6,9	PR
5) There is a need for additional methods (to the scientific method) to evaluate tools	*1,2,3,4,5,8*	4	SM

6) The psychological component of health should be part of medical practice	*1,2,3,4,5,6,7*	10	PC

In a further step the mentioned content and the named core beliefs were analyzed to find correlations. To each core belief there were at least two correlating content points, see Table 17.

Table 17: Table 17 shows the evaluated core beliefs (Core Beliefs) shared by most of the interviewed experts and the correlating content points (Content) named by the interviewed experts

Content	Core Beliefs
- Holistic medicine or integrative medicine - Harmful attitudes to medical practice - Practice of inefficient medical tools and methods	Only conventional medical professionals should be allowed to practice (complementary) medicine
- Holistic medicine or integrative medicine - Experiential medicine - Harmful attitudes to medical practice	The term “alternative” medicine is misleading and ill-fitting
- Holistic medicine or integrative medicine - Harmful attitudes to medical practice	The terms detoxification, immune status and immune profile are not uniformly defined
- Practice of inefficient medical tools and methods - (Self)-regulation or (self)-healing - Prevention or salutogenese - Experiential medicine	Preparations to support detoxification are unnecessary for healthy patients

- Harmful attitudes to medical practice	
- Experiential medicine - Practice of inefficient medical tools and methods	Additional methods (to the scientific method) to test medical tools are needed
- Holistic medicine or integrative medicine - (Self)-regulation or (self)-healing - Prevention or salutogenese - Harmful attitudes to medical practice	The psychological component of health should be part of medical practice

9. Discussion of the Results of the Literature Research and the Qualitative Guideline-based Interviews

Thematic Correlation: Qualitative Guideline-based Interviews and Literature Research

Since the method of research for the second part of this thesis was the qualitative guideline-based interview, which is a method with a very open outcome, the findings of the literature research can deviate from the content provided by the interviewed experts. These possible deviations and correlations can be an important part of the scientific method when included into the discussion of results.

The conceptuality and terminology in conventional medicine and complementary medicine was one of the chapters of literature research most correlating with the content of the interviews. On the one hand this was due to questions 5 and question 6 regarding medical terminology and question 1 and question 2 regarding the personal medical practice of the experts and their thoughts regarding the relationship between both directions of medicine. On the other hand, the topic also was mentioned when questions were asked which stand in no direct relation with this

topic. Although this can be explained by the associations raised by asking questions regarding the topic, the frequency of occurrence makes this as an only explanation unprobeable.

The principles of immunodiagnostic tests in conventional medicine were only mentioned by two experts during the interview. However, there are also questions, which could lead in the direction of this topic.

Although the immune system as a complex system was mentioned and even partly discussed in depth by all experts, these discussions mostly did not take place on a conventional medicinal basis but on a meta level. Complementary medicinal approaches to this topic were mentioned, its complexity and the ethics of diagnosing and treating a system of the human body not fully understood yet.

Since question 4 asks directly for the basics of medical research and the scientific method, this topic was discussed by all expert. The medical appropriateness of randomized clinical trials and the sufficiency of the scientific method in general were center points of the discussion. The opinions of the experts on this topic varied immensely.

Although the immune system and the scientific method were discussed extensively during the interviews, immunodiagnostic tests performed in conventional medicine were only mentioned as a side note.

On the contrary the different concepts of healing and detoxification in complementary and conventional medicine were mentioned by all experts and discussed in depth by five out of eight experts. The opinions of the experts varied though they were not as contradictory as they were on the subject of the scientific method.

The topic immune profile and immune status was the topic which many experts were confused about. Some experts did not use both terms, according to them, for a lack of uniformity in definition. Others were convinced to know the meaning of both terms or that both terms mean the same, though stating that there are a lot of “false” definitions perpetuated. No interviewed expert expressed the exact same position regarding the terms immune profile and immune status as another interviewed expert.

The last two literature research topics are the redox serum analysis and the DMPS mobilization tests and chelat therapy. Since question 7 and question 9 are directly asking for both topics, they were discussed by all eight experts. However, some of them claimed to lack experience with mentioned tools but either know of them being used successfully or being highly critical of them and therefore not using them. Many discussions regarding this topic took place on a meta level discussing the ethics of using not scientifically sufficient evaluated tools or stigmatizing new tools from the beginning for the lack of data. Question 7 and question 9 were very conclusive regarding the views on medicinal research and medicinal practice of the experts, showing their fundamental approaches and value conceptions regarding their profession.

Discussion of the Evaluation of the Questionnaire

Question 1:

Do you see yourself professionally and ideologically located in complementary medicine, in conventional medicine or in both?

Expert 3, expert 4 and expert 5 stated that the are professionally and ideologically located in both directions of medicine. Expert 1, expert 2 and expert 8 stated this as well, emphasized though that there is only one kind of medicine and that they see their approach as holistic. Additionally, expert 1 stated that they are located 70 to 80 percent in conventional medicine and 20 to 30 percent in complementary medicine. Expert 6 stated they were leaning more in the direction of conventional medicine while expert 7 sees themselves in conventional medicine located though emphasizes as well that there is only one medicine and “everything that has an effect is medicine”.

Question 2:

How do they see the relationship between complementary medicine and conventional medicine?

Expert 2, expert 3, expert 4 and expert 8 stated that the relationship between complementary medicine and conventional medicine varies depending on the researcher and practitioner immensely. Expert 2, expert 5 and expert 8 stated that the conventional medicine in Austria is not open to complementary medicine. Expert 3 stated that although complementary medicine is not integrated in conventional medicine, both directions of medicine are well regulated by the law. Expert 4 emphasized that patients want complementary medicine and that an integration of complementary medicine in conventional medicine would easily be possible. Expert 5 also believed in a holistic approach. Expert 6 stated that they preferred primarily a conventional medicinal approach and complementary medicine should act as a complement to conventional medicine. Expert 7 stated a similar opinion, also mentioning the dangers of complementary medicinal treatments with no effect.

Question 3:

Do you think that the research and practice of complementary medicine should be reserved for conventional medical professionals trained in complementary medicine?

Six out of eight experts answered “yes” when asked question 3. Expert 2 added that though only doctors should be allowed to practice complementary medicine, they think it is important to inform also other professionals about complementary medicine. According to expert 2 this is important because these professionals could advise their patients so that every patient knows about all the treatment options which are available. Expert 3 who answered question 3 also with “yes”, saw some exceptions to this rule and mentioned es one of them the training of physiotherapists in osteopathy. Expert 3 also stated that they think it is important to have professions from different academic backgrounds in research regarding complementary medicine. Expert 7 supported this opinion as well and therefore answered question 3 with “no”. Expert 1 was the only expert who advocated for a wider range of professions practicing

complementary medicine. Expert 1 named as examples the following professions: pharmacologists, psychologists, physiotherapists and psychotherapists.

Question 4:

Do you consider the introduction of other standardized methods (note: other than the scientific method) to evaluate the effect of complementary medicinal tools to be useful?

Expert 1, expert 2, expert 5 and expert 8 argued in favor of the introduction of other methods to evaluate the effect of complementary medicinal tools. Expert 1 emphasized that these new methods must have a scientific basis as well. Expert 2 wished for new study designs to evaluate the effect of complementary medicinal tools. Expert 3 and expert 4 did not give a clear answer to question 4. Expert 3 stated that medical research should depict medical reality and expert 4 argued in the same direction wishing for Pragmatic studies and cohort studies. Expert 1 supported this argument as well, they wished for “real world data”. Expert 6 and expert 7 stated that the current methods are the best methods we have at this time, if someone invents a new method though and this method is scientifically evaluated, the method could be used in medicinal research as well.

Question 5:

What do the terms immune status and immune profile mean to you and do you think that the terms are uniformly defined? (Note: in complementary and conventional medicine)

Expert 2 and expert 6 stated that the terms immune status and immune profile mean the same. Expert 2 explained that they understand under both terms the “immune competence” of the immune system. Expert 5 stated that he does not know if both terms are uniformly defined though uses them. Expert 1, expert 3, expert 4 and expert 7 argued that both terms have no uniform and clear definition. Expert 1 stated that both terms have a wide range of meaning in complementary medicine Expert 4 and expert 7 declared that according to them both terms should not have a place in

medicine as they are not clearly defined. Expert 8 argued that there are many diagnostic laboratories offering immune profiles or immune statuses, therefore there must be a scientific basis for this kind of diagnostic of the immune system.

Question 6:

What does the term detoxification mean to you and do you think that the term is uniformly defined? (Note: in complementary and conventional medicine)

Expert 1, expert 3, expert 7 and expert 8 stated very critical opinions about the term detoxification, calling it an unclear, unscientific and misused term though expert 1 admitted that the term detoxification is well received by patients. According to expert 2 detoxification means cleansing the body of endogenous and exogenous metabolic components, which is starting to slowly get acknowledged by conventional medicine. Expert 4 voiced a similar opinion, admitting that toxification is difficult to prove but that it can be explained by common sense. Expert 5 stated that detoxification is very important though not arrived in conventional medicine yet. Expert 6 and expert 7 argued that detoxification is only necessary, if toxins are ingested and that there is no permanent exposure to toxins. Expert 8 does not only think the definition of detoxification is unclear but also the definition of poison in this context and argued that our scientific knowledge is too small to fully understand detoxification processes yet.

Question 7:

What do you think of redox serum analysis as a diagnostic tool for assessing the state of the immune system?

