



Health care practices in ancient Greece: The Hippocratic ideal

Christos F. Kleisiaris¹, Chrisanthos Sfakianakis², Ioanna V. Papathanasiou³

¹Clinical Professor of Nursing, Nursing Department, Technological Educational Institute of Crete, Greece;

²Nursing Department, Technological Educational Institute of Crete, Greece;

³Clinical Professor of Nursing, Nursing Department, Technological Educational Institute of Thessaly, Greece.

Corresponding Author:

Ioanna V. Papathanasiou

Address: Nursing Department, Technological Educational Institute of Thessaly, Greece.

Email: iopapathanasiou@yahoo.gr

Tel: +302410684446

Fax: +302410613986

Received: 07 Aug 2013

Accepted: 18 Feb 2014

Published: 15 Mar 2014

J Med Ethics Hist Med, 2014, 7:6

© 2014 Christos F. Kleisiaris et al.; licensee Tehran Univ. Med. Sci.

Abstract

Asclepius and Hippocrates focused medical practice on the natural approach and treatment of diseases, highlighting the importance of understanding the patient's health, independence of mind, and the need for harmony between the individual, social and natural environment, as reflected in the Hippocratic Oath.

The aim of this study was to present the philosophy of care provision in ancient Greece and to highlight the influence of the Hippocratic ideal in modern health care practices.

A literature review was carried out using browser methods in international databases.

According to the literature, "healthy mind in a healthy body" was the main component of the Hippocratic philosophy. Three main categories were observed in the Hippocratic provision of care: health promotion, interventions on trauma care, and mental care and art therapy interventions. Health promotion included physical activity as an essential part of physical and mental health, and emphasized the importance of nutrition to improve performance in the Olympic Games. Interventions on trauma care included surgical practices developed by Hippocrates, mainly due to the frequent wars in ancient Greece. Mental care and art therapy interventions were in accordance with the first classification of mental disorders, which was proposed by Hippocrates. In this category music and drama were used as management tools in the treatment of illness and in the improvement of human behavior. The role of Asclepieion of Kos was highlighted which clearly indicates a holistic health care model in care provision. Finally, all practices regarded detailed recordings and evaluation of information within the guidelines.

The Hippocratic philosophy on health care provision focused on the holistic health care model, applying standards and ethical rules that are still valid today.

Keywords: *Hippocratic medicine, ancient Greek medicine, health care provision, health care interventions*

Introduction

It is widely accepted that the foundations of science and the study of physiology, anatomy and psychology in ancient Greece were developed in order to find the sources of diseases and to promote health status (1). Moreover, there were the moral obligations of individuals who were working in health and other fields of science (2). With the increasing developments in medical science, different perceptions were created as to the exercise of medical practice as a consequence of the formation of different medical schools. Among the most famous is that of Knidos physicians, where philosophy focused entirely on the disease that cumbered the patient (3). However, the most dominant philosophy thus far has been that of the Methodists (medical thinking), which was founded by Asclepius, and which focused on maintaining health and the importance of understanding the whole consideration of patients' health and health status (4).

Following the Asclepius paradigm, Hippocrates focused on the "natural" treatment to approach the disease (5). This approach is widely accepted even today, and thus Hippocrates is considered to be the founder of ancient Greek medicine. According to Kristen et al., the focal point of Hippocratic medicine is the belief that medicine should be practiced as a scientific discipline based on the natural sciences, diagnosing and preventing diseases as well as treating them (6). Also, Hippocrates believed that the physician should study anatomy, in particular that of the spine and its relationship to the nervous system, which controls all functions of the body. In addition, he was the first who believed that this observation helps recognize the symptoms of each disease (7). Moreover, the Hippocratic tradition emphasized environmental causes and natural treatments of diseases, the causes and therapeutic importance of psychological factors, nutrition and lifestyle, independence of mind, body and spirit, and the need for harmony between the individual and the social and natural environment (8). Furthermore, the "Hippocratic" physician above all made sure the patient was healthy as the practice of medicine so required (9). Surprisingly, the Hippocratic ideal is reflected in the Hippocratic Oath (the oath required for obtaining a medical license in Greece), which focuses on the integrity of the professional, benevolence and human dignity in the practice of medicine (7, 10).

The aim of this paper is to present the philosophy of health and the provision of care at a physical and mental level in ancient Greece and to highlight the influence of the Hippocratic ideal in relation to modern health care practices.

