### **ARTICLE**

### Person-centered medicine at the intersection of East and West

Sonya Pritzker PhD LAca, Marian Katz PhDb and Ka Kit Hui MD FACPc

- a Assistant Researcher, UCLA Center for East West Medicine, David Geffen School of Medicine at UCLA, Los Angeles, CA USA
- b Assistant Researcher, UCLA Division of General Internal Medicine and Health Services Research, Los Angeles, CA, USA c Director, UCLA Center for East West Medicine, David Geffen School of Medicine at UCLA, Los Angeles, CA, USA

#### **Abstract**

This article examines the core qualities of contemporary biomedical notions of person-centered medicine alongside similar notions of person-centeredness in Chinese medicine. In person-centered biomedicine, we examine the central notions of patient agency, patient satisfaction and decision-making power, notions of the "whole person" in healthcare debates, the provider-patient relationship and the goal of personalized treatment. In Chinese medicine, we similarly discuss the central tenets of patient participation, holistic, individualized diagnosis and treatment and the role of the provider-patient relationship in both diagnosis and treatment. After comparing the overlaps and differences between these 2 systems, we suggest a model of enhanced East-West person-centered care that draws upon the values of each approach and provide an example of how we implement this model at the UCLA Center for East-West Medicine in Los Angeles, California, USA.

### Keywords

Biomedicine, Chinese medicine, chronic illness, clinical decision-making, East-West medicine, holistic diagnosis, individualized care, patient involvement, person-centered medicine, self- care

### **Correspondence address**

Dr. Sonya Pritzker, UCLA Center for East West Medicine, David Geffen School of Medicine at UCLA, 1033 Gayley Ave, Suite 111, Los Angeles, CA, 90024, USA. E-mail: SPritzker@mednet.ucla.edu

Accepted for publication: 1 October 2012

### Introduction

"Medicine begins with the patient, continues with the patient and ends with the patient."

Sir William Osler

With the current widespread interest in person-centered care it would seem that modern medicine has come full circle back to Osler's vision of the place of the patient in medicine. Whether in public health, primary care, or specialized practice, the active involvement of the patient – through prevention, self-care and active decision-making is seen as central to improving medical care [1-3]. An examination of the evolution of the contemporary interest in person-centered care, however, reveals a process through which some definitions of person-centered care have come to dominate within medical and research circles, while others have become to greater or lesser extents marginalized. At present, then, person-centered medicine in the United States is overwhelmingly focused on healthcare delivery and particularly on 2 areas: patient satisfaction, which is based on patient assessments of certain aspects of the healthcare encounter and medical decision-making, which is increasingly conceptualized as assisting patients in understanding their evidence-based medical options within the context of provider-patient relationships that are envisioned as more "equal" or

balanced than in the past [4,5]. While much credit can be given to efforts in these areas for improving certain aspects of the patient experience, they leave unaddressed what we believe to be 2 of the primary strengths and sources of benefit of broader definitions of person-centered medicine, namely those found in Chinese medicine: holistic, emergent person-centered diagnosis and individualized treatment.

In this article, we approach person-centered medicine as a primarily Western discourse with historically and culturally specific views towards personhood, patient participation in decision-making, provider-patient relationships and personalization of medical practice. In particular, we highlight the differences between contemporary biomedical discussions about personcentered medicine and Chinese medical concepts of personalized diagnosis and treatment. After examining these differences and closely inquiring into their multiple points of overlap and complementarity, we conclude by suggesting ways in which a combination of the 2 systems, based on the values of each, leads to a more robust vision of person-centered care. We close by illustrating this model with a case example of the practice of personcentered care at the UCLA Center for East West Medicine (CEWM).