Expert 1, expert 2, expert 4 and expert 5 call the redox serum analysis a good diagnostic tool to assess the state of the immune system. Expert 2 explained why they need the method to assess oxidative stress in patients and stated that the redox serum analysis is not taken seriously by conventional medicine. Expert 4 recommended the method if a patient suffers from an “unbalanced metabolism”. The other four experts stated to not have personal experience with the method. However,

expert 8 has researched the method and views their principles regarding free, radical metabolic reactions as plausible. Expert 8 also stated he wishes for more studies regarding the redox serum analysis as a diagnostic tool.

Question 8A:

What is your opinion about laboratories that offer their clients complementary medical examinations as a private service?

Expert 1, expert 2 and expert 5 stated that the problem are not the laboratories but the “two or three class” health care system. They argued that complementary medicinal examinations should be covered by the health care system. Expert 1 suggested the integration of these tools into the healthcare system. Expert 2 and expert 5 suggested the payment of complementary medicinal examinations by the government for less well-situated patients, who need, according to expert 5, complementary medicine the most. Expert 4 fears that a general coverage by health insurance for these tools, as expert 1 suggested, would lead to a loss in quality and therefore supports the suggestion of expert 2 and expert 5. Expert 8 sees no issue with the current system and argued that the principle of “the basics are for free and everyone can buy add-ons” is a principle that applies to many areas of living and is not per se “bad”. Expert 3 and expert 7 are very critical of laboratories offering complementary medical examinations as a private service. Expert 7 stated that these examinations are mostly financially beneficial for laboratories and doctors and are hardly ever beneficial for patients. Expert 7 even views them as potentially harmful for the finances and the health of patients. Expert 3 is against complementary medical examinations as a private service because of the danger of overdiagnosis and overtherapy. Expert 6 stated that they have “no opinion” regarding this topic but emphasized that every examination offered must be scientifically evaluated.

Question 8B:

Do you think that such services should be clearly marked as complementary medicinal examinations?

Six out of eight experts are against the labeling of complementary medicinal examinations as such, though for very different reasons. Expert 2 and expert 8 argued against it because “there is only one medicine”, both favor a holistic approach and believe such clear distinctions are a step in the wrong direction. Expert 1 supports this claim as well, they believed that labeling complementary medicinal examinations as such would widen the gap between complementary medicine and conventional medicine. Expert 3 sees no use in such labels, according to them the danger lies in the incorrect application of diagnostic tools, which has nothing to do with the direction of medicine they are rooted in. Expert 5 is against the labeling of complementary medicinal examinations as such, because they believe patients do not care which direction of medicine the tool they use is rooted in. Expert 5 believes such a label is only wished for by conventional medicine to further stigmatize complementary medicine. Expert 7 is against such a label because they believe “complementary medicinal examination” still sounds reasonable and does not deter patients from paying for such tools. Expert 4 and expert 6 are in favor of such labels. Expert 4 states that they believe most tools are already labeled due to the efforts of conventional medicine to stigmatize complementary medicine. Expert 6 argued with the right of each patient to “know what they pay for”.

Question 9:

How do you see the discharge of heavy metals by chelating agents (e.g.: DMPS), if according to conventional medicine there is no heavy metal poisoning?

Expert 2 and expert 5 believe that conventional medicinal diagnostic tools cannot exclude a heavy metal poisoning. However, expert 5 stated they would not use chelat therapy as there are other methods of detoxification they prefer. Expert 4 also stated that they would not use chelat therapy as there are other methods for detoxification. Expert 2 stated that toxins can also manifest in the cell matrix, and that there is experiential medicinal evidence which backs up the efficacy of chelat therapy. Expert

1 voiced a similar opinion, they also stated that experiential medicine supports chelat therapy though they think that there are more studies needed. Expert 1 also is convinced that the exposure to heavy metals in modern society is enormous. Expert 3 believes that celat therapy is successfully applied in dental medicine, though they stated not knowing the current state of research regarding chelat therapy. Expert 6 has no personal experience with the method. Expert 7 does not think that chelat therapy should be applied if there is no heavy metal poisoning according to conventional medicine. Expert 8 argued in favor of the treatment of the real cause of symptoms but is very critical of chelat therapy. They admit that it could be reasonable in some cases but is in most cases unnecessary.

Question 10A:

What kind of development of complementary medicine and conventional medicine would you wish for?

Expert 2, expert 3, expert 4, expert 5 and expert 8 stated that they wish for a holistic medicine. Additionally, expert 4 advocated for a discussion on eyelevel between complementary medicine and conventional medicine. Expert 5 liked to see a healthcare system where every patient receives the right treatment for them, no matter the direction of medicine, complementary medicine or conventional medicine, for free. Expert 8 wished for serious scientific work especially in complementary medicine and an open mind when it comes to change and progress. Expert 6 wished for more studies in complementary medicine, more financing of such studies, also by renowned societies, and as expert 8, for an openness towards such studies. Expert 8 stated also that they wished that well-founded complementary medicinal methods that are scientifically proven would be accepted. Expert 1 stated a similar opinion, they wished for more studies in complementary medicine, less stigmatization of complementary medicine by conventional medicine and a general rapprochement of conventional medicine and complementary medicine. Additionally, expert 1 added that such a development would benefit the goal which conventional medicine and complementary medicine both have: The sorting out of tools without effects through more data. Expert 7 stated that everything that has an effect is already conventional medicine, according to expert 7, complementary are only measures the patient can take to support healing (e.g.: yoga, nutrition, etc.).

Question 10B:

What concrete form could measures take that would benefit such a development?

Expert 6 and expert 8 suggested more scientific studies as a beneficial measure. Expert 8 also wished for more exchange and cooperation in all directions of medicine as well as between complementary medicine and conventional medicine. Expert 6, as well as expert 1, expert 2, expert 4, expert 5 and expert 7, wished for a better education and information of all medical professionals. Regarding the information and education of medical professionals it was the most important to expert 1, expert 2, expert 4 and expert 5 that medical professionals are informed about all medical methods available. Expert 2 stated that they think a holistic medical education is key to end the stigmatization of complementary medicine. Expert 7 on the contrary wished for a stronger focus on science and a special training in communication for medical professionals. According to expert 7, a training in communication could help medical professionals to recognize psychosomatic symptoms as such and avoid overdiagnosis and overtreatment and instead refer the patient to another kind of care. Expert 7 also advocated for encouraging the self-responsibility in patients. Expert 1 who advocated for more multimodal therapy concepts, also sees the involvement of the patient and their compliance as a huge factor contributing to a successful treatment. As expert 2, expert 3 also argued for a holistic approach naming the concrete measure of integrating complementary medicine more at universities as it is already done in the US. Expert 3 and expert 5 also advocated for primary care centers as an important measure for further development in the health care system.

Question 10C:

In this respect, what do you think about an integration of psychotherapy, social work, etc. into conventional medicine?

Five out of eight experts advocated for an integration of psychotherapy in conventional medicine. However, question 10C also asked for the inclusion of social

work this discipline was neglected in almost every answer to this question. Expert 8, the only expert who argued against an integration of psychotherapy and social work, stated their opinion regarding the integration of social work. Expert 8 believes that social work has “nothing to do” with medicine, psychotherapy is scientifically not sufficiently validated to be part of conventional medicine, if one uses the same standards that are used to prevent the integration of complementary medicine in conventional medicine. Expert 8 argues that both disciplines have their scientific basis in experiential medicine. Expert 6 and expert 7 wished for an integration of psychotherapy in conventional medicine, while expert 2 and expert 3 believed that psychotherapy should be part of holistic medicine. Expert 3 stated to work at a primary care center where the integration of psychotherapy and social work is already part of the concept. Only expert 3 and expert 8 mentioned social work explicitly. Expert 1 and expert 4 argued that a cooperation between medicine and psychotherapy is important and that psychotherapeutic approaches are essential in medicine, did not answer question 10C with “yes” though.

Discussion of the Content named by the Interviewed Experts

The first content, content 1, which was mentioned by five out of eight experts a total amount of 25 times, is:

Holistic medicine or integrative medicine

Expert 1, expert 2, expert 5 and expert 8 expressed that they are in favor of the concept of holistic medicine though expert 8 preferred the term integrative medicine over holistic medicine. For expert 8 was the most important point to find one fitting term which could be used by all medical professionals, in research and by clients. Expert 3 mentioned holistic medicine when discussing the term CAM (complementary and alternative medicine) but did not express a preference for or aversion to this term. Expert 4 stated that “in reality there is only one medicine” and argued in favor of a better cooperation and exchange between complementary and conventional medicine. Expert 4 did not mention the term holistic medicine or integrative medicine though. Since the evaluation of the content is not performed by concretely asking for

it, doing so would highly bias the outcome of the qualitative interviews, expert 6 and expert 7 did not mention holistic medicine or integrative medicine at all. However, expert 7 argued in favor of the term humane medicine reasoning that the academic study itself is named humane medicine in Austria and that it is important to ensure that there is a humane health care system for every patient.

The second content, content 2, which was mentioned by four out of eight experts a total amount of 20 times, is:

(Self)-regulation or (self)-healing

Expert 1, expert 2 and expert 3 argued in favor of the concept of selfhealing and selfregulation. Expert 4 and expert 5 stated a similar opinion did not mention the term selfhealing or selfregulation though. Expert 8 mentioned regulatory medicine and emphasized the psychological component of disease. Expert 7 mentioned the “contribution of the patient” and wished for complementary medicine to cover everything that patients themselves could do for their healing. Expert 6 did not mention the term selfhealing, selfregulation or any similar term at all and also did not express anything else related to content 2.