Method

Literature review was held using the browsing method in international databases (Medline, Scopus and Proquest) during the period June 2011 to May 2012. One hundred and eighty five articles on the topic were browsed. In this literature review only seventeen reviews, eight original researches and nine general articles, met the inclusion criterion of medical interest, whereas a total of 151 references were excluded due to philosophical or archaeological reasons.

Results

Physical Exercise: The Key to Maintain Health

The ancient Greeks believed that mental and physical health were interrelated as they had found that the body and mind should be in harmony. Aristotle believed that sports and gymnastics were essential to the development of the human body to optimize functional capacity and harmony between mind and body, hence the famous phrase "healthy mind in a healthy body" (11). This ascertainment has been confirmed by several recent studies reporting that students with mile run/walk times beyond California Fitness gram standards, or those whose body mass index (BMI) were higher than the sex- and age-specific standards suggested by Centers for Disease Control (CDC), performed less satisfactorily in academic tests than students with healthier BMI or better fitness level, even after taking parent education and other covariates into consideration (12). Another finding indicates that single, vigorous sessions of moderately intense aerobic exercise such as walking may boost cognitive attention control in preadolescent children. Moreover, moderate intensity exercise may serve to improve attention and scholastic performance. This data suggests that single sessions of exercise affect certain underlying processes that are beneficial to cognitive health and can be essential for satisfactory performance during a person's life (13). Additionally, girls taking part in longer sessions of physical education (70 -300 minutes per week) scored slightly but significantly higher in mathematics and reading (referent: 0-35 minutes per week). However, no such differences were observed among boys, whose academic achievement did not seem to be positively or negatively affected by longer sessions of physical education (14).

Health Promotion

Physical activity was a necessary part of the training done in schools primarily to promote physical and mental health (15). Health promotion appeared during the Olympic Games since the care of athletes and prevention of injuries were specialist services provided by instructors called "paido-

trivai" (16). According to Hippocrates's study "on food", for the exercises that were done by athletes, olive oil was used to increase body temperature, warm up and for muscles to be flexible so as to avoid sport injuries (17). Also, figs and other fruits with high glucose concentration that provide energy were offered to athletes to improve performance (18).

Interventions on Trauma Care

Wars were a common phenomenon in ancient Greece. There are records that indicate treatment practices on wounds during the Trojan War and even treatment of infected wounds. For such treatments medicinal preparations were taken from nature, such as seawater, honey, vinegar, rainwater and medicinal plants in the form of powder (18). In Homer's "Iliada" injuries and amputations that reflect the actual care of wounds are described in wars in ancient Greece, and Hippocrates noticed the separation of limb gangrene and made incisions between dead and alive tissue to treat the condition (19). Hippocrates's views were highly innovative for their time as he suggested chest tube output for possible liquid in external fixation and traction when aligning broken bones. He believed that in order to properly and quickly heal the wounds they must be kept dry, after being taken care of using pure water or wine (20). In addition, the formation of pus was considered a positive factor for the reduction of wound complications because of the frequent occurrence of infections. As a consequence, the combined findings of Hippocrates and Galen had an influence on surgical care practices of injuries and wounds until the Middle Ages (21).

Mental Care Interventions and Art Therapy

The first classification of mental disorders proposed by Hippocrates was: Mania, Melancholy, Phrenitis, Insanity, Disobedience, Paranoia, Panic, Epilepsy and Hysteria. Some of these terms are still used today (22). Psychological and mental illnesses were viewed as the effect of nature on man and were treated like other diseases. Hippocrates argued that the brain is the organ responsible for mental illnesses and that intelligence and sensitivity reach the brain through the mouth by breathing. Hippocrates believed that mental illnesses can be treated more effectively if they are handled in a similar manner to physical medical conditions (23). According to Hippocrates, the diagnosis and treatment of mental and physical diseases is based on observation, consideration of the causes, balance of theory and on the four liquids, blood, phlegm, yellow bile and black bile (22). Interestingly, Plato's theory mentions that the healing of body and soul may be either true or false, and medicine and gymnastics are classified as true treatments while in true healing of the soul we have the legislative and the judiciary.

The role of music and theater in the treatment of physical and mental illnesses and the improvement

of human behavior was essential. It was believed that healing the soul through music also healed the body, and there were specific musical applications for certain diseases. For instance, the alternating sound of the flute and harp served as a treatment for gout. Asclepius was the first to apply music as therapy to conquer "passion" (24). Aristotle claims that in some, the effect of religious melodies that thrill the soul resembles those who have undergone medical treatment and mental catharsis (25). The ancient tragedies acted as psychotherapy for patients (26). The Theater of Epidaurus at the Ancient Temple of Epidaurus was the place where "catharsis" or the release of emotions through performance took place. Moreover, "quiet rooms" were designed in which patients would go to sleep so that they could dream of being mentally healthy, and it was believed that this would help them to improve their mental health (27).

