



## REFLEXÃO

## HIPPOCRATES IS CARE: HISTORY AND SOME BIOLOGICAL PATHWAYS ON CAREGIVER

HIPÓCRATES É CUIDAR: HISTÓRIA E ALGUMAS VIAS BIOLÓGICAS DO CUIDAR

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## ABSTRACT

Hippocrates is the mainstay of care. Plato and Aristotle state humoralism as the way that Hippocrates understands human health disorders. He closely observed patients to restore humoral equilibrium, relying on healing power of nature to recover health, rejecting drugs or any kind of procedure that could harm the individual. The development of a common ground of understanding is desirable as a process of negotiating treatment goals and methods which may create an atmosphere of support and solidarity. The concept of supportive care was formalized in Belgium in 1992 with attention to multicultural aspect of our population. The biological basis on care are backed on cortical circuitries, association of pathways, existence of several neurotransmitters, which mediates integrative process promoting behavior, emotion and cognitive. Care may influence favorably all these biological systems and help to improve quality of live or even cure the patient. **Descriptors:** Hippocrates is care, Biological basis on care, Pathways of care.

## RESUMO

Hipócrates é sustentáculo do cuidar. Platão e Aristóteles estabeleceram o humoralismo como à forma que Hipócrates entende distúrbios da saúde humana. Observam cuidadosamente pacientes para restaurar o equilíbrio humoral, confiando na cura como poder da natureza para restaurar a saúde, rejeitando medicamentos ou qualquer tipo de procedimento que cause danos ao indivíduo. O desenvolvimento de um terreno comum de entendimento é desejável como processo de negociação de objetivo, podendo criar atmosfera de apoio e solidariedade. O conceito de cuidar como suporte foi referendado na Bélgica em 1992 considerando aspectos multiculturais da população. A base biológica do cuidar está ancorada nos circuitos corticais, associação de vias, existência de diversos neurotransmissores que medeiam os processos integrativos de promoção do comportamento, emoção e os cognitivos. O cuidar pode influenciar favoravelmente todos os sistemas biológicos e ajudar na qualidade de vida e até na cura. **Descritores:** Hipócrates é cuidar, Bases biológicas do cuidar, Vias do cuidar.

## RESUMEN

Hipócrates es el pilar del cuidar. Platón y Aristóteles establecieron el humoralismo como la forma que Hipócrates entiende los disturbios de la salud humana. Observa cuidadosamente pacientes para restaurar el equilibrio humoral, confiando en la cura como poder de la naturaleza para reponer la salud, rechazando medicamentos o cualquier tipo de procedimiento que cause daños al individuo. El desarrollo de un terreno común de entendimiento es deseable como proceso de negociación de objetivo, siendo posible crear una atmosfera de apoyo y solidaridad. El concepto de cuidar como soporte fue creado en Bélgica en 1992 teniendo en cuenta aspectos multiculturales de la población. La base biológica del cuidar está ancorada en los circuitos corticales, asociación de vías, existencia de diversos neurotransmissores intermediarios de los procesos integrativos de promoción del comportamiento, emoción y cognitivos. El cuidar puede influenciar favorablemente todos los sistemas biológicos y ayudar en la calidad de vida y hasta en la cura. **Descriptor:** Hipócrates es cuidar, Bases biológicas del cuidar, Vías del cuidar.

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## INTRODUCTION

Hippocrates lived from 460 to 375 BC, was student and teacher of the medical school on Cos, Greece. According to Plato and Aristotle his physiology was based on humoralism, his diagnosis was directed toward general pathology, to foretell the stages, duration and end of diseases. He closely observed fevers, skin, the tongue, eyes, sweat, urine and feces. Hippocrates therapy was to restore the humoral equilibrium, i.e., rid the body of excess of humors and replace the deficient ones. He relied on healing power of nature and recommend diet, moderate exercise, but rejected all kinds of drugs<sup>1</sup>. Therefore, Hippocrates believed the essentials were to relieve suffering of the individual, but never submitting a patient to any kind of aggression even where there were an indication of invasive procedure or any kind of drug that could by some way potentially impose harm to those who are been care.