The third content, content 3, which was mentioned by five out of eight experts a total amount of 16 times, is:

Prevention or salutogenese

All experts mentioning content 3 did so when asked question number 10, which asks for the kind of development of complementary medicine and conventional medicine they wish for and concrete measures that would benefit such a development. Expert 1 also mentioned prevention regarding diagnostic tests, expressing the wish for more preventative tests reasoning that this would not only be beneficent for the patient but economically reasonable. Expert 8 suggested that if medicine evolves in the desirable direction of health preservation, salutogenetic could be the best new term instead of holistic or integrative medicine.

The fourth content, content 4, which was mentioned by six out of eight experts a total amount of 20 times, is:

Experiential medicine

Expert 2, expert 5, expert 7 and expert 8 mentioned experiential medicine when answering question 4, which asks if there should be other standardized methods other than the scientific method introduced. Expert 2, expert 5 and expert 8 argued in favor of experiential medicine, expert 8 argued that experience is a big part of psychotherapy as well and that empirics are rooted in a science based on experience. Expert 7 stated the opposite when arguing that though experiential medicine was a big part of medical practice for centuries, it was left for a reason. Expert 7 named bias, deception and distortion as known effects experiential medicine entails and calls a turn towards experiential medicine a return to medieval times. Although, according to expert 7, standardized methods are part of an important progress in medicine, expert 7 advocated for a more humane and personalized medicine.

Expert 1 mentioned the integration of experiential medicine as desirable for the future of medicine, when asked question 10. Expert 1 and expert 4 argued for the use of chelating agents, mentioning experiential medicine, when asked question number 9. Expert 2 and expert 4 also mentioned experiential medicine, when asked about their view of the relationship between complementary medicine and conventional medicine, see question 2. Both named experiential medicine as an important part of complementary medicine which distinguishes complementary medicine from conventional medicine.

The fifth content, content 5, which was mentioned by eight out of eight experts a total amount of 26 times, is:

Harmful attitudes to medical practice

During the expert interviews content 5 was mentioned when answering seven out of ten questions in very different contexts. Expert 1, expert 2 and expert 7 expressed the wish that a development of medicine according to their beliefs would prevent harmful attitudes to medical practice to a certain degree, when asked question 10.

Expert 6 and expert 7 criticized the term detoxification and complementary medicinal practices with the aim of detoxification heavily. Expert 1 expressed similar concerns in a more careful way, calling detoxification a “by patients well received buzzword”. Expert 3, expert 4 and expert 8 mentioned content 5 when asked question 3 regarding non-medical professionals practicing in the field of complementary medicine. Expert 7 and expert 8 mentioned content 5 when asked question 4 regarding the introduction of other standardized methods other than the scientific method. Expert 7 argued in favor of the current set of methods, while expert 8 views additional methods as a chance to sort out medical practitioners and their methods with a harmful attitude to medical practice.

The sixth content, content 6, which was mentioned by eight out of eight experts a total amount of 23 times, is:

Practice of inefficient medical tools and methods

The questions and total amount of times at which content 6 was mentioned is very similar to the mentioning of content 5. All experts either referred to content 5 and content 6 during the same argument or only mentioned content 5. None of the experts believed that there could be a practice of inefficient medical tools and methods without harmful attitudes to medical practice. However, it must be stated that the perception of what harmful attitudes to medical practice are, differed immensely between experts.

Discussion of the Core Beliefs named by the Interviewed Experts

The first core belief, core belief 1, which was expressed by six out of eight experts, is:

Only conventional medical professionals should be allowed to practice (complementary) medicine.

Expert 3 and expert 7 which did not express this belief stated very clearly the opinion that one need a scientific basis to study and practice complementary medicine. Both do not think this scientific basis must be rooted in conventional medicine and both

voiced the belief that medicine in general could profit from the perspectives, other directions of science such as biology could offer. Additionally, expert 7 expressed the concern that if only conventional medical professionals do medical research, there was a chance that they would tend to confirm their already existing beliefs. A scientist rooted in another discipline than medicine though has, according to expert 7, a more open mindset especially when it comes to basic scientific research.

The second core belief, core belief 2, which was expressed by six out of eight experts, is:

The term "alternative" medicine is misleading and ill-fitting.

The evaluation of the core beliefs is not performed by concretely asking for them, since this would highly bias the outcome of the qualitative interviews (Meuser & Nagel, 2009). Therefore, two out of eight experts, expert 3 and expert 6, did not state their opinion to the term "alternative medicine" at all. During the whole interview, both used the term complementary medicine as the interviewer did. All other six experts expressed their dislike for this term, most of them reasoning that there is no alternative to conventional medicine but a complement. That is why many of them preferred the term complementary medicine or wished for an integration of complementary medicine, where no other term than medicine is needed anymore. Expert 3 preferred the term CAM as it is, according to expert 3, the internationally most used term.

The third core belief, core belief 3, which was expressed by eight out of eight experts, is:

There is unclarity regarding the use and meaning of the terms: detoxification, immune status and immune profile.

There were several reasons mentioned by the eight experts who expressed this core belief. Many of the experts stated to use the mentioned terms, though believed that these terms are also used by other professionals with a different meaning assigned. Some also stated to avoid these terms since there is no uniform definition of them. Expert 6 stated that since the use of the term detoxification is most of the time pseudoscientific, they refrain from using it. Expert 1 beliefs that the term detoxification is overwrought and a popular term in complementary medicine as, according to expert 1, patients usually respond well to it. Additionally, many experts say that they are only familiar with one of the terms (immune profile or immune status) or that both terms mean the same to them.

The fourth core belief, core belief 4, which was expressed by six out of eight experts, is:

Preparations to support detoxification are unnecessary for healthy patients.

The six experts which stated core belief 4 all argued that the healthy human body possesses the capacity to detox itself without further medical intervention. Expert 1, who did not express core belief 4, argued that since we are all exposed to environmental toxins daily, detoxification methods should be scientifically evaluated and dependent on the outcome applied in medical practice. Since it was not directly asked for core beliefs (Meuser & Nagel, 2009), expert 3 did not express an opinion regarding core belief 4.

The fifth core belief, core belief 5, which was expressed by six out of eight experts, is:

There is a need for additional methods (to the scientific method) to evaluate tools.

The six experts who stated core belief 5 all argued in a different way and so did the two experts clearly against additional methods. Expert 1 expressed a need for so called „real world data“ which is not analyzed in randomized controlled studies.

Expert 2 also criticized the current design of studies and wished for a new scientific study design in general especially for complementary medicine. Expert 3 criticized randomized controlled trials and advocated for a more personalized medicine which is contradictory to randomized controlled trials. Expert 4 criticized the current clinical research practice as well and wished for more cohort and observation studies but saw the biggest problem in the financial support of these kind of studies. Expert 5 argued for an extensive experiential medicinal exchange as additional part to the current method. Expert 8 argued that a scientific explanation in combination with experiential medicinal evidence outweighs, if a tool proves itself in randomized controlled trials. Expert 8 also argued that psychotherapy is based on this scientific basis and therefore complementary medicine could also be. Expert 6, who did not support core belief 5, argued that the scientific method is sufficiently proven and is not under consideration but needs to be protected from economic interests. Expert 7 who also did not support core belief 5 stated that the scientific method is sufficiently proven and is not under consideration and believes that many who wish for different methods only try to avoid a scientific evaluation.

The sixth core belief, core belief 6, which was expressed by seven out of eight experts, is:

The psychological component of health should be part of medical practice.

The experts who argued in favor of this core belief stated either examples where the integration of psychotherapy or other kinds of psychological support worked successfully or emphasized the current state of the health care system in Austria, where there is hardly any time for an extensive anamneses and the psychological component is often neglected. They also named the psychological component as an important part of complementary medicine, salutogeneses and an opportunity to cost reduction in the health care system. Since it was not asked concretely for these core beliefs (Meuser & Nagel, 2009), expert 8 did not express this core belief explicitly though expert 8 advocated for a more personal approach in medical practice and the validity of experiential medicine.

10. Conclusion and Reflection on the Scientific Process

The first and most important part of this conclusion is the reflection on the scientific process. The main goal of the first research design was to discuss complementary and conventional medicinal immunodiagnostic tools showing exemplarily the current state auf medical research and medical practice. The meta level of concepts, principles and ideologies should have been part of this thesis but not the center of attention especially during the expert interviews. However, already the literature research showed that the ideological conflict and the jungle of medical terms and methods need to be addressed not only as a side note. The guideline-based interviews with the eight experts confirmed this impression. Every expert was passionate about their ideology, certain standpoints or other medicinal topics on a meta-level. Even the experts very critical of the immunodiagnostic methods reviewed, stated shortly their opinion against them when asked and otherwise discussed topics more important to them. Two of the main principles of the guideline-based interview are the principle of openness and the principle of flexibility, allowing the experts to control the path the interview takes. All experts were passionate about talking about the weaknesses of the current system, their ideas of changing it and their underlying ideology. Although many of the approaches were very different from each other, there also was some common ground, even if it only was the wish for change regarding some medical questions. Regarding other questions there was surprising consensus: All experts wished for more clarity, a less emotion driven discussion and a more personalized medical approach including the mental component and the compliance of the patient.