# Person-centered medicine in the West

In this section we provide an overview of the evolution of the concept of patient-centered medicine in contemporary biomedicine, focusing on the United States. Beginning in the middle of the 19<sup>th</sup> century, changes in public health and medicine together resulted in a dramatic decline in infectious disease and consequent rise in life expectancy. The medical model, a reductionist approach wedded closely to laboratory science and the germ theory of disease, was given the lion's share of the credit for these achievements [6,7], which were, in turn, used to bolster biomedicine's social status. Thus, practitioners of biomedicine were rewarded with recognition as the sole legitimate medical authorities [7,8], while holistic forms of medicine such as homeopathy, Chinese medicine and Native American healing practices, all of which had flourished previously, were increasingly marginalized [7,9]. The 20<sup>th</sup> century saw the growth and expansion of a vast medical-industrial-managerial system based on this biotechnical form of medicine, designed for efficient acute medical care [7,10,11]. As the century wore on, however, members of the aging population were increasingly presenting at doctors' offices with chronic concerns. In addition, younger and healthier patients were seeking care for non-acute concerns, demonstrating changing cultural attitudes towards the body and health [12]. As soon became clear, the existing system of medicine was not well designed to meet the needs of these patients [13]. Along with general frustration with an increasingly dehumanized and dehumanizing medical system [10] and nostalgia for the real or imagined warm and personal doctor-patient relationships of the past [12], these new kinds of patients were, in large part, the drivers of the movement for patientcentered medicine. A significant portion of these even began exploring alternatives to biomedicine [14].

The ideas about patient-centered care that emerged in the mid to late 20<sup>th</sup> century, in response to these changes, within both professional and lay circles, focus on 4 distinct, but interrelated, domains: the patient role; the medical perspective of the patient as "whole person"; the relationship between the provider and the patient and the personalization of treatment. As early as 1957, in Britain, the psychoanalyst Balint proposed putting the therapeutic relationship between doctor and patient at the center of medical care, because, as he saw it, the relationship itself was an essential part of the healing process [15]. This relationship was posited on a re-envisioning of the physician role and is vividly captured in his phrase "the drug doctor," meaning not that the doctor prescribes drugs, but rather that the most powerful "drug" is the doctor himself, administered through the relationship he has with his patient. The internist George Engel's biopsychosocial model emphasized, too, the importance of the patientphysician relationship and of physicians being engaged participants in interactions with their patients [16,17]. Engel envisioned the biopsychosocial model replacing the biomedical model and providing the foundation for a more personalized and humanized system of care. Another step

taken by physicians at this time was the formation of the American Holistic Medicine Association, partly a response to patients' growing interest in alternative medicine, in 1978. The physicians who were drawn to holistic medicine also focused attention on the patient-physician relationship. Among their chief concerns were biomedicine's "limitations in the treatment of chronic diseases, iatrogenic dimensions and restricted approach to the physician-patient relationship" [9]. Although none of these approaches has been widely embraced, biomedical concepts of patientcentered medicine have adopted some of their perspectives and aims. These include a re-examination of the physician role, explicit attention to the therapeutic importance of relationships with healthcare providers and an expanded interpretation of the physician's scope of concern to "the whole person," usually defined in terms of the social, cultural and psychological factors influencing the patient's experience and understanding of illness.

Treating the "whole person" also meant rethinking the patient's role. Developed in part out of the experience of patients with chronic illness, the patient role in general was coming to be seen as a more active one. A more important and dynamic therapeutic relationship requires an engaged patient as well as an engaged physician. Moreover, from a medical perspective, there is therapeutic value in being an active patient, since patients' involvement in their own care has been associated with improved health outcomes [18]. Thus, the active patient was also a key element of biomedical patient-centered care. In addition, events in the larger society influenced the development of patientcentered care, most notably the civil rights movements of the mid 20<sup>th</sup> century and the health social movements they inspired. The self-care and community health movements encouraged patient empowerment and self-reliance, which often fundamentally questioned biomedical authority, demanding that physicians pay more attention to their patients as complex individuals [19,20]. Out of this emerged a discourse of patients' rights. Over time, this discourse has narrowed to become largely focused on the rights of patients as individual consumers of medical care [21]. Intended to be active and empowering, a corrective to the passive patient of an earlier time, the consumer image emphasizes the patient as decision-maker at the expense of other key characteristics and needs of patients, for example, frailty, pain and the need to be assisted and cared for. Thus, the patient as consumer and decision-maker has come to overshadow the patient as a person who needs assistance and care [22]. Based on the understanding of patients primarily as consumers, customer satisfaction and patient involvement in decision-making have become central to biomedical patient-centered care.