The responses of patients, friends and families are mediated not only by individuals' differences, but also by ethnic and cultural styles of understanding and coping with these events. Attention must be focused on appreciating the unique experience of each individual, but responses of patients and friends also should be viewed within their sociocultural context<sup>2</sup>.

The development of a common ground of understanding is desirable as a process of negotiating treatment goals and methods which may help to create an atmosphere of support and solidarity. The individual's sense of responsibility and control over negotiation process can be an antidote to fear and helplessness, but also a mechanism of strengthening health professionals on making decisions or taking care of. Patients can benefit from supportive care relationship, as well as, adequate interventions may help their feelings

about their lives and for support in coping with their personal crisis. The ideal goals would be to change some character pattern and provide them with coping styles, but frequently these are hard to achieve<sup>2</sup>.

The concept of supportive care was formalized nearly 20 years ago in the first official meeting held in Bruges, Belgium in 1992. It is important for care to pay attention to multicultural aspects of our society. We frequently face populations with language, religion and life style differences for which specific approaches are needed. Another important area for further innovative research in care dimension is the new biological data and observations on patient's intelligence, memory, judgment, mood, character and other attributes of personality studied as cognitive abilities, as well as the limbic lobes and components of emotion such as perception of a stimulus, the feeling, autonomic-visceral changes, affect of outward display and impulse to a certain type of activity<sup>3</sup>.

### Some fundamentals of biological basis on care

The real task of care is to preserve and restore health, to relieve suffering and improve quality of life. An area of 2.5 m<sup>2</sup> covers the cerebral cortex of human brain which contains approximately 20 billion neurons. The entry of sensory information into cortical circuitry provides common pathways and neurotransmitters such as substance P, enkephalin,  $\beta$ -endorphins, histamine, vasoactive intestinal polypeptide, cholecystokinin, neuropeptide Y, somatostatin, adrenalin, noradrenalin, acetylcholine, dopamine, serotonin, GABA, etc., are known as association cortex which mediates integrative process promoting behavior, emotion and cognitive<sup>4</sup>.

The current and ions channels are responsible for neuron impulse conduction, as

synaptic neurotransmission is the means by which neurons communicate with each other. Neurotransmitters modulates the function of postsynaptic cells by binding to receptors, i.e., those directed to ionic channels - **ionic receptors** - those directed to G proteins, stimulating second messengers, protein kinases, promoting several cellular events - **metabotropic receptors**<sup>5</sup>. Notwithstanding, some kinds of sensors have also been identified in human beings as a way of perception and response. Stress develops when adaptative capacity of an individual is overwhelmed by strong events. The causes of stress are different at different ages. A dysfunctional adaptation may generate anxiety, depression, impairments in their relationship, disturbances in sense of self and difficult on his view of the world<sup>2</sup>.

At least, our internal environment is integrated partially by the activity of autonomic nervous system. The parasympathetic neurotransmitter acetylcholine exerts its biological effects by binding to acetylcholine receptors that are expressed on cell membrane of most mammalian cells. All nicotine acetylcholine receptors are ion channels, whereas the muscarinic acetylcholine receptors are receptor coupled with G-protein. Several ligands and different kind of receptors promote stimulation, interaction, or even suppression, different impacts on striate and smooth muscle, central and peripheral nervous system, endocrine organs such as adrenal medulla, and other organs what have been associated with cardiovascular disease, angiogenesis, neurogenesis, inflammation, immunity, carcinogenesis and degenerative disorders<sup>6,7,8,9,10,11</sup>.

### CONCLUSION

Care as Hippocrates proposed 460 BC on Cos, Greece, is what moderns' nurses and

some current health professionals do on their daily routine. It is important to state that a caregiver is the one health professional who relieves suffering, develops daily patient-health care relationships, give attention to friends and families, within a modern concept of care, as a whole sociocultural support, with scientific background.

It is well known the association of several biological pathways, ligands, receptors and sensor systems which may explain mechanisms how care can alleviate suffering, grief, improve quality of lives and even cure an individual. The innovation is to study the multicultural aspects of our populations as well as the associated biological fundamentals that could make better care as a way of providing adequate interventions, alleviating grief, finally improving quality of live and even contributing to cure, of those who are facing health crisis and needing help.

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