A reasonable discussion about certain tools is only possible if the culture of discussion changes in general. Only with such a change clarity regarding medical terms and methods can be acquired and the instrumentalization of certain discussions can be avoided. Another important point is to discuss the handling of experiential evidence and other forms of data not meeting current scientific criteria. No matter the personal standpoint regarding such data, it is used, and patients are treated according to its results, therefore it must be a part of the scientific discourse as it is a part of medical reality. This also aligns with the wish of most experts wishing for more “real world data” and the inclusion of patients personal living circumstances and resources.

Such a change in medical dialogue would be the first step in the direction of a more patient-friendly health care system where the focus is on obtaining and restoring the health of patients instead of fighting against unconventional approaches or using inefficient tools.

11. List of Abbreviations and Codes

AM	alternative medicine
CAM	complementary and alternative medicine
CBC	complete blood count
CGD	chronic granulomatous disease
CH50	total hemolytic complement assay
CM	Conventional Medicine
CRS	cell regulation screening
DMPS	2,3-Dimercapto-1-propanesulfonic acid
DT	definition of terms
EM	experiential medicine
FAD	functional antibody deficiency
HA	harmful attitudes
HM	holistic medicine
IT	inefficient tools
LAD	leukocyte adhesion deficiency
MP	medical professional
PAD	primary antibody deficiency
Pb	lead
PC	psychological component
PID	primary immunodeficiency disease
PR	preparations
PS	prevention or salutogenese
rH value	Rydberg constant for hydrogen
RSA	redox serum analysis
SAD	specific antibody deficiency
SCID	severe combined immune deficiency
SM	scientific method
SR	(self)-regulation
WBC	white blood cell counts

12. List of Figures

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14. Literature

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Supplement

Qualitative Guideline-based Interview Questions (English)

1) Do you see yourself professionally and ideologically located in complementary medicine, in conventional medicine or in both?

2) How do they see the relationship between complementary medicine and conventional medicine?

3) Do you think that the research and practice of complementary medicine should be reserved for conventional medical professionals trained in complementary medicine?

4) Do you consider the introduction of other standardized methods (note: other than the scientific method) to evaluate the effect of complementary medicinal tools to be useful?

5) What do the terms immune status and immune profile mean to you and do you think that the terms are uniformly defined? (Note: in complementary and conventional medicine)

6) What does the term detoxification mean to you and do you think that the term is uniformly defined? (Note: in complementary and conventional medicine)

7) What do you think of redox serum analysis as a diagnostic tool for assessing the state of the immune system?

8) **A)** What is your opinion about laboratories that offer their clients complementary medical examinations as a private service?

B) Do you think that such services should be clearly marked as complementary medicinal examinations?

9) How do you see the discharge of heavy metals by chelating agents (e.g.: DMPS), if according to conventional medicine there is no heavy metal poisoning?

10 **A)** What kind of development of complementary medicine and conventional medicine would you wish for?

B) What concrete form could measures take that would benefit such a development?

C) In this respect, what do you think about an integration of psychotherapy, social work, etc. into conventional medicine?

Qualitative Guideline-based Interview Questions (German)

1) Sehen Sie sich selbst fachlich und ideologisch in der Komplementärmedizin, in der konventionellen Medizin oder in beiden Richtungen verortet?

2) Wie sehen sie das Verhältnis von Komplementärmedizin und konventioneller Medizin zueinander?

3) Sind Sie der Meinung die Forschung und Praxis der Komplementärmedizin sollte komplementärmedizinisch ausgebildeten konventionellen Medizinern vorbehalten sein?

4) Halten Sie die Einführung anderer standardisierter Methoden (Anm. anderer als der wissenschaftlichen Methode) zur Evaluierung des Effekts komplementärmedizinischer Tools für sinnvoll?

5) Was verstehen sie unter den Begriffen Immunstatus und Immunprofil und sind Sie der Meinung diese Begriffe sind (Anm. in der Komplementärmedizin und der konventionellen Medizin) einheitlich definiert?

6) Was verstehen sie unter dem Begriff Entgiftung (engl. Detoxification) und sind Sie der Meinung der Begriff ist (Anm. in der Komplementärmedizin und der konventionellen Medizin) einheitlich definiert?

7) Was halten Sie von der Redoxserumanalyse als diagnostisches Tool zur Einschätzung des Zustandes des Immunsystems?

8) **A)** Wie ist Ihre Meinung zu Laboren, die ihren Klient*innen komplementärmedizinische Untersuchungen als Privatleistung anbieten?

B) Finden Sie solche Leistungen müssen deutlich als komplementärmedizinisch gekennzeichnet sein?

9) Wie bewerten Sie die Ausleitung von Schwermetallen durch Chelatbildner (z.B.: DMPS), wenn nach schulmedizinischem Verständnis keine Schwermetallvergiftung vorliegt?

10) **A)** Was für eine Entwicklung der Komplementärmedizin und der konventionellen Medizin würden Sie sich wünschen?

B) Wie könnten konkrete Maßnahmen aussehen, die diese begünstigen würden?

C) Wie stehen Sie diesbezüglich zu einer Integration der Psychotherapie, sozialen Arbeit, etc. in die konventionelle Medizin?

Example of a Transcribed Interview (German)

(I = Interviewer; E1 = Expert 1)

I: Also, meine erste Frage wäre, ob Sie sich fachlich und ideologisch in der Komplementärmedizin und oder in der konventionellen Therapie verorten, und wenn ja, warum?

E1: Also ich sehe mich hauptsächlich als Integrativmediziner, das bedeutet, dass ich natürlich eine schulmedizinische Ausbildung habe und auch, man kann sagen, 70 bis 80 Prozent meines beruflichen Daseins in der Schulmedizin verankert bin, weil ich auch in einem Krankenhaus als Chirurg arbeite. Aber ich habe schon auch durchaus erkannt, dass die Schulmedizin gewisse Grenzen hat, und da ist die Komplementärmedizin als ergänzende Therapie, zusätzlich zu den schulmedizinischen Methoden, sehr, sehr sinnvoll. Und deshalb kann ich sagen, dass ich sicher zu 20 bis 30 Prozent auch Komplementärmediziner bin.

I: Das ist eh schon die zweite Frage, wie sehen Sie das Verhältnis von Komplementärmedizin und konventioneller Medizin zueinander, ergänzend haben Sie gesagt.

E1: Ja, die Komplementärmedizin heißt ja übersetzt ergänzende Medizin. Mir gefällt der Begriff der Alternativmedizin eigentlich überhaupt nicht, weil es gibt aus meiner Sicht keine Alternative zur Medizin, sondern es gibt halt verschiedene Systeme und ich denke mir, bei den globalen Problemen auch in der Medizin, die wir weltweit haben, seien das chronische Erkrankungen, Allergien, Krebs natürlich als riesengroßes Thema, metabolische Stoffwechselerkrankungen, stößt die Schulmedizin an ihre Grenzen, nämlich ganz klar. Und da macht das einen großen Sinn aus meiner Sicht, die traditionelle Medizin, die man ja großteils der komplementären Medizin zuordnet und zurechnet, hier ergänzend noch einzusetzen. Die auch sehr (unv. 00:02:05) in diesem Bereich.

I: Ja, mit Begrifflichkeiten halte ich es eh auch so. Alternativmediziner habe ich bewusst nicht gewählt, auch diskutiert, warum ich es nicht gewählt habe. Schulmedizin bin ich mir auch nicht sicher, weil es legt auch wieder nahe, dass es nur eine Schule gibt, es gibt ja viele. Also gerade in TCM und so ist ja auch quasi eine eigene Schule.

E1: Ja.

I: Aber auch zu den Begrifflichkeiten, was verstehen Sie denn unter dem Begriff Immunstatus oder Immunprofil?

E1: Ja, gerade der Immunstatus ist im Bereich der komplementären und traditionellen Medizin ein ganz wesentliches Element, weil sich eigentlich die Komplementärmedizin auch als hauptsächliche Regulationsmedizin sieht. Das heißt, wir schauen auf der einen Seite, dass wir präventiv schon aktiv werden. Das heißt, die Krankheiten erwischen, noch bevor sie sich manifestieren können in Symptomen und Syndromen. Und da ist natürlich das Immunsystem ganz erheblich beteiligt an dieser Balance. Und auf der anderen Seite natürlich wenn die Erkrankung schon eingeschritten ist und eingetreten ist, arbeitet die Komplementärmedizin sehr stark

mit dem Immunsystem, also stärkt auch das Immunsystem direkt oder indirekt, damit der Körper einfach die Selbstregulationsmechanismen aktivieren kann, um gegen die Krankheit zu kämpfen. Man sieht das ja auch in der konventionellen, unter Anführungsstrichen, Schulmedizin mittlerweile im Bereich der chronisch entzündlichen Darmerkrankungen, aber auch bei Krebs, dass man sich zunehmend auf die Antikörper stürzt, was ja auch eigentlich eine Immuntherapie ist. Und das Konzept der Immuntherapie ist in der traditionellen asiatischen Medizin ganz, ganz fest verankert und ist ein zentraler Punkt in der Behandlung der Patientinnen und Patienten. Und was das Immunprofil angeht, das ist ein dehnbarer Begriff, wenn man in der Komplementärmedizin schaut, Sie haben Mikronährstoffe, die hier das Immunsystem gut stärken können und unterstützen können. Sie haben in der Akupunktur zum Beispiel eigene Meridiane, die einen Schwerpunkt auf das Immunsystem setzen, es gibt einen eigenen Begriff des sogenannten (unv. 00:04:36) das Abwehr-Chi, das an sich den Hauptschwerpunkt hat auf einem Verhindern des Eindringens von pathogenen Faktoren, also eigentlich Immunabwehr darstellt. Sie haben jetzt auch relativ neu, aber schon sehr, sehr stark wissenschaftlich fokussiert das (unv.) also die Darmflora, die ja ganz essenziell für das Immunsystem ist. Wir wissen auch mittlerweile aus der konventionellen Literatur und aus Publikationen, dass je nachdem wie der Darmflorastatus ist, hat das starke Auswirkungen auf das Immunsystem und Sie können durch Beeinflussung der Darmflora zum Beispiel auch Allergien und Nahrungsmittelunverträglichkeiten sehr, sehr gut behandeln und diese Allergien und Nahrungsmittelunverträglichkeiten sind ja eigentlich auch eine Überfunktion des Immunsystems. Also wir haben da eine große Bandbreite, was das Immunprofil angeht im Bereich der Komplementärmedizin, auch die Homöopathie arbeitet über diese Schiene in sehr starken Anteilen und ist auch sehr, sehr erfolgreich.