At present, the concept of patient-centered care is becoming institutionalized within major medical, research and funding organizations. The following description of a patient-centered medical home from the Agency for Healthcare Research and Quality website is representative of major trends and provides insight into the understanding of patient-centered medicine that is becoming institutionalized:

The primary care medical home provides primary health care that is relationship-based with an orientation toward the whole person. Partnering with patients and their families requires understanding and respecting each patient's unique needs, culture, values and preferences. The medical home practice actively supports patients in learning to manage and organize their own care at the level the patient chooses. Recognizing that patients and families are core members of the care team, medical home practices ensure that they are fully informed partners in establishing care plans. [23]

The above quote sums up the core dimensions of contemporary patient-centered biomedicine as "an orientation toward the whole person." In this case, the "whole person" refers to primarily psychosocial and cultural domains, to the patient's "needs, culture, values and preferences," especially in the face of specific disease conditions. The image of a "home" itself emphasizes the psychosocial aspects: home is a place where a person belongs and, perhaps, where they are part of a family. In this case, the "home" can include their own family as well as their "medical" family, the team. Patients are referred to as "partners" and "members." Patients are here being cast as workers on these teams, responsible for "managing and organizing their own care." As with the consumer model, though, the emphasis is still on information and choice. An important difference from earlier concepts, however, is in the nature of partnership. Although medical care is described as "relationship-based," the emphasis is on a relationship with a "care team" rather than a single, primary care physician, who is then often recast as simply a coordinator of care. Similarly, in the medical research world, the focus of the new Patient-Centered Outcomes Research Initiative (PCORI) is ensuring that patients' views are incorporated into research and practice and that patients are involved in all stages of decision-making. As it becomes institutionalized in the US, then, person-centered care is coming to mean developing methods to involve or assist patients in medical decision-making and, in general, helping them to feel more comfortable within and able to navigate the complex world of biomedicine.

As this overview has shown, in the United States a discourse of patient-centered care has evolved, which is centered on 4 domains: (1) patient empowerment or agency as enacted especially through enhanced decisionmaking, but also including active participation in disease management through behavioral choices and participation in creating treatment plans; (2) the notion of medicine treating the "whole person," which generally refers to an understanding of and engagement with psychological, cultural and social, in addition to the biological, aspects of the patient; (3) increased equality within the physicianpatient relationship, usually described as "partnership" and increasingly used to refer to relationships with medical care staff other than physicians and, to a lesser extent (4), the idea of personalization of care through a detailed understanding of patient priorities, a tailoring of treatment protocols based on pathophysiological factors shaping disease [1] and sometimes through the increasingly popular forms of personalized genomic medicine that are based on individual approaches to the treatment of disease [24-28].

Patient satisfaction, rooted in a definition of patients as consumers, is often used as a measure that captures performance across these domains [29].

Within this discourse of patient-centered medicine, the core tenets of biomedical science are for the most part left unquestioned. Instead, the conversation revolves mostly around ways in which the Western biomedical healthcare industry needs to shift in order to accommodate a more person-centered approach. Patient-centered medicine in the West can thus be understood as a conversation about changes in the delivery of medical care rather than about the way biomedicine thinks about illness, per se. This means that attempts to improve the patient experience continue to work within a system organized according to the treatment of discrete disease conditions - diabetes, for example, or high blood pressure - which limits the extent to which the patient as a whole person can be put at the center of care. Discussions about the "whole patient," the need for better communication about evidence-based decision-making and increased equality in the providerpatient relationship leave unaddressed what we believe to be 2 of the primary strengths and sources of benefit of Chinese medical versions of patient-centered medicine: holistic, emergent person-centered diagnosis individualized treatment.