The concept of "physis" was first proposed by Hippocrates, who changed hieratic or theocratic medicine into a rational discipline. The basic structure of the Asclepieion in Kos points to the fact that Hippocrates believed in a holistic health care model, and in his school science met with drug therapy, diets, and physical and mental exercise, as well as divine solicitation (28). Furthermore, the Asclepieion of Kos offered all patients general treatment that included physical exercise, massage and walks considered necessary to restore health, well-being of the soul and the inner peace of man, and using dreams both for diagnostic and for therapeutic reasons (5, 29). To achieve the desired therapeutic result, the therapist should have prior understanding of the concept of soul and its distinction from the body according to the Platonic trisection of the soul (30).

The Hippocrates Evidence-Based Knowledge

Another great contribution of Hippocrates to medicine is the professional ethics and standards that are respected and observed even today (28). According to Miles, Hippocratic medicine is founded on the available evidence based knowledge, as Hippocratic physicians were required to give complete and detailed medical histories, and this reminds us of the current research protocol in existence today (31). Specifically, in their diagnoses of syndromes or diseases, Greek physicians were instructed to note the geographical location, climate, age, gender, habits and diet. Also rational mood swings, sleep duration, dreams, appetite, thirst, nausea, location and severity of pain, chills, coughing, sneezing, belching, flatulence, convulsions, nosebleeds, even menstrual changes were recorded. The physical examination required great attention to be given to fever, respiration, paralysis and color of the limbs, pain on palpation, stool, urine, sputum and vomit. The overall assessment of these recordings interpreted the final diagnosis and determined the type of treatment of the disease.

Moreover, Schiefsky mentions that the key area of Hippocratic medicine was the precision or the details of prognosis and the reliability of prognostic signs (32). According to a recent Greek review, the Hippocratic physician had to examine a patient, observe symptoms carefully, make a diagnosis and then treat the patient (33). Therefore, Hippocrates established the basics of clinical medicine as it is practiced today. He introduced numerous medical terms universally used by physicians, including symptom, diagnosis, therapy, trauma and sepsis. In addition, he described a great number of diseases without superstition. Their names are still used in modern medicine, for instance diabetes, gastritis, enteritis, arthritis, cancer, eclampsia, coma, paralysis, mania, panic, hysteria, epilepsy and many others.

Accordingly, Hippocrates greatly contributed to modern medicine by declaring that medicine should depend on detailed observation, reason and experience in order to establish diagnosis, prognosis and treatment. Obviously, after Hippocrates there was no longer a mixture of superstition, magic, religious views and empirical treatments examined by priest-physicians, and medicine

became a real science through accumulating experience (34).

Conclusion

Given that the ancient Greeks had understood long ago that "healthy mind in a healthy body" was the key for the physical and mental health of humans, our results suggest that health care provision in ancient Greece was primarily offered promoting both; thus, health care and psychological support aimed to approach the psychosomatic entity and not only the symptoms of diseases. Mental and physical cares were provided parallel to one another, regardless of whether the disease came from the soul or the body. Overall, Hippocrates set the stepping stones for the foundations of medicine, developing medical terms and definitions, protocols and guidelines for the classification of diseases, which are considered the gold standards for the diagnosis, management and prevention of diseases.

Acknowledgment

The authors declare that they have no competing interests.