I: Haben Sie das Gefühl, es besteht Klarheit darüber, was Komplementär- und konventionelle Medizin jeweils unter Immunprofil und Immunstatus verstehen, oder sind da verschiedene Definitionen unterwegs?

E1: Ja, ich sehe es jetzt aus der Sicht des konventionellen Mediziners, das Immunsystem hat nicht den gleichen Stellenwert wie in der Komplementärmedizin, man schaut natürlich jetzt auf Entzündungsparameter, beziehungsweise auf Lymphozyten. Und in der Klinik, in der Klinik der Schulmedizin ist das nicht so präsent, in der Wissenschaft vielleicht etwas mehr. Und in der Komplementärmedizin ist das eigentlich immer ein wesentlicher Faktor, der eigentlich bei jeder Therapie eines jeden Patienten immer mit berücksichtigt wird. Was mir persönlich auch sehr gut gefällt und das einen Sinn macht, weil Sie haben ja auf der einen Seite natürlich das Immunsystem, dann haben Sie noch im Verdauungssystem Stoffwechselprozesse, aber auch das emotionale System, das endokrine System, die hier sehr eng zusammenarbeiten und wir wissen auch, dass wenn der Mensch in einem emotionalen Gleichgewicht ist, verstärkt das sein Immunsystem, das ist halt etwas, was in der Schulmedizin noch nicht gut angekommen ist eigentlich. Leider, weil ich denke mir schon, es gibt dann schon einige Zweige wie zum Beispiel auch die Psychosomatik, die ja dann schon in der Schulmedizin zunehmend Akzeptanz bekommt, wo das langsam Einzug hält. Also ich glaube, grob gesprochen kommt es schon zu einer Zusammenführung von komplementärmedizinischen und konventionellmedizinischen Ideen langsam, aber es ist halt leider noch ein langer Prozess.

I: Also wäre das Ziel eigentlich, dass es irgendwann keine Komplementärmedizin mehr braucht, weil sich die konventionelle Medizin der Ansätze aus der Komplementärmedizin bedient, die sinnvoll sind, und sie quasi ergänzend aufnimmt, wie einen Kanon.

E1: Ich denke, es gibt so viele Bereiche der Medizin, so viele Fachbereiche der Medizin und für mich ist die Komplementärmedizin jetzt nicht etwas abgehoben-esoterisches, nicht nachvollziehbares, nicht evidenzbasiertes, sondern das ist einfach eine Fachrichtung, die halt sehr gut in der konventionellen Medizin als Ergänzung angeboten werden kann und soll und das sind auch viele Leute, vor allem erfahrene Praktiker, die einfach nach einem gewissen Zeitraum gesehen haben, dass hier eine Ergänzung durch Komplementärmedizin wirklich sinnvoll und zielführend ist.

I: Um herauszufinden, ob diese Methoden tatsächlich wirken, halten Sie es da für sinnvoll, die wissenschaftliche Methode wirklich anzuwenden mit reproduzierbar und all diesem, wie es in anderen Methoden, in anderen Verfahren gemacht wird, oder glauben Sie, dass es auch andere Methoden gibt, um quasi Wirkung zu beweisen?

E1: Also ich bin der Meinung, dass man Methoden, vor allem wenn sie neu sind, wissenschaftlich aufarbeiten sollte. Ich beschäftige mich jetzt auch selber mit dem Thema Wissenschaft und evidenzbasierte Medizin, zunehmend, es gibt ja diese großen Studien, wo man mit randomisiert kontrollierten Studienkonzepten Wissenschaft macht, es gibt die Meta-Analysen und systematischen (unv. 00:09:39) die jetzt hier eigentlich den wissenschaftlichen Markt schon überfluten. Also nicht nur im schulmedizinischen und konventionellmedizinischen Bereich, sondern auch zunehmend im komplementärmedizinischen Bereich und in der traditionellen Medizin. Ich sehe dem Ganzen etwas skeptisch entgegen, weil diese klassischen Formen der Wissenschaft auch ihre Schwächen haben. Beispiel Akupunktur ist nicht immer postuliert, dass man zu einer Gruppe, die akupunktiert wird, mit den entsprechenden Punkten, Akupunkturpunkten, immer eine sogenannte (Shem?)-Akupunkturgruppe machen muss, das heißt, das einfach eine Punktekombination gewählt wird, die eigentlich keine Wirkung zeigen sollte, mit dem einzigen Ziel, dass man hier den Placebo-Effekt herausrechnen kann. Und ich denke mir, dass dieser Placebo-Effekt in meinen Augen in der Schulmedizin überschätzt wird, der hat sicher einen Stellenwert, aber nicht so einen hohen wie hier in der Schulmedizin postuliert wird. Alles was man sich in der Komplementärmedizin nicht erklären kann an Wirkungen, wird dann sofort auf den Placebo-Effekt abgeschoben, und das ist in meinen Augen (Handy klingelt) etwas billig. Und wir haben auch schon einige Diskurse mit Kollegen aus dem Ausland, vor allem aus der Schweiz, zu diesem Thema gehabt und die haben auch gesagt, dass sie von diesem Konzept der Meta-Analyse und der randomisiert kontrollierten Studie abgekommen sind und eher in Richtung real World Data arbeiten, das heißt, ich wende Methoden an, wie es im richtigen Leben ist, und nehme sämtliche Effekte, die es auch im richtigen Leben gibt, wie zum Beispiel den Placebo-Effekt dazu, weil man den ja eigentlich nicht rausrechnen sollte aus dem Studienprotokoll, sondern mit einbeziehen sollte. Da Sie ja auch in Ihrer klinischen Tätigkeit diesen Placebo-Effekt nicht ausschließen können. Und was auch sicher ein Thema in der Zukunft ist, das ist big Data. Das heißt, jetzt haben wir durch die Digitalisierung die Möglichkeit in der Medizin, wirklich viele, viele Datensätze zu sammeln und man muss auch dazusagen, dass der Körper per se, beziehungsweise der menschliche Organismus, weil da gehört ja auch Seele und

Geist dazu, so ein komplexes Konstrukt sind, dass man die mit den einfachen Grundsätzen der Schulmedizin nicht bis ins kleinste Detail erklären kann. Und deshalb sollte man, wenn man Studien macht, auch andere Effekte hinzuziehen und nicht ausschließen.

I: Also sind Sie für eine wissenschaftliche Untersuchung, aber nicht nach diesen strengen, evidenzbasierten Medizinkriterien quasi?

E1: Also ich sage es mal so, es macht einen großen Sinn, wenn Sie zum Beispiel eine randomisiert kontrollierte Studie machen in einem Setting, wo Sie ein neues Medikament austesten. Warum? Weil wenn Sie neue Medikamente testen, dann wollen Sie natürlich die Sicherheit gewährleistet haben. Das heißt, ich möchte jetzt kein Medikament anwenden wie zum Beispiel das (unv. 00:13:20) das dann als Effekt hat, dass Kinder geboren werden, die halt schwer behindert sind. Und da macht es durchaus einen Sinn, aber wenn man jetzt hergeht und eine jahrtausendealte Methode wie die Akupunktur oder die Kräutertherapie dann in so ein randomisiert kontrolliertes Konstrukt hineinsteckt, dann ist das aus meiner Sicht nicht wirklich notwendig. In vielen Fällen. Man muss auch dazusagen, diese randomisiert kontrollierten Studien, die sind einfach sehr, sehr teuer. Und wenn man hier wirklich große Datensätze verarbeiten möchte, dann bräuchte man auch entsprechende Sponsoren und die ist einfach in der traditionellen Medizin nicht so stark vertreten, diese Sponsorenschaft, wie zum Beispiel in der konventionellen Medizin, das heißt, wir haben auch hier ein gewisses Ungleichgewicht. Wobei man natürlich dazusagen muss, dass momentan aus dem asiatischen Raum sehr, sehr viel Wissenschaft gemacht wird und auch sehr, sehr viel Geld in die Hand genommen wird, um hier nach den westlichen medizinischen Standards zu arbeiten, aber in meinen Augen sind diese strengen Kriterien nicht für alle Medizinsysteme so anwendbar.

I: Es braucht natürlich Kriterien, damit das aufgenommen werden kann, also sind Sie eigentlich für andere Kriterien, beziehungsweise eine individuelle Bewertung, wo macht es Sinn welche Studien durchzuführen oder welchen Studientyp durchzuführen.