# Person-centeredness in Chinese medicine

Chinese medicine is inherently person-centered and for this reason many Westerners who are seeking more recognition of the role of the person in healing have recently been drawn to practicing it. These practitioners have come quite far in the work of introducing Chinese medicine to the West in clinical settings that often draw heavily upon the biomedically oriented person-centered discourse for inspiration. In this sense, they mirror and inform the restructuring of the healthcare delivery system by providing increased time for provider-patient interaction as well as increased opportunity for patients and families to discuss their priorities and participate in the clinical decision-making process. The inherent centeredness of Chinese medicine is not, however, centered upon the delivery of medical care per se. Instead, Chinese medicine's strengths for approaching the person lie in a distinct view of illness, which goes beyond discrete biomedical categories. For this, Chinese medicine relies upon holistic diagnosis and personalized treatment, both of which hinge upon the provider-patient relationship as central to the healing process. These are all aspects of person-centered medicine that, as we mentioned above, have tended to be marginalized in biomedicine.

When speaking about person-centered diagnosis in Chinese medicine, it first is necessary to differentiate the way in which Chinese medicine views illness. Whereas in biomedicine, illness is understood primarily in terms of disease mechanisms that unfold as pathophysiological processes "at the level of organs, tissues, cells and molecules" [30], Chinese medicine views illness "through

a macroscopic and functional understanding of the human body as well as its energetic interaction with the social and natural environment" [30]. What this means is that any illness is understood as a constellation of patterns and presentations that together reflect the unique interaction of constitutional, environmental, lifestyle and psychosocial processes in each individual. In Chinese medicine, diagnosis is thus made as an assessment of the particular "set" of disharmonies affecting a given individual. These disharmonies are ascertained through a combination of diagnostic techniques, including detailed history taking, close observation, tongue and pulse diagnosis and palpation. In this sense, diagnosis in Chinese medicine is "unique to the patient...at a particular point in time" [30]. Diagnosis is continually evolving, moreover, because a patient is ideally reassessed during each visit. In Chinese medicine, pattern diagnosis therefore emerges out of an interaction between doctor and patient and rarely depends on biological tests. The physician himself thus becomes the most important diagnostic tool in Chinese medicine, relying upon his or her senses of sight, smell and touch as well as his or her skills as a listener to make an assessment of the patient. In this scenario, every aspect of the doctorpatient encounter becomes clinically relevant.

Out of this perspective on illness and its diagnosis emerges an approach to treatment in Chinese medicine that considerably from biomedicine. Once individualized pattern diagnosis is made, treatment is ideally developed based on this individual pathophysiologic pattern, in accordance with a particular doctor's unique style of practice. Herbal formulas, for example, can be modified on a week-by-week basis to adjust to the changing patterns of a given patient. Here, herbs are added or taken out to tailor the formula to the person. Similarly, acupuncture point prescriptions can be modified weekly to accommodate new developments in the person's condition. The goal of such combinations is always the "restoration of normal balance and flow in the body, strengthening and enhancing the body's endogenous resistance to disease and individualization of therapy" [30]. The underlying assumption here is that the individual human body has the ability to re-regulate itself if given the proper tools. It is the practitioner's job to organize these tools and place them within the patient's "tool box," although the patient traditionally is not part of the decisionmaking process about which tools would work best for him or her. Even though the physician is almost entirely responsible for the overall treatment plan, leaving less room for the kind of equality imagined by biomedical person-centered medicine, therapy in Chinese medicine also commonly includes self-care that the patient is expected to engage in, including self-massage, nutritional recommendations and lifestyle guidelines. These are not considered adjunct therapies, moreover, but serve as critical components in the healing process.