References

1. Tountas Y. The historical origins of the basic concepts of health promotion and education: the role of ancient Greek philosophy and medicine. *Health Promot Int* 2009; 24(2): 185-92.
2. Coleman C, Bouësseaub M, Reisb A, Capronc A. How should ethics be incorporated into public health policy and practice? *Bull World Health Organ* 2007; 85(7).
3. Petersdorf R. Medical students and primary care: what makes specialties so special? *JAMA* 1994; 271(12): 946-7.
4. Porter D. *Health, Civilization And The State: A history of public health from ancient to modern times*. London: Routledge; 2001.
5. Heyse-Moore L. *Speaking of Dying: A Practical Guide to Using Counselling Skills in Palliative Care*. Jessica Kingsley Publishers; 2009.
6. Kirsten T, Van der Walt H, Viljoen C. Health, well-being and wellness: an anthropological eco-systemic approach. *Health SA Gesondheid* 2009; 14(1).
7. Rothstein M. The Hippocratic bargain and health information technology. *J Law Med Ethics* 2010; 38(1): 7-13.
8. Gordon S. Holistic medicine and mental health practice: toward a new synthesis. *Am J Orthopsychiatry* 1990; 60(3): 357-71.
9. Fabre J. Hip, hip, Hippocrates: extracts from the Hippocratic doctor. *BMJ* 1997; 315(7123): 1669.
10. Jotterand F. The Hippocratic oath and contemporary medicine: dialectic between past ideals and present reality? *J Med Philos* 2005; 30:107-28.
11. Vasiliadis E, Grivas Th, Kaspiris Ag. Historical overview of spinal deformities in ancient Greece. *Scoliosis* 2009; 4(6).
12. Roberts Ch, Freed B, McCarthy W. Low aerobic fitness and obesity are associated with lower standardized test scores in children. *J Pediatr* 2010; 156(5): 711-18.
13. Hillman Ch, Pontifex M, Raine L, Castelli D, Hall E, Kramer A. The effect of acute treadmill walking on cognitive control and academic achievement in preadolescent children. *Neuroscience* 2009; 31,159(3): 1044-54.
14. Carlson S, Fulton J, Lee S, Maynard M, Brown D, Kohl III H Dietz W. Physical education and academic achievement in elementary school: Data from the early childhood longitudinal study. *Am J Public Health* 2008; 98(4):721-7.
15. Mac Auley D. A history of physical activity, health and medicine. *J R Soc Med* 1994; 87:32.
16. Tipton Ch. Sports medicine: a century of progress. *J Nutr* 1997; 127(5): 878S-885S.
17. Nomikos N, Nomikos G, Kores D. The use of deep friction massage with olive oil as treatment of sport injuries in ancient times. *Arch Med Sci* 2010; 6(5): 642-5.
18. Mariani-Costantini R, Catalano P, di Gennaro F, di Tota G, Angeletti L. New light on cranial surgery in ancient Rome. *Lancet* 2000; 22, 355(9200): 305-7.
19. Kirkup J. Perceptions of amputation before and after gunpowder. *Vesalius* 1995; 1 (2): 51-58.
20. Manring M, Hawk A, Calhoun J, Andersen R. Treatment of war wounds: a historical review. *Clin Orthop Relat Res* 2009; 467(8): 2168-91.
21. Eardley W, Brown K, Bonner T, Green A, Clasper J. Infection in conflict wounded. *Philos Trans R Soc Lond B Biol Sci*

- 2011; 366(1562): 204–18.
22. Meletis J. The beliefs, myths and reality surrounding the word hema (blood), from homer to the present time. *Anemia* 2010; 857657.
 23. Ivanovic-Zuvic F. Epistemological considerations about medicine and mental health in ancient Greece. *Rev Chil Neuro-psiquiatr* 2004; 42(3): 163-75.
 24. Conrad Cl. The art of medicine: music for healing: from magic to medicine. *Lancet* 2010; 376(9757):1980-1.
 25. Georgiadi E. The therapeutic properties of music throughout the centuries. *Vima Asklipiou* 2007; 2: 1-8.
 26. Kourkouta L. Ancient Greek psychotherapy for contemporary nurses. *J Psychosoc Nurs Ment Health Serv* 2002; 40(8): 36-9.
 27. Ouzouni Ch. The therapeutic use of seclusion in a psychiatric clinic. *Nosileftiki* 2006; 45(1): 68-77.
 28. Orfanos C. From Hippocrates to modern medicine. *J Eur Acad Dermatol Venereol* 2007; 21(6): 852–8.
 29. Xatzinikolaou A, Scanthalaki N. Medical-nursing care in Asclepieions of ancient Greece. *Nosileftiki* 2007; 46(3): 326–34.
 30. Miller Io. Novel approaches to genomic science: retrieval & curation. *DNA Decipher J* 2012; 2(2): 104-29.
 31. Miles St. The art of medicine: Hippocrates and informed consent. *Lancet* 2009; 374(9698): 1322-3.
 32. Schiefsk M. *Hippocrates on Ancient Medicine*. Brill Academic Publishers; 2005.
 33. Yapijakis Ch. Hippocrates of Kos, the father of clinical medicine, and Asclepiades of Bithynia, the father of molecular medicine. *In Vivo* 2009; 23(4): 507-14.
 34. Grammaticos Ph, Diamantis A. Useful known and unknown views of the father of modern medicine, Hippocrates and his teacher Democritus. *Hell J Nucl Med* 2008; 11(1): 2-4