E1: Es ist auch, muss man sagen, weltweit eine Bewegung in Richtung Präzisionsmedizin und personalisierte Medizin, also deshalb glaube ich nicht, dass ich mit meiner Meinung hier alleine stehe, sondern das ist weltweit wirklich dieser Trend, dass man sagt, okay, wir schauen uns jetzt nicht ein Patientenkollektiv von 3000 Patientinnen an, die alle Brustkrebs haben und alle dieselbe Therapie bekommen und alle auf dieselbe Art und Weise reagieren, sondern der Mensch hat halt sehr viele, sage ich jetzt mal, Kompensationsmechanismen und reagiert natürlich auf ein- und dieselbe Medikation anders. Das heißt, wenn ich zum Beispiel an eine Studie denke, wo ich mit Akupunktur arbeite, dann macht es aus meiner Sicht einen Sinn, wenn man hier den Patienten nach einer entsprechenden Diagnostik, im Falle der chinesischen Medizin ist das die (unv. 00:15:59) Diagnostik, und anhand einer guten klinischen Anamnese auf die Beschwerden abklärt und dann diese Akupunktur personalisiert auf diese Beschwerden therapiert. Das heißt, wenn ich jetzt zum Beispiel in einem Studienprotokoll habe, nach einer Operation möchte ich eine Schmerzverminderung haben, durch zusätzliche Verwendung von Akupunktur, dann schlage ich vor, dass man hier vielleicht eine Vierpunktekombination macht, die man standardmäßig immer dazunimmt und wenn man dann halt anhand der Anamnese oder anhand eines Beschwerdenkataloges identifiziert, dass der Mensch neben den

Schmerzen postoperativ auch noch Angst- oder Schlafstörungen hat, dann würde ich entsprechend noch zusätzliche Punkte dazu stechen, die man noch vorher definiert. Das heißt, wirklich im Bereich der personalisierten Medizin (einkehren?)

I: Da muss man sagen, ist die Medizin auch ein bisschen hinten nach, weil die Sozialwissenschaft, beziehungsweise auch die soziale Arbeit macht das ja seit, ich würde sagen, 50 bis 100 Jahren, dass die Fallstudien auch wirklich als wissenschaftlich ansieht und individuell eingeht. Also könnte man sagen, mal ist die Sozialwissenschaft hinten nach und die Medizin ist vorne oder...

E1: Ja, also ich denke mir auch, dass der momentane Schwerpunkt in der Schulmedizin auf der quantitativen Forschung liegt, das heißt, wir arbeiten hier mit größeren Fallzahlen und so wie Sie gesagt haben, in der Sozialwissenschaft haben Sie auch die qualitative Forschung, zum Beispiel Interviews mit Patientinnen und Patienten, aus denen heraus man auch sehr, sehr viel an Information herausholen kann und hier auch wirklich personalisiert Forschung betreiben, man sollte das einfach ergänzen.

I: Wie ist Ihre Meinung zu Laboren, die ihren Patienten komplementärmedizinische Untersuchungen als Privatleistungen anbieten?

E1: Ja, das Problem ist, dass halt eigentlich die meiste Komplementärmedizin eine Privatmedizin ist, das heißt, wir haben das was wir in Österreich eigentlich nicht wollen eine Zwei- oder sogar Dreiklassenmedizin. Und wenn hier der Wunsch des oder der Patientin ist, sich komplementärmedizinische Hilfe zu holen, dann muss das alles privat bezahlt werden, beziehungsweise es gibt dann halt Zusatzversicherungen, die dann solche Therapien und diagnostischen Tools bezahlen. Ich finde es nicht gut. Ich finde es besser, wenn wir die Komplementärmedizin in das staatliche System integrieren könnten, wir wissen aus dem asiatischen Bereich, dass das an sich sehr, sehr gut funktioniert, als Beispiel haben wir Taiwan. Wo es eigentlich eine sehr... die größte Versicherung auch bei schwerwiegenden Erkrankungen wie zum Beispiel bei Lungenkrebs, nicht nur die Möglichkeit bietet, in eine westlich-schulmedizinische Ambulanz zu gehen, sondern auch in eine (TCM?)-Ambulanz, also traditionell chinesische oder traditionell asiatische Ambulanz zu gehen. Und da gibt es auch eine sehr schöne Studie dazu, wo man sich 7.700 Lungenkrebspatient*innen angeschaut hat und verglichen hat, welchen Effekt jetzt der Besuch einer traditionellen oder eben konventionellen Ambulanz hat. Und im palliativen Setting, das heißt, wenn man einfach nicht mehr kurativ tätig sein kann, nicht mehr heilen kann, ist es auch so, dass diese traditionelle Medizin auch ein signifikant höheres (unv. 00:20:04) gehabt hat. Was ich dann persönlich sehr spannend gefunden habe. Im kurativen Setting, also sprich, wo die Lungenkrebspatient*innen operiert worden sind, waren die Effekte ähnlich. Wobei auch die traditionelle Medizin etwas billiger war. Das heißt, wenn man hier an die zunehmende Ökonomisierung in der Medizin denkt, kommt auch noch der ökonomische Aspekt dazu, dass man bei der traditionellen Medizin hier eigentlich auch wirtschaftlicher agieren kann. Und ähnliche Effekte hat. Sehr, sehr schönes Beispiel, Antibiotikaresistenzen, sehr, sehr schönes Beispiel, Opioidkrise, die Sie jetzt in Amerika ganz heftig haben. Wir wissen, dass eine personalisierte Akupunktur ganz, ganz ähnliche Effekte hat wie schädliche Opioide, wenn man sie länger nimmt. Und wir wissen auch, dass man mit Akupunktur die ganzen negativen Opioid-Effekte relativieren kann. Das heißt, das ist natürlich eine tolle Möglichkeit eigentlich, hier

eine Kombination einzugehen. Natürlich macht das Sinn, Opioide kurzfristig einzusetzen, wenn das notwendig ist, die dann aber langsam auszuschleichen und dann in Richtung zum Beispiel Akupunktur oder Neuraltherapie oder Kräutertherapie zu gehen, macht durchaus einen Sinn und wäre auch volkswirtschaftlich von größtem Nutzen.

I: Finden Sie, komplementärmedizinische Leistungen sollten, online vor allem, wirklich als komplementärmedizinische gekennzeichnet sein? Oder ist das in Ordnung, dass es quasi eben bei so Laboren vor allem angegeben wird und dann nur als Privatleistung gekennzeichnet ist?

E1: Also ich denke mir, es muss nicht unbedingt als Komplementärmedizin gekennzeichnet sein, weil die Leute, die es interessiert, die werden wissen, was sie da machen oder welche Form der Therapie sie haben. Und das hebt so ein bisschen diese Kluft zwischen konventioneller und komplementärer Medizin auf, ein schönes Beispiel ist natürlich (Synthi-Mikronährstoffe?), die halt in der Schulmedizin eher als Vitamine und Spurenelemente bezeichnet werden und ist doch das Mikrobiom, also die Darmflora, die halt im schulmedizinischen Bereich schon Einzug gehalten hat, aber in der Komplementärmedizin auch ganz, ganz stark vertreten ist, das heißt, da verwischen sich die Grenzen zwischen konventioneller und komplementärer Medizin, und diese Grenzen sind in meinen Augen auch nicht notwendig. Weil hier geht es um Wissen, das wir hier erlangen und ob das jetzt komplementärmedizinisch oder konventionell-schulmedizinisches Wissen ist, ist am Ende zweitrangig.

I: Was verstehen Sie unter dem Begriff Entgiftung oder Detoxification?

E1: Das ist an sich ein sehr spannender Begriff, der in meinen Augen vielleicht schon etwas überreizt ist. Ist natürlich momentan so ein bisschen im komplementärmedizinischen Bereich verhaftet, hat natürlich auch was mit der Idee der Balance und der Prävention zu tun. Und kommt halt bei den Patienten und Patientinnen sehr gut an, wir zum Beispiel machen auch dieses Leberfasten, Entgiften, was am Ende des Tages einfach nur eine Ernährungsumstellung ist. Das heißt, das ist sicher ein Modewort, das gut zieht, aber in meinen Augen entbehrlich ist.

I: Was halten Sie von der Redoxserumanalyse als diagnostisches Tool zur Einschätzung des Zustands des Immunsystems?

E1: Bin ich jetzt kein Spezialist in dem Bereich, aber ich kenne einige Leute die das machen und denen das sehr hilft. Das sind meistens Allgemeinmediziner, die dann sagen, sie arbeiten mit diesen Systemen und haben auch gute Erfolge bei ihren Patientinnen und Patienten.

I: Wie bewerten Sie die (Ausleitung?) von Schwermetallen durch Chelatbinder, wenn nach schulmedizinischem Verständnis keine Schwermetallvergiftung vorliegt?