Revisiting the earlier discussion of the 4 major characteristics of person-centered medicine in the West, it becomes possible to distinguish the ways in which Chinese medical emphasis on the person differs from the way the person is emphasized in contemporary Western personcentered medical discourse. First, we recall the centrality

of patient agency in biomedical person-centered medicine, where individuals are increasingly called to be involved in the clinical decision-making process. The patient's role in person-centered biomedicine also includes increased awareness about the impact of their behavioral choices on the course of their illness, a stance that increases their participation in the treatment through individual choice. Their compliance with the course of treatment once decided upon is also critical. In Chinese medicine, the patient's role most often rests in bolstering healing through self-care. This includes their commitment to self-massage at acupuncture points decided upon by the physician, the exclusion or inclusion of certain foods in their diet and/or the increase or decrease of certain kinds of activity on a regular basis. It also may include precise instructions, issued by the physician, about the best times to sleep and wake, the best times to eat certain foods and the best way to express their emotions. At the core of the Chinese medical approach to the person's role is the belief that the patient is a direct participant in re-regulating his/her own physiology and chemistry on multiple levels - physical, emotional, social and mental. While biomedicine does increasingly recommend certain lifestyle changes, especially in chronic illness, there is a subtle difference here, in that the Chinese medical patient's self-care activities are individualized suggestions, provided by the physician. In biomedicine, on the other hand, emphasis is placed on more general guidelines for individual lifestyle adjustments based on certain diseases.

Second, recalling the discussion about "the whole person" as a central focal point of person-centered biomedicine, we revisit the notion of the biopsychosocial approach to care. In this model, each patient is seen as a complex individual that must be understood not only as a biological entity, but also as a person with psychological and social circumstances and needs. These needs, including especially the ways in which they structure the patient's priorities, must be taken into account in the development of a treatment plan. In Chinese medicine, the whole person is also considered, but in a slightly different way. Here, each aspect of the person is taken into account not only in order to place the disease in context or to help determine patient priorities, but in order to make the actual diagnosis. A patient who lives in a home with insufficient heat, for example, will tend to manifest cold-type patterns or a patient with a stressful job and unhappy marriage may tend to give rise to symptoms related to Qi stagnation. Without going further into the precise meanings of such diagnostic categories, it suffices to say that the person is considered holistically in the entire process of Chinese medicine diagnosis and treatment varies accordingly. In biomedicine, the whole person may be considered, especially in relation to the choice of treatment, but neither the diagnosis nor the treatment of their disease is likely to differ based on this information. Treatment in biomedicine, moreover, is only adjusted in a secondary way, based on individual psychosocial circumstances. In Chinese medicine, however, treatment is personalized from the

Third, the provider-patient relationship in personcentered biomedicine and Chinese medicine is equally critical, but in different ways. In both systems, rapport is central, as is trust. The nature of the ideal relationship in each system, however, differs in several key ways. The information-sharing and shared decision-making that is so important in person-centered biomedicine is not as much of a feature of Chinese medicine. Instead, the providerpatient relationship takes on significance in terms of the role of the physician as the chief diagnostic and treatment tool - the provider of accurate assessments of the patient and effective treatment in the form of acupuncture or herbal formulas. As discussed above, these treatments rely upon the notion that the body's physiology and chemistry has the capacity to re-regulate itself once it is guided in the right direction. This is the chief role of the physician in Chinese medicine, whereas in Western medicine the medicine itself is still geared towards an externally enforced blocking, stimulating, removing or replacing of a pathological situation or process. The decision about which one works best for a particular patient is central to personcentered medicine, but beyond this, the healing occurs from outside.

In this section, we have reviewed some of the core qualities of Chinese medicine, including (1) personalized, holistic diagnosis and (2) individualized treatment, including self-care. We have compared these to the qualities of person-centered medicine in biomedicine, namely patient agency/empowerment, the provider-patient relationship and the personalization of care protocols. While all of these approaches to person-centered care certainly have value in the emerging healthcare system, the slight differences in approach make it worthwhile to examine the ways in which we might productively combine them for a more robust person-centered form of care.