E1: Ja, ich glaube, dass es eigentlich aus meiner Sicht relativ logisch ist, dass die Schwermetallbelastung in unserer Gesellschaft immanent ist. Und wenn man sich jetzt wirklich die Zivilisationserkrankungen anschaut, mit denen wir zu tun haben, sprich Allergien, Nahrungsmittelunverträglichkeiten, chronisch entzündliche Erkrankungen, Autoimmunerkrankungen, aber auch das metabolische Syndrom, so

macht es für mich intellektuell durchaus einen Sinn, dass diese Schwermetalle eine Belastung darstellen können. Und eine Meinung dazu ist, wenn man hier in diesem Bereich erfahrungsmedizinisch Erfolge hat, dann sollte man sich hinsetzen und einfach Studienprotokolle erstellen und einfach Studien zu diesem Thema machen und einfach schauen, ob dem auch wirklich so ist. Ja? Wäre auch relativ einfach umsetzbar, Sie haben hier objektiv messbare Werte, Sie können dann natürlich auch noch die Lebensqualität der Patienten abfragen, aber Sie haben ganz klare, objektiv messbare Werte, die man dann auch entsprechend vergleichen kann. Und wenn man dann bei solchen Studien herauskriegt, dass das alles nicht stimmt, oder keine signifikante Verbesserung bringt, ja, dann kann man halt sagen, okay, wir haben es wissenschaftlich überprüft, die Methode hat sich nicht bewährt, wir verlassen die auch. Aber das sehe ich auch als Komplementärmediziner nicht irgendwie negativ, sondern okay, dann haben wir uns halt geirrt in dem Bereich, dann suchen wir in anderen Bereichen weiter. Aber ich denke mir, dass da durchaus was rauskommen würde. Und wenn die Leute sehen, dass es ihnen hilft, sonst würden sie ja nicht zu solchen Ärzten gehen und würden diese Therapie nicht in Anspruch nehmen. Dann machen wir aus meiner Sicht durchaus einen Sinn.

I: Zum Schluss noch, was für eine Entwicklung der Komplementärmedizin und der konventionellen Medizin würden Sie sich wünschen?

E1: Naja, auf jeden Fall eine Annäherung. Das ist das was mich momentan am meisten stört, dass die Komplementärmedizin eigentlich stigmatisiert wird, es gibt zahlreiche Diskussionen im Fernsehen, aber auch mit Kolleginnen und Kollegen, wo dann einfach ganz klar definierte Nichtspezialisten sich zu komplementärmedizinischen Themen äußern, zum Beispiel in der Diskussion um Homöopathie haben wir Spieletheoretiker aus dem Bereich der Mathematik, haben wir Pathologen, die sich ja hauptsächlich mit totem Gewebe, beziehungsweise toten Menschen auseinandersetzen. Aber in den großen Diskussionen fehlen meistens die Homöopathinnen und Homöopathen, die dann halt tagtäglich mit dem Thema zu tun haben. Und das finde ich nicht okay. Weil wenn man sich mit einem Thema befasst, dann sollte man einen Schwerpunkt auf die Spezialistinnen und Spezialisten setzen, die das tagtäglich machen und die Definition der evidenzbasierten Medizin nach David Sackett besteht aus drei Grundpfeilern, Sie haben auf der einen Seite natürlich die externe Evidenz durch die Literatur, das ist das was wir eigentlich als evidenzbasierte Medizin verstehen, so allgemeinhin, aber Sie haben dann auch noch einen ganz wichtigen Eckpfeiler, nämlich die klinische Erfahrung, die wird irgendwie völlig aus der Diskussion herausgenommen. Und ein dritter, auch wesentlicher Eckpfeiler oder äquivalenter Eckpfeiler, das sind die Wünsche und die Wertigkeiten des Patienten oder der Patientin. Ich habe schon durchaus öfter mal im Krankenhaus erlebt, vor allem im Bereich der Krebstherapie, dass der Patient da gar nicht gefragt wurde, ob er denn diese Therapie überhaupt will und wenn ein Patient dann mündig genug war, zu sagen, "nein, das will ich eigentlich so nicht", dann wurde das eigentlich sehr negativ aufgefasst vonseiten der Schulmedizin. Das sind halt leider so die negativen Auswüchse, mit denen ich mich nicht identifiziere. Und da wäre natürlich eine Möglichkeit für die Komplementärmedizin, dass man solchen Leuten eine solche anbietet, um zum Beispiel die Nebenwirkungen von sehr, wie soll ich sagen, nebenwirkungsreichen schulmedizinischen Methoden anzubieten. Das würde die Compliance auch steigern. Das heißt, ich wünsche mir wirklich, dass es zu einer Annäherung kommt, dass die Stigmatisierung hier langsam verlassen wird. Ich wünsche mir auch, dass mehr Wissenschaft im Bereich der Komplementärmedizin

gemacht wird, aber auch sinnvolle Wissenschaft, dass hier große Datenbanken hochgefahren werden können, und wenn wir diese Wissenschaftlichkeit in der Komplementärmedizin auch durchführen können, dann wird ja eh das passieren, was sich die Schulmediziner so heiß wünschen, nämlich dass dann die Methoden, die keine Wirkung haben, einfach herausselektioniert werden. Wir wollen ja dasselbe, nur haben wir einen anderen Ansatz. Der Ansatz der schulmedizinischen Skeptiker ist, dass man hier die Komplementärmedizin aus dem rechtlichen Kontext herausnimmt. Und wir aus der komplementärmedizinischen Schiene wollen, dass hier einfach die Spreu vom Weizen getrennt wird und dass man hier anhand von Wissenschaft wirklich effiziente und effektive Methoden inkludieren kann in zum Beispiel auch Guidelines der Schulmedizin.

I: Also sehen Sie es auch so, dass im komplementärmedizinischen Sektor auch viel Humbug unterwegs ist, weil eben die Anerkennung nicht so da ist und es deshalb auch jeder praktizieren kann bis zu einem gewissen Grad, was in der Schulmedizin nicht so ist?

E1: Ich sehe halt zwei Gefahren. Die eine Gefahr ist, so wie Sie gesagt haben, dass man dann halt Sachen machen kann, wo man sagt, da ist es eh Wurscht, weil wir überprüfen es ja eh nicht. Dann gibt es auch Leute, die sich mit Themen befassen, wo sie eigentlich keine Ausbildung dazu haben, ich habe da im Blick diverse Energetiker und esoterisch aktive Menschen. Die hier Heilsversprechen machen, von denen ich mich definitiv distanziere, weil das in meinen Augen wirklich eine Geldmache ist. Und man auch die Schwäche und die Angst vom Patienten missbraucht. Das wollen wir verhindern. Und ich glaube auch, dass es ein ganz wichtiges Ziel ist, aus meiner Sicht, dass die Komplementärmedizin eigentlich für, so wie der Name schon sagt, für Medizinerinnen und Mediziner ist. Weil man studiert ja sechs bis acht Jahre Medizin, man befasst sich mit diesem Thema. Und sollte dann auch seinen Horizont erweitern dürfen als Mediziner durch eben die Komplementärmedizin. Und wenn wir die Komplementärmedizin nicht so stigmatisieren und verunglimpflichen, dann wird dieser Bereich von Heilpraktikern übernommen, die hier keine medizinische Vorbildung haben und dann wird auch sehr viel Humbug gemacht, und das ist auch schlecht für die Patienten, und das wollen wir genauso wie die Schulmedizin verhindern.

I: Also idealerweise wäre die Komplementärmedizin ein anerkannter Unterbereich der konventionellen Medizin, die tatsächlich nur noch Mediziner praktizieren, die entsprechend zusatzausgebildet sind.

E1: Mediziner, also Ärztinnen, Ärzte, aber auch natürlich Pharmakologinnen, Pharmakologen, die Pflege, die ja auch sehr... Ist auch ein medizinischer Beruf, Physiotherapie, Psychotherapie, Psychologie, sollten halt Methoden anwenden dürfen.

I: Das wäre meine nächste Frage gewesen, bei Komplementärmedizin, gerade wo sich Menschen von der konventionellen Medizin eher abwenden, weil sie enttäuscht worden sind, frustriert sind, was auch immer, spielt ja das Psychische eine große Rolle. Das sich Zeit nehmen, die angenehme Atmosphäre, nicht eine Nummer in einem System. Halten Sie es da für sinnvoll, vielleicht auch die soziale Arbeit mit einzubinden, dass vielleicht manchmal gar keine andere Methode notwendig ist, aber einfach die Zeit, die man jemandem gibt?