### Towards a productive union

In the above discussion, we compare Western and Eastern concepts of person-centered medicine. In practice, the 2 systems of medicine are more heterogeneous and there are more points of overlap than depicted here. Biomedical treatments, after all, are sometimes individually tailored to the patient, especially in cardiology and genomics [26]. Chinese medicine is often focused on the diagnosis and treatment of distinct biomedical diseases, especially in contemporary integrative medicine in China [31,32]. Both Chinese medicine and biomedicine, moreover, are constantly changing, in part through interacting with each other and other alternative forms of care. Thus, in practice, there is often no such tidy black and white separation of core features. At a conceptual level, however, there are important core differences underlying the ideal visions of person-centered care in each system. Once we have understood the differences, we can better appreciate the parallels and points of overlap and can better envision the kind of person-centered care that might emerge as a true integration of the best ideas from both traditions and might offer concrete solutions with which to address deficiencies in contemporary healthcare on a global scale.

At the UCLA Center for East-West Medicine (CEWM), where we conduct upwards of 13,000 patient visits per year and are often faced with patients who have circumnavigated multiple UCLA departments and present with highly complex cases, we have tried to do exactly this. In our clinical model, we have thus taken the essential concepts from person-centered care in the West and combined them with the core features of person-centered care in Chinese medicine. The result is a unique health model based upon rational, evidence-based thinking and shared decision-making as well as patient education, holistic diagnosis and individualized treatment, including self-care. With each patient seen at CEWM, the complex nature of the patient is considered. This includes their biomedical diagnosis and Chinese medicine pattern presentation, their psychosocial situation, lifestyle and their mental health. Because our goal is always to restore balance and innate capacity to heal, as well as to encourage feelings of wellbeing in each individual we see, the diagnostic measures we use are always ongoing and patients come to the clinic weekly or biweekly to see our team of biomedical physicians, licensed acupuncturists and massage therapists.

In one recent patient who presented gastroesophageal reflux disorder (GERD), for example, CEWM clinicians conducted an extensive history and examination, revealing a host of interrelated physical, as well as psychological and emotional issues affecting this patient's condition. A comprehensive assessment was developed that considered the patient's work as a nurse in a cold and high-stress environment, her status as a divorced and significantly overweight middle aged woman with regular feelings of loneliness and anxiety, her diet of mostly cold salads and excessive caffeine and her regular use of non-steroidal anti-inflammatory drugs (NSAIDs) to help cope with her migraine headaches and back pain. To this comprehensive perspective on the whole person, CEWM clinicians were able to add a holistic understanding of the underlying patterns affecting this patient from a Chinese medical perspective, along with a rich appreciation for the interrelationship of metabolic, pharmacologic and dietary stressors from a biomedical point of view. This complex, holistic understanding then enabled the CEWM clinicians to partner with the patient in order to help her identify the underlying stressors that trigger her symptoms and address these issues through lifestyle modifications. A comprehensive treatment regimen, including acupuncture, acupressure, Chinese nutrition and stress management was initiated. Through her weekly visits, she was encouraged to perform self-massage of essential acupressure points and of the back with a tennis ball, carry out dietary modifications and practice techniques to enhance her quality and quantity of sleep. Additionally, the practitioner worked with the patient to help analyze her long list of medications and gradually reduce her dependence upon them. The eventual goal was for the patient to embrace her body's own ability to heal and use medications sparingly when necessary. After 10 weekly treatments, this patient reported rarely taking antireflux drugs or pain medicine for her headaches and back pain. Additionally, other chronic conditions that she has

had for many years, including constipation, nasal congestion and insomnia, ameliorated. She also enjoyed an improved mood from the reduction of sleep disturbances due to heartburns and night sweats. Overall, she feels more relaxed and energized. The CEWM "East-West" healthcare model thus exists as a blending of the strengths of personcentered biomedicine and dynamic and individually tailored Chinese medicine.

### Conclusion

It is our conviction that the approach we have described provides an ideal model for the ways in which primary care in the U.S. needs to develop, with equal insight from both person-centered care delivery and personalized, holistic care. Simply put, recent pushes for patient-centered care in the current Western healthcare system certainly involve the patient more deeply in the complex navigation of evidence-based allopathic, disease-directed healthcare. The value to this is not to be disregarded. Patients are often empowered by this process and, in the right circumstances, their relationships with physicians as care team members are deepened. In the case of integrative care teams, moreover, patients are able to benefit from multiple perspectives. The value of having dual-trained East-West primary care physicians who can holistically coordinate the disparate members of care teams, however, adds greatly to this model and ultimately results in a more comprehensive opportunity for healing. It is our hope that the future of person-centered medical discourse [34-37] incorporates more of this approach.

# Acknowledgements and competing interests

Organizations providing financial support for this article include the Oppenheimer Family Foundation, the Annenberg Foundation and the Panda Foundation. [kkh]. Thanks also to Shannon Wongvilibusin, Peter Glassman MBBS MSc and Ed Hui MD, for providing valuable insights and comments to various drafts of this paper. The authors have no competing interests.

#### References

- [1] Salloum, I.M. & Mezzich, J.E. (2011). Conceptual appraisal of the person-centered integrative diagnosis model. *International Journal of Person Centered Medicine* 1 (1) 39-42.
- [2] Clancy, C. & Collins, F.S. (2010). Patient-Centered Outcomes Research Institute: the intersection of science and health care. *Science Translational Medicine* 2 (37) 37cm18.
- [3] Miles, A. & Mezzich, J.E. (2011). Advancing the global communication of scholarship and research for

- personalized healthcare. *International Journal of Person Centered Medicine* 1 (1) 1-5.
- [4] Barry, M.J. & Edgman-Levitan, S. (2012). Shared decision making pinnacle of patient-centered care. *New England Journal of Medicine* 366 (9) 780-781.
- [5] Gupta, M. (2011). Improved health or improved decision making? The ethical goals of EBM. *Journal of Evaluation in Clinical Practice* 17 (5) 957-963.
- [6] Brown, E.R. (1979). Rockefeller medicine men: medicine and capitalism in America. Berkeley: University of California Press.
- [7] Starr, P. (1982). The social transformation of American medicine. New York: Basic Books.
- [8] Freidson, E. (1970). Profession of medicine; a study of the sociology of applied knowledge. New York: Dodd, Mead.
- [9] Baer, H.A. (2001). Biomedicine and alternative healing systems in America: issues of class, race, ethnicity, and gender. Madison, Wisconsin: The University of Wisconsin Press.
- [10] Reiser, S.J. (1978). Medicine and the reign of technology. Cambridge, New York: Cambridge University Press
- [11] Rosenberg, C.E. (2007). Our present complaint: American medicine, then and now. Baltimore: Johns Hopkins University Press.
- [12] Shorter, E. (1985). Bedside manners: the troubled history of doctors and patients. New York: Simon and Schuster.
- [13] Von Korff, M., Gruman, J., Schaefer, J., Curry, S.J. & Wagner, E.H. (1997). Collaborative management of chronic illness. *Annals of Internal Medicine* 127 (12) 1097-1102.
- [14] Eisenberg, D., Kessler, R., Foster, C., Norlock, F., Calkins, D. & Delbanco, T. (1993). Unconventional medicine in the United States. *New England Journal of Medicine* 328, 246-252.
- [15] Balint, E. (1969). The possibilities of patient-centered medicine. *Journal of the Royal College of General Practitioners* 17, 269-276.
- [16] Engel, G.L. (1977). The need for a new medical model: a challenge for biomedicine. *Science* 196, 129-136.
- [17] Engel, G.L. (1978). The biopsychosocial model and the education of health professionals. *Annals of the New York Academy of Science* 310, 169-187.
- [18] Street, R., Jr. (2001). Active patients as powerful communicators: The communicative foundation of participation in care. In: The New handbook of language and social psychology (Robinson, W.P. & Giles, H., eds), pp. 541–560. Chichester, England; New York: J. Wiley.
- [19] Defriese, G., Guild, P., Steckler, A. & Konrad, T. (1989). From Activated Patient to Pacified Activist: A study of the self-care movement in the United States. *Social Science & Medicine* 29 (2) 195-204.
- [20] Hoffman, B. (2003). Health care reform and social movements in the United States. *American Journal of Public Health* 93 (1) 75-85.
- [21] Mold, A. (2010). Patient Groups and the Construction of the Patient-Consumer in Britain: An Historical Overview. *Journal of Social Policy* 39 (4) 505-521.