E1: Ja. Also es ist ja so, das Hauptargument der schulmedizinischen Skeptiker ist, dass wir in der Komplementärmedizin so viel mit unseren Patienten reden. Das sage ich mal, das ist teilweise richtig, also man schaut vor allem am Anfang einer Therapie, dass man hier eine sehr genaue und ausgeprägte klinische Anamnese macht, aber da muss man dazusagen, das hat man früher in der Schulmedizin auch gemacht. Da darf man die Schulmedizin jetzt auch nicht so negativ hinstellen als menschendistanziert, sondern früher, die älteren Internisten haben teilweise Patienten zwei bis sechs Stunden angeschaut. Da hat es halt nicht diese ganzen Apparate und Blutanalysen und Röntgenuntersuchungen gegeben, sondern man hat anhand der Anamnese sehr viel an Information herausgeholt, und diese alten, sage ich jetzt, Medizinerinnen und Mediziner, haben auch immer auf den emotionalen Zustand der Leute auch geschaut, also die haben schon gewusst, dass das ein Teil des Ganzen ist, ein sehr wichtiger Teil des Ganzen. Und das ist vom Gefühl her ein bisschen verloren gegangen, das sieht man auch, ich bin ja selber in chirurgischen Ambulanzen tätig oder war jetzt auch eine Zeit lang in einer Kassenordination, einer chirurgischen, zeitweise aushelfend und da hat man wirklich nur fünf Minuten für den Patienten. Und der kommt mit einem Befund und wenn man dann länger als fünf Minuten mit dem redet, dann steht schon die Sprechstundenhilfe draußen vor der Tür und zeigt auf die Uhr. Das heißt, da fühlen sich die Patienten natürlich nicht gut aufgehoben, klarerweise. Das heißt, da nehmen sich die Komplementärmediziner tendenziell mehr Zeit. Gibt aber auch Schulmediziner, die das machen, vor allem im Privatsektor geht das ganz gut. Wenn ich dann aber einem Patienten ein Therapiekonzept erstellt habe und der kommt zur Akupunktur, dann ist es auch nicht so, dass ich jedesmal eine Stunde mit dem rede, sondern dann schaue ich dem kurz auf die Zunge, taste seinen Puls, da vergeht vielleicht vier, fünf Minuten. Und dann lege ich ihn hin, steche ihm die Nadeln, dann ist er eine halbe Stunde allein, das heißt, da redet dann keiner mit ihm. Und trotzdem zeigt das einen Effekt. Das heißt, es ist nicht nur da Reden alleine, sondern es gibt ganz klare physiologische Effekte, auch ganz klar erklärbare physiologische Effekte und biochemische und physikalische Effekte der Komplementärmedizin. Aber Sie haben natürlich recht, Psychotherapie, beziehungsweise verhaltenstherapeutische Aspekte in der Medizin sind ganz, ganz wesentlich und es gibt schon viele Symptome, die man halt mit einer guten Psychotherapie und Verhaltenstherapie auch sehr, sehr gut therapieren kann. Bestes Beispiel, das mir einfällt, ist zum Beispiel das metabolische Syndrom. Was ich auch ganz gerne als psychosoziales metabolisches Syndrom bezeichne, weil da die Psyche ganz, ganz wesentlich ist und dann wissen wir auch anhand von Literatur und Meta-Analysen und diese kontrollierten Studien, dass diese verhaltenstherapeutische Zusatztherapie als Teil eines multimodalen Konzeptes ganz, ganz wesentlich ist. Und hat auch einen stark signifikanten positiven Effekt auf den weiteren Verlauf. Das heißt, ich sehe da jetzt gar nicht, dass man jetzt nur Psychotherapie einsetzt, aber zusätzlich, additiv, integrativ das einfach mit reinnimmt. Also ich sehe das vielleicht eher so modern gesagt als personal Coaching in Wahrheit.

I: Was auch mit einer Entstigmatisierung dieses Zweigs einhergeht, Psychotherapie ist ja immer noch auch ähnlich, auf eine andere Art, aber auch stigmatisiert wie Komplementärmedizin, genauso wie die soziale Arbeit. Ja eh, abschließend, als letzte Frage, wie könnten Maßnahmen aussehen, die diese positiven Entwicklungen begünstigen würden?

E1: Naja, also ich sage es jetzt mal aus der wissenschaftlichen Sichtweise, natürlich hier multimodale Therapiekonzepte zu entwickeln. Es gibt mittlerweile genug Literatur und evidenzbasierte Forschung im Bereich der Komplementärmedizin, dass man wirklich hergehen kann und gemeinsam mit der konventionellen Schulmedizin Therapiekonzepte hochfährt, vor allem in den Bereichen, wo es notwendig ist. Es ist ja nicht so, dass man mit der konventionellen Medizin alle Probleme dieser Welt problemlos lösen kann, weil dann bräuchten wir die Komplementärmedizin gar nicht. Sondern hier sollte man einfach diese multimodalen Therapiekonzepte auch den Patientinnen und Patienten anbieten können, das heißt, sie dürfen auswählen und sagen, ja, ich möchte jetzt hier für dieses Problem auch noch zusätzlich eine Psychotherapie oder eine Verhaltenstherapie ausprobieren, ich möchte hier mit Akupunktur zusätzlich arbeiten, zu meiner Antikörpertherapie bei chronisch entzündlicher Erkrankung, oder was auch sehr, sehr gut funktioniert und wissenschaftlich belegt ist, mit Hypnosetherapie arbeiten. Das heißt, wir sollten den Patienten in diese Therapieentscheidungen mit einbinden, weil wir auch wissen, dass Patienten mit einer erhöhten Compliance entsprechend auch ein besseres Immunsystem akquirieren, das läuft über das emotionale System und das wiederum hat Auswirkungen auf das endokrine System, auf die Stoffwechselprozesse, hat sogar Auswirkungen auf das Mikrobiom interessanterweise und letzten Endes dann auch auf das Immunsystem.

I: Da bräuchte es dann Praktiker, die über all diese Sachen ein bisschen einen Überblick haben und auch wissen, worauf sie verweisen können, weil die meisten (unv. 00:38:56) kennen ja auch viele Methoden einfach gar nicht.

E1: Genau, das heißt, man sollte dann als praktischer Arzt, so wie das jetzt in der Schulmedizin auch funktioniert, bei einem entsprechenden Problem sagen können, okay, hier gibt es einen Spezialisten, an den können Sie sich wenden, der macht zum Beispiel Neuraltherapie oder Homöopathie oder eben Mikrobiomdiagnostik und Probiotikatherapie. Also das heißt, Ziel ist sicher auch aus Sicht der Komplementärmedizin, dass man hier eine Plattform schafft, wo man als Betroffener, Betroffene, als Patientin, als Patient dann auch zugreifen kann. Aber auch als Medizinerin und Mediziner, wo man sagt, ja, okay, da gibt es jemanden, der beschäftigt sich mit diesem Thema.

I: Und idealerweise wären das dann alle Kassenleistungen natürlich und es wäre nicht die Entscheidung des Patienten, zahle ich jetzt für meine Therapie oder bleibe ich in der konventionellen und kriege es dafür gratis.

E1: So ist es, genau, ich denke, das sollte man einfach ausgleichend machen, das heißt, entweder konventionelle Medizin plus komplementäre Medizin, weil es würde sich (unv. 00:40:05) sicher rechnen, wenn man hier präventivmedizinisch aktiv ist, weil es gibt auch eine Studie, die hat nachgewiesen, jeden Euro, den Sie in eine präventivmedizinische Maßnahme reinstecken, kommt mit sechs Euro wieder raus. Das heißt, Gesundheit zahlt sich (unv.) für alle aus, für den Staat, für den Arbeitgeber, für den Arbeitnehmer. Und diese Gelder würde man dann halt wieder einspielen. Das heißt, da sehe ich überhaupt gar keine Probleme.

I: Glauben Sie, entwickelt sich das Verhältnis der beiden Richtungen positiv? Oder sehen Sie da eher...

E1: Ja, also ich sage es jetzt mal so, das ist weltweit unterschiedlich, nicht? Also in Asien zum Beispiel ist das völlig natürlich und klar, dass man sowohl traditionelle wie auch moderne, schulmedizinische Methoden in Anspruch nimmt, in Amerika ist das ebenfalls zunehmend der Fall, Europa sträubt sich momentan noch dagegen, da gibt es schon Strömungen hier, sage ich jetzt mal, sehr, sehr laute Strömungen, also ist vielleicht gar nicht so stark wie wir denken möchten, aber sie sind halt laut. Dass man hier Sachen ausschließt. Das gefällt mir an sich an der Philosophie der asiatischen Medizin ganz gut, dass man ältere Methoden, die vielleicht nicht optimal sind für alle Erkrankungen unserer Zivilisation, nicht sofort a priori ausschließt, wenn eine neue Methode (unv.) kommt, sondern sie einfach integriert. Und bei uns haben wir so dieses Ausschlussverfahren. Das heißt, bis 1849 hat es dieses Viersäftesystem gegeben, wo man halt einfach mit traditioneller europäischer Medizin gearbeitet hat, die auch dann die entsprechende konventionelle Schulmedizin war. Und dann ist Virchow gekommen, hat die Zelle entdeckt und plötzlich hat alles das, was 1500 Jahre vorher gewesen ist, oder sogar noch länger, hat das alles nicht mehr gegolten und es hat nur noch die Zelle gegeben und es hat nur noch die Genetik gegeben und alles andere ist falsch. Und jetzt kommen wir aber in eine Zeit, wo wir sagen, okay, die Zellen sind wahnsinnig wichtig, die Genetik ist wahnsinnig wichtig und das ist alles ganz toll, aber es gibt sehr viel Regulation, es gibt sehr viel (unv. 00:42:27)-Genetik, das heißt, dieser Einfluss von außen, das ist natürlich die Psyche, das ist natürlich Lifestyle, eine (unv.) (Bewegung?) und so weiter, die haben eigentlich den Hauptanteil auf die Gesundheit. Weil wenn Sie sich bedenken, die Effekte von Genen und Zellen sind gerade mal 20 Prozent am Ende des Tages. Und durch epigenetische Einflussfaktoren werden dann diese Gene eingeschaltet und es kann dann zu einer Entwicklung einer chronisch entzündlichen Erkrankung, von Übergewicht, von hypercholesterinem Herzinfarkt und Krebs kommen. Aber das sind 70 Prozent Epigenetik, das heißt, Einflüsse von außen. Und von (unv. 00:43:07) von außen, die dann diese Gene einschalten. Und ich glaube, dass die Schulmedizin sich da mehr öffnen sollte in dem Bereich der Epigenetik. Die Komplementärmedizin macht das eigentlich schon immer, das heißt, Sie schauen in der Komplementärmedizin, dass Sie möglichst viele Einflussfaktoren und Informationen aus-, einschließen. Und in der Schulmedizin war wiederum sehr lange dieser Trend, dass man sehr viele Sachen ausschließt. Und sozusagen reduktionistisch dann zum Ziel kommt.

I: Dann danke für das Interview.