- [22] Mol, A. (2008). The logic of care: health and the problem of patient choice. London; New York: Routledge. [23] Defining the PCMH. Agency for Healthcare Research and Quality; n.d.; Available from:
- http://pcmh.ahrq.gov/portal/server.pt/community/pcmh\_home/1483/PCMH\_Defining the PCMH\_v2.
- [24] Yang, J.Y., Niemierko, A., Bajcsy, R., Xu, D., Athey, B.D., Zhang, A., Ersoy, O.K., Li, G.Z., Borodovsky, M., Zhang, J.C., Arabnia, H.R., Deng, Y., Dinker, A.K., Liu, Y. & Ghafoor, A. (2010). 2K09 and thereafter: the coming era of integrative bioinformatics, systems biology and intelligent computing for functional genomics and personalized medicine research. *BMC Genomics* 11 (Supplement 3) I1.
- [25] Stegh, A.H. (2012). Toward personalized cancer nanomedicine past, present, and future. *Integrative Biology*. Available from:
- http://pubs.rsc.org/en/Content/ArticleLanding/2012/IB/c2i b20104f.
- [26] Chen, R. & Snyder, M. (2012). Systems biology: personalized medicine for the future? *Current Opinions in Pharmacology*. Available from:
- http://www.sciencedirect.com/science/article/pii/S1471489 212001221.
- [27] Goetz, T. (2010). The decision tree: taking control of your health in the new era of personalized medicine. New York, NY: Rodale.
- [28] Feero, W.G., Guttmacher, A.E. & Collins, F.S. (2008). The genome gets personal almost. *Journal of the American Medical Association* 299 (11) 1351-1352.
- [29] Royse, D., Thyer, B.A. & Padgett, D.K. (2010). Program Evaluation: An Introduction (Fifth Ed.). Belmont, CA: Wadsworth Publishers.
- [30] Hui, K.K., Hui, E.K. & Johnston, M.F. (2006). The potential of a person-centered approach in caring for patients with cancer: a perspective from the UCLA center for East-West medicine. *Integrative Cancer Therapies* 5 (1) 56-62.
- [31] Scheid, V. (2002). Chinese medicine in contemporary China: plurality and synthesis. Durham, NC: Duke University Press.
- [32] Karchmer, E. (2010). Chinese medicine in action: On the postcoloniality of medical practice in China. *Medical Anthropology* 29 (3) 226-252.
- [33] Boon, H., Verhoef, M., O'Hara, D. & Findlay, B. (2004). From parallel practice to integrative health care: a conceptual framework. *BMC Health Services Research* 4 (1) 15.
- [34] Miles, A. & Mezzich, J.E. (2011). The care of the patient and the soul of the clinic: person-centered medicine as an emergent model of modern clinical practice. *International Journal of Person Centered Medicine* 1 (2) 207-222.
- [35] Miles, A. & Mezzich, J.E. (2011). The patient, the illness, the doctor, the decision: negotiating a 'new way' through person-centered medicine. *International Journal of Person Centered Medicine* 1 (4) 637-640.
- [36] Miles, A. & Mezzich, J.E. (2012). Person-centered medicine: addressing chronic illness and promoting future health. *International Journal of Person Centered Medicine* 2 (2) 149-152.

[37] Miles, A. (2012). Person-centered medicine - at the intersection of science, ethics and humanism. *International Journal of Person Centered Medicine* 2 (3) 329-333.